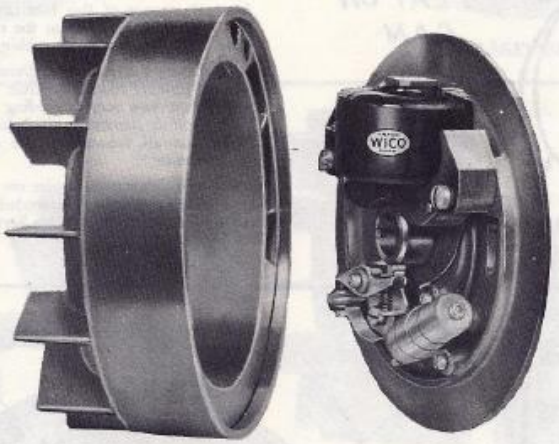
https://oldcroak.com/fw-industrial-mags-1947-instr-parts/

Here is some service information circa 1947 on the Wico series FW industrial magnetos to keep yours alive and well.

COMPLETE INSTRUCTIONS AND PARTS LIST
FOR CARE AND OPERATION OF

SERIES FW INDUSTRIAL
WICO MAGNETOS



Effective Oct. 1, 1948 parts prices shown in this book are increased 15%
Wico Electric Company

WICO-BUILT
IGNITION

Wico Electric Company
WEST SPRINGFIELD, MASSACHUSETTS

SERIES FW WICO INDUSTRIAL MAGNETO

SERVICE INSTRUCTIONS

It is recommended if there is an indication the magneto is causing trouble that a test be made before attempting to repair it.

If the engine refuses to start, the magneto can be checked by holding the spark plug cable ¼" away from a point on the frame of the engine. When the engine is cranked over in its usual way, a properly performing magneto should jump this gap.

If the engine misses at high speed, first check the spark plug. With the spark plug in good condition and properly adjusted, the magneto should fire a spark without missing while the spark plug cable is held 1/16" away from the spark plug terminal.

The only adjustable part on the FW magneto is the breaker

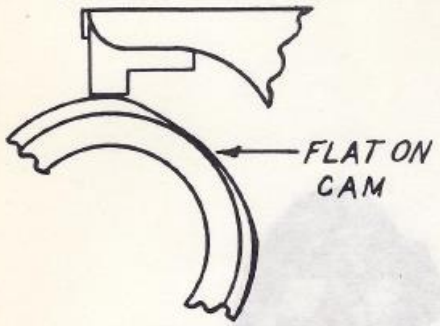


plate which provides adjustment for the breaker points.

To adjust the breaker points; unscrew the nut which holds the rotor of flywheel of the engine and remove it from the shaft. If the rotor should stick a little, tap the end of the shaft with a mallet or a block of wood, being careful not to damage the screw threads.

Turn the engine over until the breaker arm shoe is on the high point of the cam as illustrated and measure the opening with a feeler gauge. The opening should be .020". If points need adjusting loosen the screw which locks the breaker plate and move the plate to give the proper point setting, then lock the plate securely again by tightening the breaker plate screw. The breaker plate moves about the axis of the breaker arm stud and thus assures proper alignment of contact surface.

