SIMMS MAGNETOS

SIMMS



MAGNETOS

TYPES: C4, K4, K4-1, C6, K6

WATERPROOF—DUSTPROOF

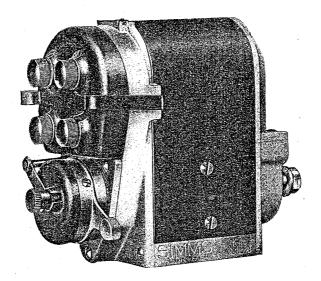
THE SIMMS MAGNETO COMPANY
EAST GRANGE, NEW, JERSEY

TERMS

are cash with order, C.O.D. or S.D.B.L., except where credit relations have been established. Instruction Book and Parts Price List of

SIMMS HIGH TENSION MAGNETOS

TYPES: C4, K4, K4-1, C6, K6

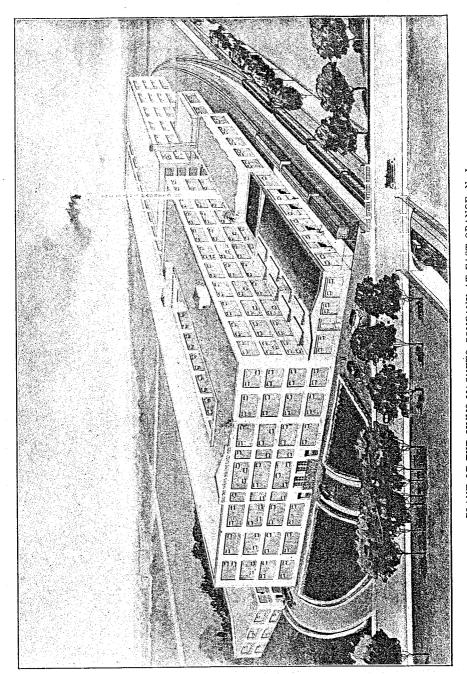


Number 26

THIS CATALOGUE
SUPERSEDES ALL PREVIOUS ISSUES, PRICE LISTS
AND SPECIFICATIONS
SUBJECT TO CHANGE WITHOUT NOTICE

THE SIMMS MAGNETO COMPANY

EAST ORANGE, NEW JERSEY



PLANT OF THE SIMMS MAGNETO COMPANY AT EAST ORANGE, N. J.

SIMMS

HIGH TENSION WATERPROOF MAGNETOS

Types "C4"—"K4"—"K4-1"—"C6"—"K6"

CIMMS MAGNETOS are the results of many years of electrical and mechanical research, each component part receiving the

undivided attention of specialists.

The workmanship and design throughout is of the highest standard. Our well-equipped factory is located in the center of the electrical industry in the United States. The quality of the material entering into each part is of the highest grade, and only used after severe and thorough tests. These tests are continued step by step throughout each magneto's construction, to insure the high standards

we have imposed upon ourselves.

Simms Magnetos are of the true high-tension type, in which the high-tension current is developed directly in the armature without the introduction of any exterior devices. This in itself is a considerable advantage over the low-tension magneto, using a transformer coil to step up the low-tension current generated by the magneto to high-tension current, as there is a certain amount of current and time lost in the transformation, resulting in a weaker and less efficient spark, not taking into consideration the additional complications, such as coil and wiring required. The Simms high-tension magneto requires only one cable to each spark plug, besides the one ground wire; this is the simplest wiring possible.

Simms high-tension magnetos, being self-contained, are not affected by the inoperation of any other part, such as the storage battery, coils, et cetera. A discharged battery does not mean a stalled motor miles away from assistance. Magneto ignition gives maximum in-

surance against ignition trouble.

Simms high-tension magnetos are very accessible, and readily permit the occasional inspection and cleaning necessary. No special tools are required. These magnetos are very compact, the "C4"

weighing 9½ pounds, and the "C6" 10 pounds.

One of the chief features of these magnetos is the method we use in waterproofing, which renders them impervious to any ordinary amount of water or spray which a magneto may be subjected to. This we have accomplished by inserting a felt gasket impregnated with a waterproof compound between the edges of the magnets and the magneto body, which prevents water from soaking through. A cover protects the driving end and the safety gap. The distributor board and contact breaker cover are supplied with insulated terminal nuts, and a felt gasket is used between the distributor board and the frame of the machine. In this way the vital parts of the magneto are kept completely free from moisture in any kind of weather.

This feature makes these magnetos particularly desirable for marine engines, and all forms of work where the engine is not entirely

protected from the elements.

A distinct feature of these magnetos is their extreme low speed characteristic, which is not surpassed by any other instrument of their size or weight. These machines will produce a heavy spark across a five millimeter gap when rotating at speeds less than 40 R. P. M. This feature enables one to readily start his engine even under the most adverse conditions, as he is always assured of a good spark at very low cranking speeds.

The contact breaker is so designed that at high speeds its action is assisted (and not retarded) by the centrifugal forces developed, so that there is never any danger of the ignition cutting out at high

speeds, as with other interrupters.

The armature winding is alternately impregnated in vacuum and compression tanks filled with insulating liquid, so that every pore and layer of winding is saturated and all particles of air removed and replaced with the dielectric.

The armature is next baked, permanently hardening the dielectric,

thus insuring a high margin of safety against break-downs.

Every condenser is subjected to a break-down test considerably in excess of normal requirements, and its capacity is accurately proportioned so that no arcing exists at the breaker points.

MAINTENANCE INSTRUCTIONS

Simms Magnetos must be positively driven by gears or chain, with provision for taking up slack, in the latter method. For a four-cyclinder, four-cycle motor the magneto must be driven at engine speed. For six-cylinder, four-cycle motors at one and one-half times engine speed. For two-cycle motors at twice these speeds, respectively. Magnetos operate only in the direction shown by arrow on the driving end plate.

Timing of Ignition

To time magneto to motor, turn engine over until cylinder No. 1 is on top dead center with valves closed (beginning of power stroke, with connecting rod swung over on downward stroke side). Remove the contact breaker cover and distributor board. Turn magneto armature in direction it must run, until the platinum contact points are just opening with the timing lever in the fully retarded position (the retarded position is obtained by pushing the timing lever down in the same direction as the magneto armature rotates). The distributor carbon brush must at the same time be in a position to touch the distributor segment serving cylinder No. 1. Driving gear or coupling should then be securely tightened on magneto armature driving shaft, using key in keyway provided in shaft. Magneto can now be coupled to engine, care being taken not to change the foregoing adjustments. It must always be remembered that the distributor brush rotates in the opposite direction to the armature, and that No. 2 terminal on the distributor does not necessarily lead to No. 2 cylinder, but to the cylinder firing after that to which No. 1 wire is led. The same applies to No. 3 and No. 4 terminals and cylinders.

Any advance or retard desired in addition to that to be obtained by the variation of the timing lever must be secured on the engine alone by advancing or retarding the engine timing gears, but in no case should the setting of the magneto distributor or internal armature gears be changed, as these have a certain fixed relation to each other. Different settings of these two gears will seriously impair the efficiency of the magneto.

Oiling Magneto

The magneto should be oiled every two weeks, or 1,000 miles run, with four or five drops of light machine (not cylinder) oil, in each of the oil holes, which are located over the armature driving shaft and near the top of the distributor board. The contact breaker should never be oiled; it may cause serious difficulty if oil is allowed to remain on it.

Care of Contact Breaker

The platinum points should be set so as to open on each cam about 1-64th of an inch, or the thickness of the gauge on the wrench furnished. These points should be kept clean and free from oil, and should make even contact with one another, over their entire surfaces. The contact breaker lever should pivot freely in the bushing. The contact breaker should be inspected occasionally and freed of dirt and oil. Only if it should become absolutely necessary should the platinum points be filed, and then only with a very fine, flat file.

Distributor Board

Cable connections should be kept tight and occasionally the inside of the board wiped, with a dry cloth, to remove any oil or dirt. The distributor carbon brush should at all times press firmly against the board.

Safety Spark Gap

The safety spark gap is to protect the insulation of the magneto armature from injury caused by excessive voltage, which would occur should a high-tension connection become loose or taken off, as the spark will then jump at the safety spark gap. If sparking should be detected in the safety gap, which is reached by removing the front hood or cover over the driving spindle, the high-tension wiring should be gone over carefully at both the magneto and spark plug ends. The distributor carbon brushes should be examined to see if they are in condition and making contact with brass segment on the distributor rotor. If sparks can be obtained at the safety gap, it is an indication that the magneto is generating, and that the trouble is most likely in the wiring or spark plugs.

Coupling

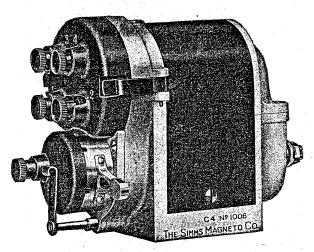
If it is necessary to remove the coupling, care should be taken not to use too much force in removing this, otherwise the hard rubber slipring previously mentioned will be damaged. On no account should any violent blows on the armature shaft be struck.

Spark Plugs

The spark plug points should be set with a gap of about a thickness of the gauge on the wrench, possibly a slightly greater distance will be beneficial. If the distance is too great, it is probable that difficulty will be experienced in starting. It should be borne in mind that while the spark may jump across the plug points when the plug is removed from the cylinder, it does not necessarily follow that a spark will take place when the plug is in the cylinder. The reason for this is that the compression of the gas creates a higher resistance for the current to overcome than that which the atmosphere offers. If the insulation of the spark plug is cracked or broken, or if the plug points are oily, or the insulation is covered by a deposit of carbon, the desired results will not be obtained. A cracked porcelain is often difficult to detect. The easiest method is to insert a new spark plug, and in this way determine where the defect lies.

Refusal to Start

Should difficulty be experienced in starting, and tests have proven that the spark plugs are in the proper condition, the wire connected to the contact breaker box cover should be removed. If after doing this the difficulty is overcome, the switch should be examined and any correction necessary be made to this. This wire is merely for short-circuiting the primary current when it is desired to stop the motor.



C4 MAGNETO

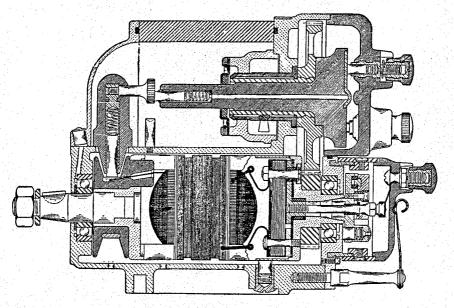
DESCRIPTION OF WINDINGS AND CIRCUITS

The high-tension armature consists of a few turns of heavy primary wire over which is wound many turns of a very fine secondary wire. Only enamel insulated wire is used, and every layer is further insulated from the others with sheets of oiled silk. After being completely wound, the armature is impregnated alternately under compression and vacuum and then baked.