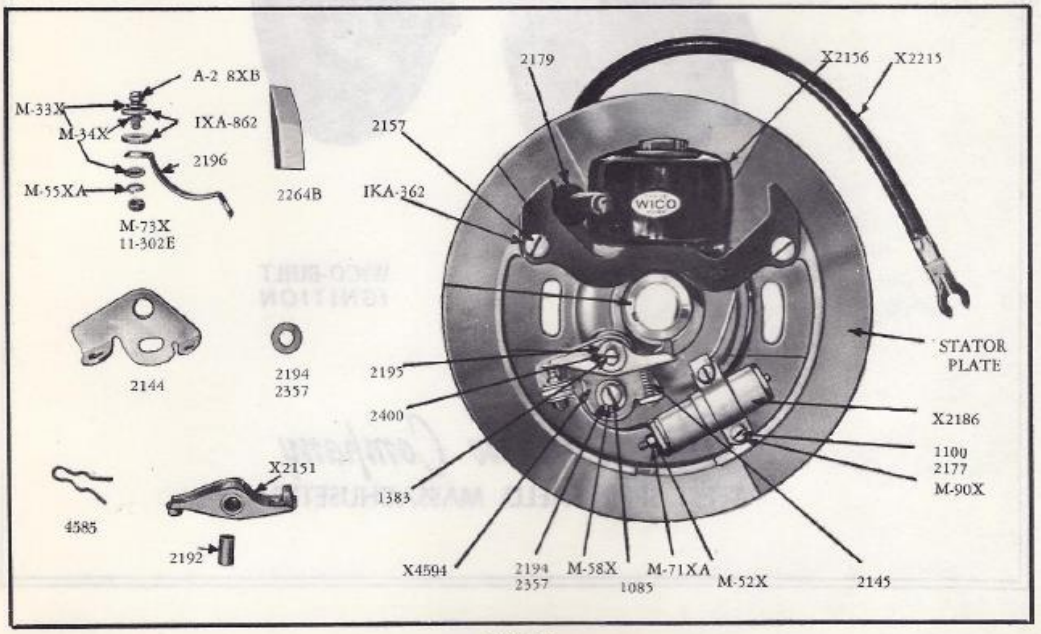
The breaker point setting should only be adjusted in the manner described and at no time should the fixed contact be loosened or the breaker arm bent to provide adjustment.

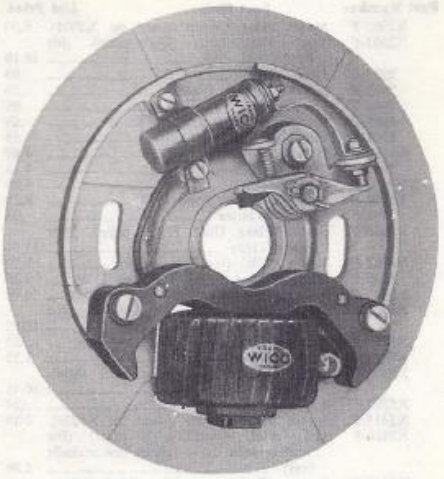
The moving contact is integral with the breaker arm. In replacing the arm be sure the breaker arm bushing is in place. If the contact points need replacement it is recommended that both the fixed and movable points be replaced at the same time.

The breaker arm bearing is packed with Wico cam lubricant at the time of assembly and should not need any other lubrication. A small amount of this lubricant is also packed on the breaker arm shoe and wipes off on the cam surface, providing permanent lubrication between these rubbing surfaces.

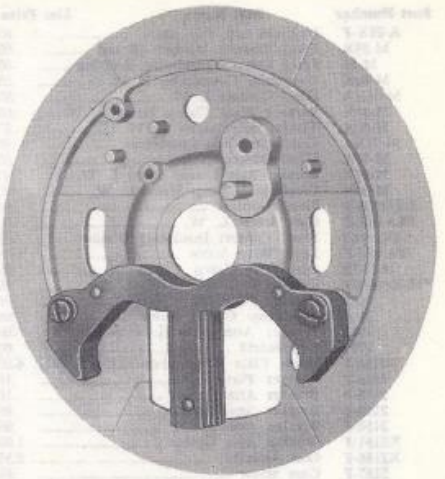
To remove the condenser, disconnect the breaker connection strip and the primary connection from the live end of the condenser and remove the two screws holding the condenser clamp. The primary ground connection is held under the inner clamp screw. Make sure all connections are clean and tight when replacing the condenser.

Should the magneto require any service other than breaker points or condenser it is recommended that the complete machine be taken to an Authorized Wico Service Station.

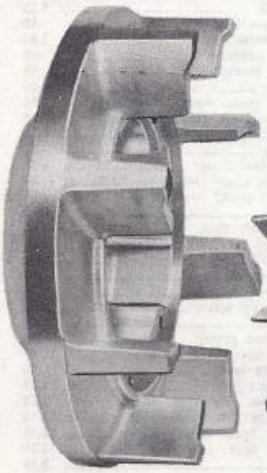




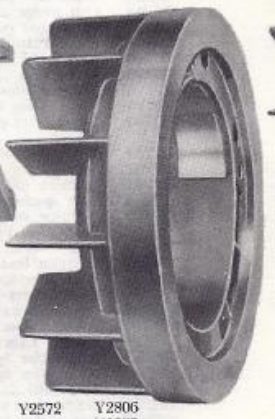
UNIT



ASSEMBLY

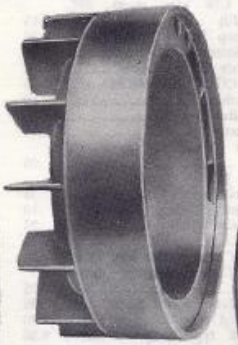


Y2514

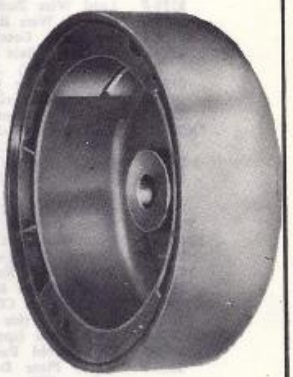


Y2572
Y2805

Y2806
Y3252
Y5092
Y4936
Y4937
Y5093



Y2173
Y2174
Y3054
Y4988



Y2475
Y2475B
Y3704
Y4070

2176B
2178B

3722 4932
2807 4933
2808

2532

3253

STATOR PLATE UNIT includes Stator Plate, Coil, Core, Condenser, and Breaker Point Assembly.
STATOR PLATE GROUP includes Stator Plate, Coil, Core and Breaker Arm Pivot.
STATOR PLATE ASSEMBLY includes Stator Plate, Core and Breaker Arm Pivot.