One end of the primary wire is grounded on the armature core, and the other end brought out to the contact breaker points, with the condenser in parallel to prevent the points burning.

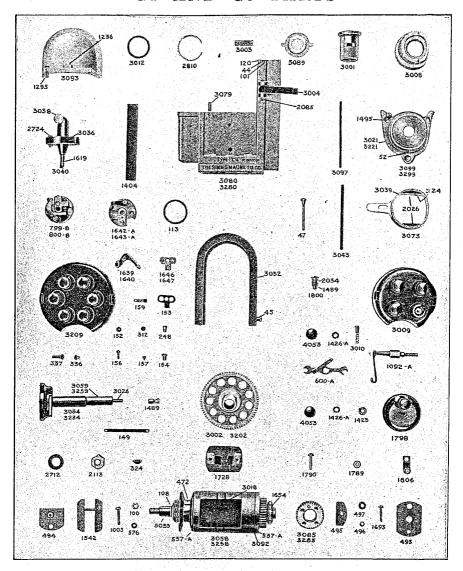
The grounded end of the secondary wire is connected to the primary, forming a continuation of same. The other end of the secondary circuit is led to the slipring, then through the conducting bar to the distributor, spark plugs, and ground on the engine, to the magneto base plate, and back into the grounded end of the secondary.

When the contact points are closed, the primary circuit is also closed. The variations in the magnetic flux induces an electrical current in it, which reaches its maximum twice every revolution of the armature. The primary circuit is then broken, inducing a high-tension current of extreme intensity in the secondary winding, which is distributed to the spark plugs, as mentioned above.



SECTIONAL VIEW OF C4 MAGNETO

C4 AND C6 PARTS



IMPORTANT

When ordering parts be sure to specify:

Part number. Name of part. Number of parts required. Type of magneto.

* Carefully note rotation when ordering.

The rotation of a magneto is determined by facing armature shaft driving spindle and noting whether the arrow points in a clockwise or anti-clockwise direction.

Part N		Prices
44	Oil flap screw	
45	Magnet screw	03
47	Contact breaker fastening screw	. 05
52	Stop screw for timing lever	03
100	Nut for condenser bolt	
101	Spring for oil flap	.03
108	Felt washer for armature spindle	.05
113	Outer ball race packing washer	
120	Oil flap	
149	Flat spring for contact breaker	.05
152	Lock nut for platinum screw	
153	Insulating plate for contact breaker block	
154	Insulating collar for center of contact breaker block	.03
156	Steel screw for contact breaker insulated block	
157	Steel screw for contact breaker flat spring	
159	Auxiliary flat spring for contact breaker	.05
248	Insulating bushing for bell crank lever	
312	Positioning button for contact breaker insulating block	
324	Steel key for armature shaft	.03
336	Short platinum screw for contact breaker	3.50
337	Long platinum screw for contact breaker	
472	Slip ring for armature shaft	
493	Micarta insulating plate, large, for condenser	.10
494	Brass condenser plate	
495	Micarta insulating plate, small, for condenser	.03
496	Insulating bushing for condenser screw	.03
497	Insulating washer for condenser screw (1693)	.03
537A	Armature end plate fastening screw	.03
576	Brass washer for condenser screw	.03
600A	Spanner wrench	.10
799B*	Contact breaker complete, clockwise	8.75
800B*		
1003	Condenser bolt	.03
1092A	Stud screw complete	.25
1236	Oil cup	.15
1295	Screw for drive end dust cover	
1401	Outer ball race packing strip	.03
1423	Brass washer for ground terminal screw	.05
1426A	Lock washer for distributor board and magneto ground terminals	.05
1489	Ground brush and spring	.20
1495	Screw for contact end plate	.03
1542	Insulating piece for condenser	.03
1619	Slip ring carbon brush and spring	.10
1639*	Contact breaker lever without platinum, clockwise	1.50
1640*	Contact breaker lever without platinum, anti-clockwise	
1642*	Contact breaker disc, clockwise	.75
1643*	Contact breaker disc, anti-clockwise	.75
1646*	Contact breaker insulated block, clockwise	.25
1647*	Contact breaker insulated block, anti-clockwise	.25
1654	Armature ball bearing complete	2.50
1693	Condenser screw	.03
1728	Condenser with clips	5.00
1789	Ground brush screw nut	.05
1790	Ground brush screw	-05

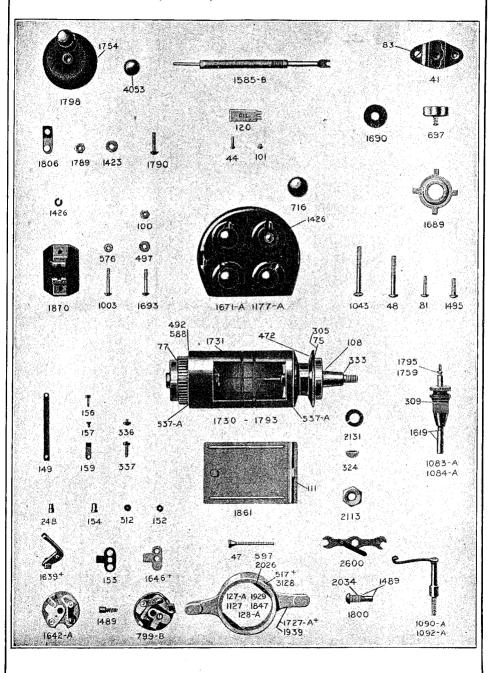
† Carefully note whether parallel or taper shaft required.