Part Number	Part Name	List Price
A-21X-F	Magneto coil clip insul.	.05
M-33X	Fixed Contact Washer (Brass)	.05
M-34	Fixed Contact Insulating Bushing	.05
M-52X	Condenser Connection L. W.	.05
M-55XA	Fixed Contact L. W.	.05
M-58X	Breaker Plate Clamp Screw L. W.	.05
M-60X	Timing lever screw L. W.	.05
M-71XA	Condenser Connection Nut	.05
M-73X	Fixed Contact Nut	.05
M-90X	Breaker Arm Clamp Screw L. W.	.05
M-90X	Condenser Clamp Screw L. W.	.05
A-248XB-F	Fixed Contact	.60
IKA-362-F	Core Screw L. W.	.05
IXA-862	Fixed Contact Insulating Washer	.05
IFA-881-F	Lead Wire Screw	.05
18-757B	Lead wire clamp	.05
*18-X896B-F	Ground Lead Group (15")	.20
1085	Breaker Plate Clamp Screw	.05
1100	Condenser Clamp Screw	.05
1388	Breaker Arm Screw (prior to Ser. 3950)	.05
1759	Coil Shield	.05
X2138-F	Stator Plate Gr. (used on X2159, X2681)	6.05
2144-F	Breaker Plate	.10
2145-F	Breaker Arm Spring	.10
2149-F	Breaker Arm Bushing	.05
2150-F	Breaker Arm Spacer	.05
X2151-F	Breaker Arm Group	1.05
X2156-F	Coil Assembly	2.55
2157-F	Core Screw	.05
X2159-F	Stator Plate Unit (for Specs. 832, 838, 844, 971, 1118)	10.10
Y2173-F	Rotor (for Spec. 838) CW	8.70
Y2174-F	Rotor CCW (for Spec. 844)	8.70
2176B-F	Breaker Cam CW (for Specs. 832, 838, 982, 1118)	1.15
2177-F	Condenser Clamp Screw	.05
2177-F	Breaker Arm Screw	.05
2177-F	Breaker Assembly Clamp Screw	.05
2178B-F	Breaker Cam CCW (for Specs. 844, 971)	1.15
2179-F	Lead Wire Bushing	.10
2179-F	Ground Wire Bushing	.10
X2186-F	Condenser Group	1.15
2194-F	Breaker Plate Washer (prior to Serial 3950)	.05
2194-F	Breaker Plate Clamp Screw Washer (prior to Serial 3950)	.05
2196-F	Breaker Connection Strip	.10
*X2215-F	Lead Wire Group (12")	.20
2264B	Coil Wedge	.05
2357-F	Breaker Plate Washer (after Ser. 3950)	.05
2357-F	Breaker Arm Clamp Washer (after Serial 3950)	.05
2400-F	Breaker Arm Clamp Screw L. W.	.05
Y2475-F	Rotor (Outboard type for Spec. 982)	9.30
Y2475B-F	Rotor (Outboard type for Spec. 884, 971)	9.30
2477-F	Timing Lever (without stopping device)	1.05
Y2514-F	Rotor CCW (for Spec. 929)	16.85
2519-F	Timing Lever Screw	.05
2532-F	Breaker Cam CCW (for Spec. 929)	1.15
Y2572-F	Rotor CW (for Spec. 832)	11.05
2678-F	Coil Shield (special for Spec. 929)	.05
2679-F	Coil Shield Pad (special for Spec. 929)	.05
2680-F	Stator Plate Dust Pad (special for Spec. 929)	.05
X2681-F	Stator Plate Unit (for Spec. 929) (2" pilot)	10.10
Y2805-F	Rotor CW (⅞"taper bore) (for Spec.835)	11.05
Y2806-F	Rotor CCW (⅞" taper bore) (for Spec. 988)	11.05
2807-F	Breaker Cam CW (for Spec. 835)	1.15
2808-F	Breaker Cam CCW (for Spec. 988)	1.15
X2900-F	Stator Plate Group (used on X2901)	6.00
X2901-F	Stator Plate Unit (1½" pilot) (for Specs. 835, 988)	10.10
2957-F	Lead Wire Clamp	.05
2965-F	Breaker Screw Washer	.05
2966-F	Breaker Screw L. W.	.05
2966-F	Condenser Clamp Screw L. W.	.05
2967-F	Fixed Contact	.55
X2980-F	Breaker Assembly	1.60
2981-F	Condenser Assembly	1.15
X3040D-F	Coil Group	4.20
Y3054-F	Rotor CW (for Spec. 1118)	8.70
3081-F	Spring Washer	.05
X3083-F	Stator Plate Unit (1¼" pilot) (for Spec. 1168)	11.05
Y3252-F	Rotor CCW (for Spec. 1170)	8.70
3253-F	Breaker Cam CCW (for Spec. 1170)	1.15
X3265-F	Stator Plate Group (used on X3266)	6.05
X3266-F	Stator Plate Unit (2" pilot) (for Spec. 1170)	10.30
X3291-F	Breaker Lead Group (flexible lead)	.10
X3292-F	Breaker Plate Group	1.35
X3358-F	Stator Plate Unit (Outboard type) (for Spec. 982E)	10.45
X3377-F	Lead wire group	.20
X3415-F	Stator Plate Group (used on X3358)	6.10
X3418-F	Stator Plate Assembly (2" pilot) (for replacement only) (does not include coil)	2.90
X3419-F	Stator Plate Assembly (1½" pilot) (for replacement only) (does not include coil)	2.90
X3421-F	Stator Plate Assembly (replacement on Spec. 982)	3.15
X3428-F	Friction Shoe Group	.10
X3438-F	Breaker Assembly	1.65
3454-F	Lead wire bushing	.05
3455-F	Lead wire clamp	.05
3497A-B-F	Coil wedge	.05
3539-F	Conn. stud insul. washer (inside)	.05
X3604-F	Stator Plate Unit (for Spec. 982F)	10.45
Y3704-F	Rotor (for Spec. 1278B) (CW)	8.70
3705-F	Conn. stud	.10
X3709-F	Breaker Plate group	1.30
X3712-F	Stator Plate Unit (for Spec. 1278)	11.60
X3714-F	Stator plate group (replacing on Spec. 1412)	6.50
3722-F	Brk. cam (for Spec. 1278B) (CW)	1.15
X3728-F	Stator Plate Assembly	4.65
X3729-F	Lighting coil lead bushing	.05
3730-F	Cam spacing washer	.05
X3741-F	Lighting coil	2.10
3742-F	Lead wire clip screw	.05
3754-F	Plug	.05
X3859-F	Lighting lead group	.10
Y4070-F	Rotor (for Spec. 1412) (CW)	10.65
4585-F	Breaker arm lock	.05
X4594-F	Breaker plate group	1.25
Y4932-F	Breaker Cam (for Spec. 1642) (CW)	1.15
Y4933-F	Breaker Cam (for Spec. 1642) (CCW)	1.15
Y4936-F	Rotor (for Spec. 1642) (CW)	12.10
Y4937-F	Rotor (for Spec. 1643) (CCW)	12.10
X4944-F	Coil unit	3.50
X4952-F	Stator plate unit (repl. for Spec. 1633)	10.25
Y4988-F	Rotor (for Spec. 1633) (CW)	12.65
Y5092-F	Rotor (for Spec. 1464) (CCW)	11.15
Y5093-F	Rotor (for Spec. 1662B) (CW)	11.15
X5110-F	Stator plate Assem. (2" pilot) (for repl. only)	2.90
5220-F	Breaker arm spacing washer	.05