1798 Breaker box cover complete. 1806 Ground brush holder with brush and spring complete. 1806 Magneto ground brush and spring assembly. 2026 Breaker cam. 2034 Ground brush holder. 2085 Pin for spring clip for 3004. 2113 Driving spindle nut. 2124 Timing lever cam oiling wick. 2712 Driving spindle washer. 2724 Screw for slip ring carbon holder. 2810 Snap ring for distributor shaft oil retainer. 3001 Distributor bearing. 3002 Distributor gear and spindle (C4). 3003 Felt oiling wick. 3004 Distributor board spring clip. 3008 Oil reservoir. 3009 Distributor board complete (C4). 3010 Brush and spring for distributor board. 3011 Felt washer for distributor shaft oil retainer. 3012 Felt washer for distributor board. 3013 Armature core wound. 3021 Contact end plate only, without ball race (C4). 3032 Magnet. 3033 Armature driving spindle and end plate with taper shaft. 30308 Armature driving spindle and end plate with parallel shaft.		36 20 35 20
1800 Ground brush holder with brush and spring complete		36 20 35 20
2026 Breaker cam 2034 Ground brush holder. 2085 Pin for spring clip for 3004. 2013 Driving spindle nut. 2113 Driving spindle nut. 2124 Timing lever cam oiling wick. 2712 Driving spindle washer. 2724 Screw for slip ring carbon holder. 2810 Snap ring for distributor shaft oil retainer. 3001 Distributor bearing. 3002 Distributor gear and spindle (C4). 3003 Felt oiling wick. 3004 Distributor board spring clip. 3008 Oil reservoir. 3009 Distributor board complete (C4). 3010 Brush and spring for distributor board. 3011 Felt washer for distributor shaft oil retainer. 3018 Armature core wound. 3021 Contact end plate only, without ball race (C4). 3032 Magnet 30334 Armature driving spindle and end plate with taper shaft. 303354 Armature driving spindle and end plate with parallel shaft.		35 20
2034 Ground brush holder. 2085 Pin for spring clip for 3004. 2113 Driving spindle nut. 2124 Timing lever cam oiling wick. 2712 Driving spindle washer. 2724 Screw for slip ring carbon holder. 2810 Snap ring for distributor shaft oil retainer. 3001 Distributor bearing. 3002 Distributor bearing. 3003 Felt oiling wick. 3004 Distributor board spring clip. 3008 Oil reservoir. 3009 Distributor board complete (C4). 3010 Brush and spring for distributor board. 3011 Felt washer for distributor shaft oil retainer. 3012 Felt washer for distributor shaft oil retainer. 3013 Armature core wound. 3021 Contact end plate only, without ball race (C4). 3032 Magnet. 3033+ Armature driving spindle and end plate with taper shaft. 30335+ Armature driving spindle and end plate with parallel shaft.		20
2085 Pin for spring clip for 3004. 2113 Driving spindle nut. 2124 Timing lever cam oiling wick. 2712 Driving spindle washer. 2724 Screw for slip ring carbon holder. 2810 Snap ring for distributor shaft oil retainer. 3001 Distributor bearing. 3002 Distributor gear and spindle (C4). 3003 Felt oiling wick. 3004 Distributor board spring clip. 3008 Oil reservoir. 3009 Distributor board complete (C4). 3010 Brush and spring for distributor board. 3011 Felt washer for distributor shaft oil retainer. 3012 Felt washer for distributor shaft oil retainer. 3013 Armature core wound. 3021 Contact end plate only, without ball race (C4). 3026 Rotating distributor brush and spring. 3032 Magnet. 3033+ Armature driving spindle and end plate with taper shaft. 30335+ Armature driving spindle and end plate with parallel shaft.		
2113 Driving spindle nut. 2124 Timing lever cam oiling wick. 2712 Driving spindle washer. 2724 Screw for slip ring carbon holder. 2810 Snap ring for distributor shaft oil retainer. 3001 Distributor bearing. 3002 Distributor gear and spindle (C4). 3003 Felt oiling wick. 3004 Distributor board spring clip. 3008 Oil reservoir. 3009 Distributor board complete (C4). 3010 Brush and spring for distributor board. 3012 Felt washer for distributor shaft oil retainer. 3018 Armature core wound. 3021 Contact end plate only, without ball race (C4). 3026 Rotating distributor brush and spring. 3032 Magnet. 3033+ Armature driving spindle and end plate with taper shaft. 3033+ Armature driving spindle and end plate with parallel shaft.		
Timing lever cam oiling wick. 2712 Driving spindle washer. 2724 Screw for slip ring carbon holder. 2810 Snap ring for distributor shaft oil retainer. 3001 Distributor bearing. 3002 Distributor gear and spindle (C4). 3003 Felt oiling wick. 3004 Distributor board spring clip. 3008 Oil reservoir. 3009 Distributor board complete (C4). 3010 Brush and spring for distributor board. 3012 Felt washer for distributor shaft oil retainer. 3018 Armature core wound. 3021 Contact end plate only, without ball race (C4). 3026 Rotating distributor brush and spring. 3032 Magnet. 3033+ Armature driving spindle and end plate with taper shaft. 3536+ Armature driving spindle and end plate with parallel shaft.		05
Timing lever cam oiling wick. 2712 Driving spindle washer. 2724 Screw for slip ring carbon holder. 2810 Snap ring for distributor shaft oil retainer. 3001 Distributor bearing. 3002 Distributor gear and spindle (C4). 3003 Felt oiling wick. 3004 Distributor board spring clip. 3008 Oil reservoir. 3009 Distributor board complete (C4). 3010 Brush and spring for distributor board. 3012 Felt washer for distributor shaft oil retainer. 3018 Armature core wound. 3021 Contact end plate only, without ball race (C4). 3026 Rotating distributor brush and spring. 3032 Magnet. 3033+ Armature driving spindle and end plate with taper shaft. 3536+ Armature driving spindle and end plate with parallel shaft.		. ,05
2724 Screw for slip ring carbon holder. 2810 Snap ring for distributor shaft oil retainer. 3001 Distributor bearing. 3002 Distributor gear and spindle (C4). 3003 Felt oiling wick. 3004 Distributor board spring clip. 3008 Oil reservoir. 3009 Distributor board complete (C4). 3010 Brush and spring for distributor board. 3011 Felt washer for distributor shaft oil retainer. 3012 Felt washer for distributor shaft oil retainer. 3013 Armature core wound. 3021 Contact end plate only, without ball race (C4). 3026 Rotating distributor brush and spring. 3031 Magnet. 3033+ Armature driving spindle and end plate with taper shaft. 3033+ Armature driving spindle and end plate with parallel shaft.		03
2724 Screw for slip ring carbon holder. 2810 Snap ring for distributor shaft oil retainer. 3001 Distributor bearing. 3002 Distributor gear and spindle (C4). 3003 Felt oiling wick. 3004 Distributor board spring clip. 3008 Oil reservoir. 3009 Distributor board complete (C4). 3010 Brush and spring for distributor board. 3011 Felt washer for distributor shaft oil retainer. 3012 Felt washer for distributor shaft oil retainer. 3013 Armature core wound. 3021 Contact end plate only, without ball race (C4). 3026 Rotating distributor brush and spring. 3031 Magnet. 3033+ Armature driving spindle and end plate with taper shaft. 3033+ Armature driving spindle and end plate with parallel shaft.		03
3001 Distributor bearing. 3002 Distributor gear and spindle (C4). 3003 Felt oiling wick. 3004 Distributor board spring clip. 3008 Oil reservoir. 3009 Distributor board complete (C4). 3010 Brush and spring for distributor board. 3012 Felt washer for distributor shaft oil retainer. 3018 Armature core wound. 3021 Contact end plate only, without ball race (C4). 3026 Rotating distributor brush and spring. 3032 Magnet 3033+ Armature driving spindle and end plate with taper shaft. 1530B+ Armature driving spindle and end plate with parallel shaft.		03
3002 Distributor gear and spindle (C4)		03
3002 Distributor gear and spindle (C4)		1.00
3003 Felt oiling wick. 3004 Distributor board spring clip. 3008 Oil reservoir. 3009 Distributor board complete (C4). 3010 Brush and spring for distributor board. 3012 Felt washer for distributor shaft oil retainer. 3018 Armature core wound. 3021 Contact end plate only, without ball race (C4). 3026 Rotating distributor brush and spring. 3032 Magnet. 3033+ Armature driving spindle and end plate with taper shaft. 1530B+ Armature driving spindle and end plate with parallel shaft.		. 2.65
3004 Distributor board spring clip. 3008 Oil reservoir		05
3009 Distributor board complete (C4)		10
3010 Brush and spring for distributor board. 3012 Felt washer for distributor shaft oil retainer	· · · · · ·	.75
Felt washer for distributor shaft oil retainer	• • • • •	4.00
3018 Armature core wound	• • • • •	.10
3021 Contact end plate only, without ball race (C4)	· · · · · ·	.10
3026 Rotating distributor brush and spring		
3032 Magnet		
3033+ Armature driving spindle and end plate with taper shaft 1530B+ Armature driving spindle and end plate with parallel shaft.		
1530B+ Armature driving spindle and end plate with parallel shaft.		
1530B† Armature driving spindle and end plate with parallel shaft.		
	• • • • • •	1.75
3034 Rotating distributor complete, with brush and spring (C4)		
3036 Slip ring carbon holder (only)		
3038 Slip ring carbon holder terminal		
3039 Timing lever without cams	• • • • • •	1.30
3040 Slip ring carbon holder complete with brush and spring	· · · · · ·	1.10 .10
3043 Contact end plate felt packing	,	
3058 ⁺ Armature complete (C4)		24.00
3066† Armature complete (C4) with parallel shaft		
3059 Rotating distributor only (C4)	· · · · ·	1.65 2.50
3073 Timing lever complete		.05
3079 Safety gap terminal	· · · · · ·	
		.90
3085 Armature gear (C4)		.15
3092 Armature condenser end plate		1.50
3093 Front hood with oil cup and packing		1.25
3097 Felt packing for magneto body and hood		.10
3099 Contact end plate complete without ball race and felt packing	(C4)	3.00
3128 Screw for cam		.03
3202 Distributor gear and spindle (C6)		2.75
3209 Distributor board complete (C6)		5.00
3221 Contact end plate, only (C6)		3.00
3234 Rotating distributor complete with brush and spring (C6)		
3258 Armature complete (C6)		25.00
3259 Rotating distributor only (C6)		1.65
3280 Magneto body complete (C6)		1.03
3285 Armature gear (C6)		
3299 Contact end plate complete with outer ball race and felt packin		20.00
4053 Distributor board and magneto ground terminal buttons		