SPECIFICATION NUMBERS OF WICO FW INDUSTRIAL MAGNETOS

Spec. No.	Engine Manufacturer	Price
832C	Jacobsen Manufacturing Co.	$21.40
835B	Cushman Motor Works	21.40
838	Lauson Manufacturing Co.	19.10
844	Lauson Manufacturing Co.	19.10
929B	Jacobsen Manufacturing Co.	25.90
982E	Simplex Manufacturing Co.	19.10
988	Cushman Motor Works	21.40
1118	Jacobsen Manufacturing Co.	19.10
1170	Chicago Pneumatic Tool Co.	18.10
1223B	Lauson Manufacturing Co.	$18.00
1278C	Simplex Manufacturing Co.	22.70
1412	Reed Prentice Co.	23.60
1464	Syntron Co.	23.60
1633	Jacobsen Mfg. Co.	21.40
1642	Cushman Motor Works	21.40
1643	Cushman Motor Works	21.40
1662B	Jacobsen Manufacturing Co.	23.60

*Add 1 cent to List Price over 12".

https://oldcroak.com/fw-series-flywheel-magneto-service-info/

SERVICE INSTRUCTIONS FOR MODEL FW WICO MAGNETO

STATOR PLATE

Illustrated ~~above~~ BELOW are the two types of stator plate units. Illustration No. 1 shows the new rocker type breaker assembly with the screwed on coil and core group. The coil may be replaced without replacing core and screws.

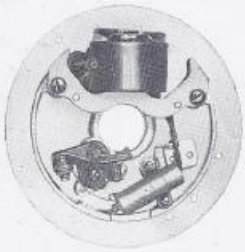


Fig. 1

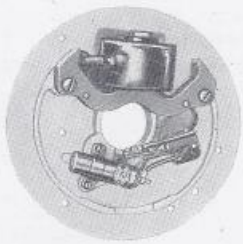


Fig. 2

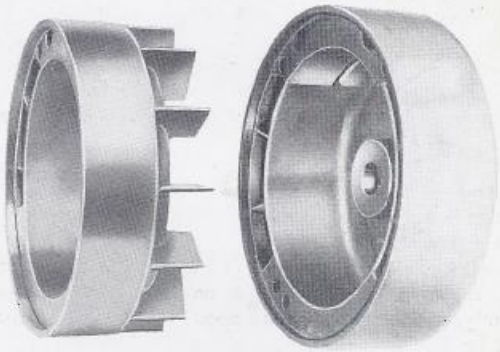
Illustration No. 2 identifies the old type stator plate unit with the now obsolete flat breaker spring type breaker assembly. Also, the coil and core group are riveted to the stator plate. For replacement of the coil group it is necessary to secure both coil and core group riveted to the stator plate. We do not recommend the using old core group when it is necessary to replace the riveted coil and core group.