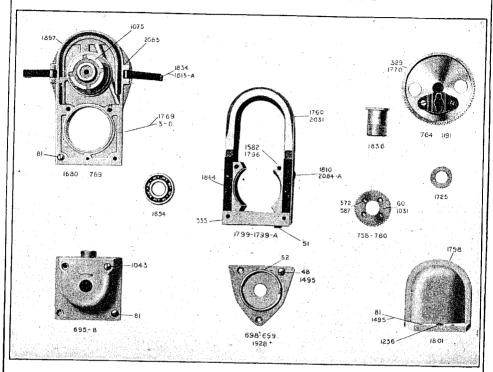
All orders under \$1.00 carry a wrapping and mailing charge of 15c. additional. Kindly include remittance with order.

THE SIMMS MAGNETO COMPANY

K4, K4-1, AND K6 PARTS



K4, K4-1 AND K6 PARTS



DESCRIPTION

 * Timing levers 127A and 1929 and contact end plates 698 and 1928 are not interchangeable, and therefore be sure to note whether such parts are to be used with a type K4 or K4-1 magneto.

Part N	0.	Prices
3D	Distributor end plate without bearing (K4)	Prices
41	Distributor prusir norder	
44	on map serew	0.0
47	Contact Dicarci tastening strew.	A P
48	serew for contact end plate	0.0
51		
52	Stop serew for thining lever	0.0
60	Donet più foi armajure gear	0.0
75	Spacer washer for armature .002" thickness	0.0
77	washer for spindle	0.0
81 83	Lind plate Sciew Short	A =
100	serew for distributor carbon holder.	6.0
101	riat for condenser port	0.0
101	Spring for oil hab	
111	Felt washer for armature spindle.	.05
120	reit packing for armature	0.0
		.15
128A *	Timing lever complete, variable ignition (K4)	2.50
	Timing lever complete, fixed ignition (K4)	2.50

† Not illustrated.
† Carefully note rotation when ordering.
* Timing levers 127A and 1929 and contact end plates 698 and 1928 are not interchangeable, and therefore be sure to note whether such parts are to be used with a type K4 or K4-1 magneto.

Part	No.	Prices
149	Flat spring for contact breaker	\$.05
152	Lock nut for platinum screw	.03
153	Insulating plate for contact breaker block	.05
154	Insulating collar for center contact breaker	.03
156	Steel screw for contact breaker insulating block	.03
157	Steel screw for contact breaker flat spring	.03
$\frac{159}{248}$	Auxiliary flat spring for contact breaker	.03
$\frac{248}{251}$	Cam ring (K6)	.75
305	Armature spacer washer .006" thickness	.03
309	Slip ring carbon holder (only)	.60
312	Positioning button for contact breaker block	.03
329	Distributor gear without carbon holder (K4 and K4-1)	2.75
333	Armature drive spindle and end plate	1.75
336	Short platinum screw for contact breaker	3.50
337	Long platinum screw for contact breaker	3.50
472	Slip ring for armature shaft	1.25
492	Condenser end plate (K4 and K4-1)	$1.50 \\ .03$
497 517 *	Steel screw for timing lever cam (No. 127A)	.03
535	Base plate	1.75
537A		.03
572	Screw for armature gear (K4 and K4-1)	.03
576	Brass washer for condenser screw	.03
587	Screw for armature gear (K6)	.03
588	Condenser end plate (K6)	1.50
597	Contact breaker fastening screw (K6)	.05
695 E	Drive end plate complete	3.75
697		3.40
698*	Contact end plate complete (K4)	3.40
716	Distributor board terminal button	.15
758	Armature gear and dowel pin (K4 and K4-1)	.75
764	Distributor gear complete (K4 and K4-1)	3.25
769	Distributor end plate complete (K6)	8.00
780	Armature gear and dowel pin (K6)	.75
799E		8.75
800E		$8.75 \\ .03$
$1003 \\ 1031$	Condenser Bolt Dowel pin for armature gear (K6)	.03
1043	Drive end plate screw upper	.05
1075	Oil reservoir	.75
1083A	Slip ring carbon holder complete (K4 and K4-1)	.75
10844	Slip ring carbon holder complete (K6)	.75
1090	Stud screw complete (3" long)	.25
1092	Stud screw complete (2¼" long)	.25
1127	Timing lever complete, clockwise (K6)	$\frac{2.50}{5.00}$
1177 <i>i</i> 1191	Distributor gear complete (K6)	3.50
1236	Oil cup	.15
1423	Brass washer for ground terminal screw	.05
1426	Lock washer for distributor board	.05
1489	Ground brush and spring	.20
1495	Screw for front hood and end plate	.03
1582	Pole shoe with four magnet screw holes	1.00
1585I	Conducting bar complete	.50
1619 16391		.10 1.50
1640		1.50
2010	Consider the control of the control	2.00

† Not illustrated. † Carefully note rotation when ordering. * Timing levers 127A and 1929 and contact end plates 698 and 1928 are not interchangeable, and therefore be sure to note whether such parts are to be used with a type K4 or K4-1 magneto.

Part N	70.	Prices
1642‡	Contact breaker disc, clockwise	
1643^{+}	Contact breaker disc, anti-clockwise	. 75
1646 <u>†</u>	Contact breaker insulating block, clockwise	.25
1647	Contact breaker insulating block, anti-clockwise	.25
1654	Armature ball bearing complete	2.50
1671A	Distributor board complete (K4 and K4-1)	4.00
1680	Distributor end plate complete (K4 and K4-1)	8.00
1689	Brass clamp for distributor shaft oil retainer	10
1690	Felt washer for distributor shaft oil retainer	.10
1693	Condenser screw	.03
1725	Distributor gear spindle thrust washer	0.5
1727A.*		1.25
1730	Armature complete (K4 and K4-1)	24 00
1731	Armature coil wound	10.00
1754	Breaker box cover without terminal	1.00
1758	Safety gap terminal upper	.10
1759	Safety gap terminal (K4 and K4-1)	.05
1760	Magnet (1 21/32" wide) (K4 and K4-1)	3.00
1769	Distributor end plate with bearing (K6)	6.50
1770	Distributor gear (K6)	3.00
1789	Ground brush nut	.05
1790	Ground brush screw	.05
$1793 \\ 1795$	Armature complete (K6)	
1795 1796	Safety gap terminal (K6)	.05
1798	Pole shoe with two magnet screw holes	1.00
1798	Breaker box cover complete	1.25
1799A	Body group comprising base plate, pole shoe and magnet No. 1760	9.50
1793A. 1800	Body group comprising base plate, pole shoe and magnet No. 2031 Armature ground brush complete	
1801	Event head complete	.30
1806	Front hood complete	1.25
1810	Breaker screw for magnet No. 1760.	.20
1813A	Distributor board spring clip (K4 and K4-1)	.03
1834	Distributor board spring clip (K6)	.10
1836	Distributor end plate bearing for 3D	.10
1847	Timing arm complete, anti-clockwise (K6)	$\frac{1.00}{2.50}$
1861	Armature cover plate complete	30
1864	Felt packing for magnets.	.03
1870	Condenser	5.00
1897	Felt packing for dist, end plate and front hood	.10
1928 *	Contact end plate complete (K4-1)	3.40
1929*	Timing lever complete (K4-1)	2.50
1939 *	Timing lever without cams (K4-1)	1.25
2026	Breaker cam lower with oil wick	.35
2031	Magnet (single 3 5/16" wide)	7.50
2034	Ground brush holder	.20
2084A	Screw for magnet No. 2031	.03
2085	Pin for spring clip 1813A	.05
2113	Drive spindle nut	.05
2131	Drive spindle lock washer	.03
2600	Spanner wrench	.10
3128*	Cam screw for No. 1929.	.03
4053	Ground terminal button	.15