STATOR PLATE UNIT

STATOR PLATE REPLACEMENT ASSEMBLY

ROTOR

The illustrated rotors are typical of those used on all flywheel magnetos and may be identified by the specification number that is stamped on the casting.



TYPICAL FW ROTORS

When ordering flywheels the correct part number may be found in the table of variable parts in FW parts section.

SERVICE INSTRUCTIONS

It is recommended if there is an indication the magneto is causing trouble that a test be made before attempting to repair it.

If the motor refuses to start, the magneto can be checked by holding the spark plug cable 3/16" away from a point on the frame of the motor. When the motor is cranked over in its usual way, a properly performing magneto should jump this gap.

If the motor misses at high speed, first check the spark plugs. With the spark plugs in good condition and properly adjusted, the magneto should fire a spark without missing while the spark plug cable is held 1/16" away from the spark plug terminal.

The only adjustable part on the FW magneto is the breaker plate which provides adjustment far the breaker points.

To adjust the breaker points, unscrew the nut which holds the flywheel of the motor and remove it from the shaft. If the rotor should stick a little, tap the end of shaft with a mallet or a block of wood, while pulling on the flywheel, being careful not to damage the screw threads.

Turn the motor over until breaker points are fully open and measure opening with a feeler gauge. The opening should be .018" to .020". If points need adjusting loosen the screw which locks the breaker plate and move the plate to give the proper point setting, then lock

The FW series is a and much improved later development with a more efficient compact design widely used. Many were used by Maytag on the later Maytag Twins. Here are some images from the factory service manual to keep yours well.
As always, check the condenser for leakage and get the points smooth and shiny. If all is not well and the condenser, coil and points are in good repair, make sure that the flywheel,cam and/or breaker plate are properly indexed. A sheared off flywheel key, improperly installed breaker plate, coil mounted upside down, or loose or missing cam key can result in wimpy or a no spark. Some cams have two keyways or notches, one for clockwise and the other for counterclockwise rotation.

the plate securely again by tightening the breaker plate screw. The breaker plate moves about the axis of the breaker arm stud and, thus assures proper alignment of contact surfaces.

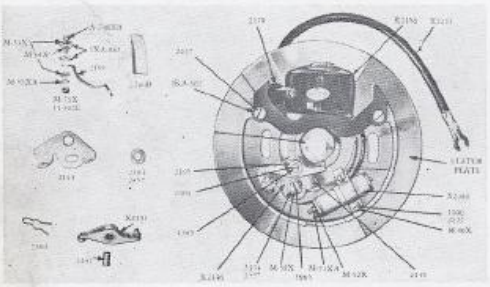
The breaker point setting should only be adjusted in the manner described and at no time should the fixed contact be loosened or the breaker arm bent to provide adjustment.

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

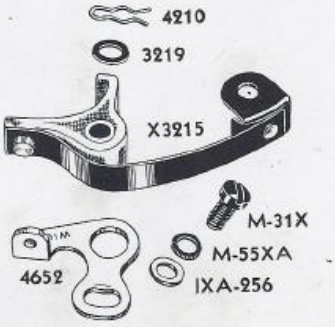
The breaker arm bearing is packed with Wico cam lubricant at the time of assembly and should not need any other lubrication. A small amount of this lubricant is also packed on the breaker arm shoe and wipes off on the cam surface, providing permanent lubrication between these rubbing surfaces.

To remove the condenser on a single cylinder magneto, disconnect the breaker connection strip and the primary connection from the live end of the condenser and remove the two screws holding the condenser clamp. The primary ground connection is held under the inner clamp screw.

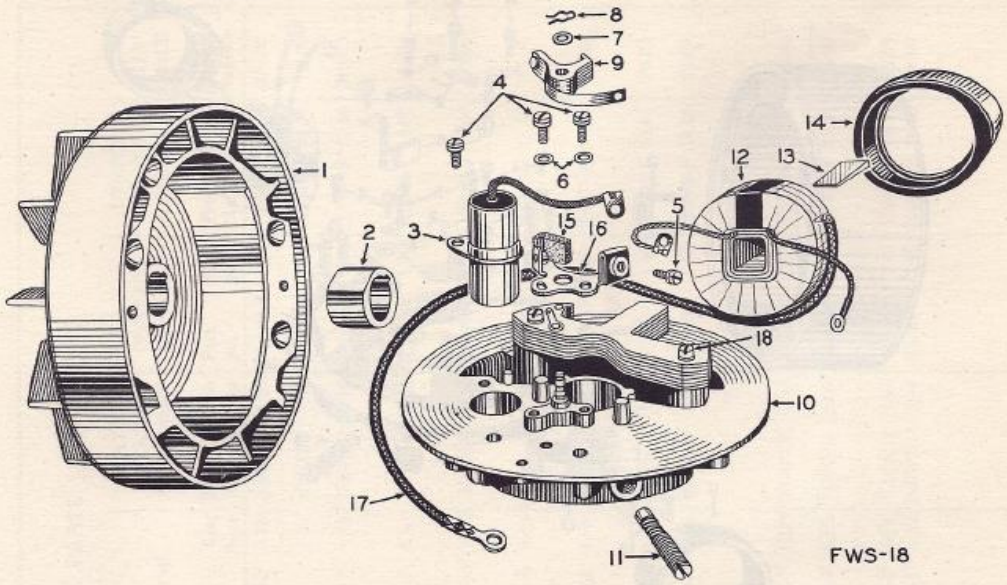
The above instructions should be followed carefully when using the rocker type breaker assembly. However, when servicing a magneto with the illustrated breaker assembly, it is not necessary to lubricate any part of the assembly except the breaker shoe.



TYPICAL STATOR PLATE UNIT SHOWING BREAKER POINT ASSEMBLY



NEW TYPE BREAKER ASSEMBLY



SERVICE PARTS FOR SPECIFICATION FW-1724, 1802, 1842, OUTBOARD MOTOR APPLICATIONS

Ref. No.	Part No.	Part Name
1		Rotor (see Table of Variable Parts)
2		Breaker cam (see Table of Variable Parts)
3		Condenser group (see Table of Variable Parts)
4	5411-F	Fixed contact clamp screw (SEMS)
4	5411-F	Condenser clamp screw (SEMS)
5	6017-F	Breaker spring clamp screw
6	IXA-256	Fixed contact clamp screw washer
7	3219-F	Breaker arm pivot washer
8	4210-F	Breaker arm lock
9		Breaker arm group (Use X5474-F)
10		Stator plate replacement assembly (see Table of Variable Parts)
11	X3428-F	Friction shoe group
12		Coil group (see Table of Variable Parts)
13	10383-F	Coil wedge
14	5420-F	Coil terminal protector
15	6318-F	Cam wiper felt
16		Fixed contact group (Use X5474-F)
17	X5853-F	Lead wire group (11")
	* 5414-F	Lead wire bushing
	* 5428-F	Core screw
	* 10407-F	Spacing washer

* Not illustrated

The FW manuals are from the US but are pretty much the same magneto, I've also added a JAP 2A magneto photo for comparison.

Stuart turner used 3 types of Flywheel magneto. the early WICO WBC which was replaced by the Miller flywheel unit retaining the heavy outer flywheel. The innards are the same a Corgi motorcycles. Later engines used a WIC FW which shares the innards of a JAP 2A or 2S.