LIST OF SERVICE STATIONS

	Abardson S Dakota Detroiton Auto Floatnia Compias Co. 119 2nd Arrange C W
	Aberdeen, S. Dakota Detwiler Auto Electric Service Co., 112 3rd Avenue, S. W. Abilene, Texas Carter's Auto Electric Service, 5th and Pine Streets
	Allentown Do
	Allentown, PaAllentown Electrical Devices Co., 524 Hamilton Street
	Amarillo, Texas Panhandle Motor Company, 604 Polk Street
	Arkansas City, Kans Mears Brothers, 407 S. Summit Street
	Atlanta, Ga E. H. Odom Bros. Co., Inc., 19 James Street
	Atlantic City, N. J Bateman-Mixner Co., Inc., 816 Arctic Avenue
	Baltimore, MdMagneto & Machine Co., 1031 Cathedral Street
	Bangor, Me Arvid L. Ebbeson, May and Summer Streets
	Beloit Wis L. C. Fiske Elec Co. 417 E. Grand Avenue
	Billings, MontanaElectric Service Station, Inc., 10 N. 20th Street
	Binghamton, N. YElliott Engineering Co., 239 Water Street
	Birminghom Ala Floring Counce & Devois Co. 200 Water Street
	Birmingham, AlaElectric Garage & Repair Co., 2018 Avenue B Bloomfield, N. JBlood & Claus, 535 Bloomfield Avenue
	Broomheid, N. J Blood & Claus, 555 Bloomheid Avenue
	Boise, Idaho Western Ignition & Battery Co., 11th and Idaho Streets
	Boston, Mass Eisner-Lenk Company, 1096 Boylston Street
	Bridgeport, Conn Electric Auto Service & Supply Co. 235 Cannon Street
	Brooklyn, N. YMagneto Specialty Company, 1196 Bedford Avenue Buffalo, N. YAlvin Krome, 52 Goodell Street Chattanooga, TennP. W. Lytle, 926 Market Street
	Buffalo, N. YAlvin Krome, 52 Goodell Street
	Chattanooga, TennP. W. Lytle, 926 Market Street
	Chicago, Ill Brown & Caine, Inc., 2112 Michigan Avenue
	Cincinnati, Ohio
	Clay Center, KansMiller Company, 4th and Lincoln Streets
	Claveland Obio Auto Blacking Maintenance Co. 042 Chestant Arrange
	Cleveland, OhioAuto Electrical Maintenance Co., 943 Chestnut Avenue Columbia, S. CAuto Electric Co., Inc., 1216 Hampton Avenue
	Columbia, S. G
	Columbus, Indiana
	Columbus, OhioThe Silva Company, Inc., 381 South 4th Street Cumberland, MdThe Automobile Repair Co., Cor. Front and Frederick Sts.
	Lumberland, Md The Automobile Repair Co., Cor. Front and Frederick Sts.
	Dallas, TexasOtto A. Hille Co., 1711 Young Street Davenport, IowaEmeis Mfg. Co., 217 Iowa Street
	Javenport, IowaEmeis Mrg. Co., 217 Iowa Street
	Dayton, OhioL. C. R. Electrical Service Co., 122 N. St. Clair Street
	Denver, Colo Outwest Auto Electric Co., 12th and Lincoln Streets
	Des Moines, Iowa Electrical Service & Sales Co., 1019 Walnut Street
	Denver, ColoOutwest Auto Electric Co., 12th and Lincoln Streets Des Moines, IowaElectrical Service & Sales Co., 1019 Walnut Street Detroit, MichAuto Elec. & Service Corp., 11 Sciden Avenue
	Drumright, Okla Underwood Magneto Exchange, 133 Fulkerson Street
	Sikhart, Ind Auto Specialties Co., 221 Harrison Street
	I Paso, Texas Western Battery & Magneto Co. Missouri and Kansas Sts.
	El Paso, TexasWestern Battery & Magneto Co., Missouri and Kansas Sts. Erie, PaLe Jeal Cycle & Mobile Works, 1721 Sassafras Street
	Exeter, Calif Central California Electric Company, Inc.
	Fargo, N. DakotaHoward B. Tilden, 71 Fifth Street North
-	Flushing, N. YJ. & A. Brenneis, 42 Main Street
٠.	t. Wayne, Ind
. :	t. Worth, TexasStarter Service Co., 283 W. 10th Street
	rederick, Md. Shipley's Tire Works rand Rapids. Leon S. Heth Co., 238 Ottawa Avenue, N. W.
- (irand RapidsLeon S. Heth Co., 238 Ottawa Avenue, N. W.
	tarrishurg, ra
-1	Iartford, ConnUniversal Auto Company, 132 Allyn Street
.]	Iartford, Conn
.]	ndianapolis, Ind
	ackson, MissNoel Repair Shop, 119 S. Farish Street
	acksonville, FlaThe Magneto Exchange, 221 W. Adams Street
	oplin. Mo
1	Lansas City, MoE. S. Cowie Electric Company, 1816 McGee Street
. 1	afavette Ind Battery Service Co. 620 Columbia Street
	afayette, IndBattery Service Co., 620 Columbia Street ancaster, PaElec. Equipment Co., 44 N. Prince Street
ì	avelle, PaGeneral Electric Garage Service Station
- 1	ewistown, MontElec. Service Station, 110 4th Avenue South
	.ima, OhioBeckman Electric Co., 124 S. Central Avenue .incoln, NebraskaRandall & Noll, 317 S. 11th Street
	incom, Nebraska Randan & Non, 317 S. 11m Street
1	indsay, CalifCentral California Electric Company
	ittle Rock, ArkArkansas Battery Co., Inc., 412 Centre Street
-]	ong Branch, N. JR. V. Dorbeck, Brighton Avenue, West End
]	os Angeles, CalifBrown & Caine, Inc., 331 West Pico Street
]	umberton, N. CBattery Service Company
]	ynchburg, VaLynchburg Battery & Starter Co., 62 Ninth Street
1	ynchburg, VaLynchburg Battery & Starter Co., 62 Ninth Street Ianhattan, KansThe Keele Electric Company
1	ladison, Wis,Automotive Elec. Service Co., Inc., 124 W. Main Street
	- NG

FOREIGN SERVICE STATIONS

Argentine, Buenos Ayres Gino Bocci y Hno., 2166 Rivadavia

Australia, Melbourne Whiting & Foreman, Oxford Chambers, Burke St. Belgium, Brussels F. de Witteleir, 126 Rue de Ten Bosch

Chili, Concepcion Frederick Huth & Co. Chili, Coquimbo Frederick Huth & Co.

East Africa, Nairobi Serie, Braithwaite, Ltd East Africa, Zanzibar Braithwaite, Lid.

Lane

Italy, Milan Luigi Troubetzkoy, 12, Via Francesco Ferructio Japan, Tokio Andrews & George, Ltd., 16 Takegawa Cho, Kiobashi Ku Manritius, Moka G. Piat-Golin New Zealand, Auckland Turnbull & Jones

New Zealand, Christchurch Turnbull & Jones
New Zealand, Dunedin ... Turnbull & Jones
New Zealand, Wellington ... Turnbull & Jones ... 19 Blair Street
Portugal, Lisbon ... Automobilista Eda., 160 Rua Alves Correia
South Africa, Bloemfontein ... Younger Motor Co., Lid.

South Africa, Johannesburg, Bartle & Co., Ltd. South Africa, Kimberley 1.5, Bartle & Co., Ltd.

Mestre & Blatge, 57 Balme

Spain, Barcelona Spain, Madrid Mestre & Blatge, Cid 2, y Recoletos 15

Sweden, Stockholm ..., Nickels & Todsen, 15 Switzerland, Bienne ..., J. Bruhlmann West Africa, Dahomey , ..., F. & A. Swanzy, Lid., at Porto Nova and Cotonou

, F.& A.: Swanzy, Ltd., at Accra, Cape Coast Castle West Africa, Gold Coast. .The African & Eastern Trade Corp., Ltd., at Lagos, West Africa, Nigeria 🔐 .

Port Harcourt

West Africa, Togoland . . . F. & A. Swanzy, Ltd., at Lome

REPRESENTATIVES IN CREAT BRITAIN

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Glasgow, Scotland; Stroms Motor Units, Ltd.

EXPORT DEPARTMENT

New York City, N., Y., ... Simms Motor Units, Ltd., Sun Bldg., 150 Nassau Street

SIMMS MAGNETOS