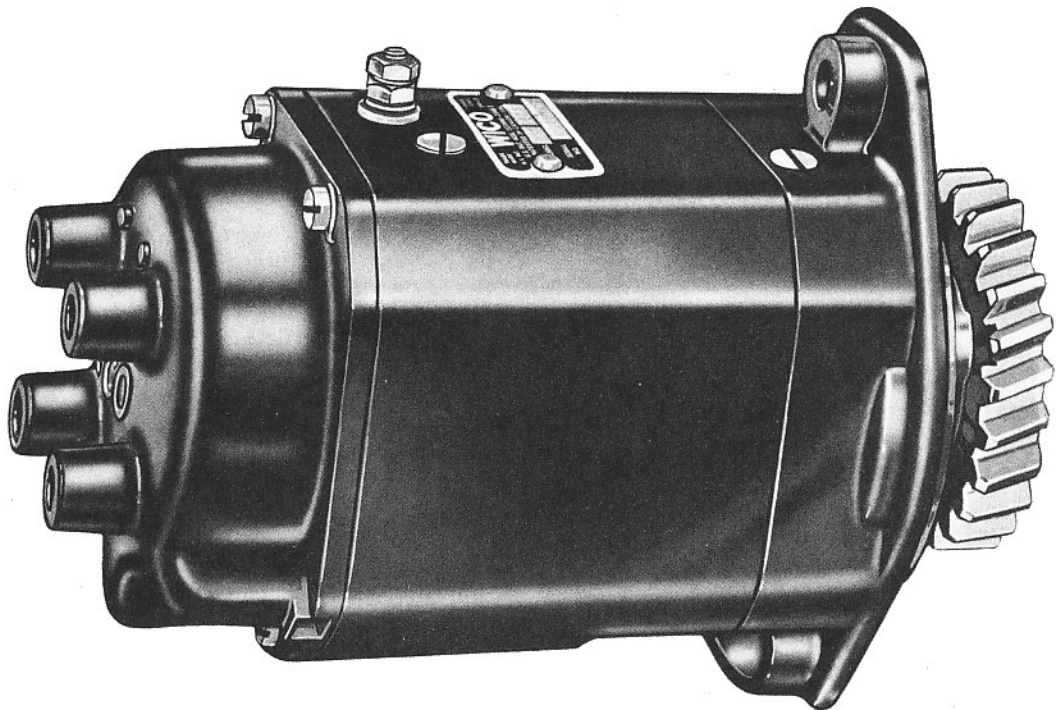


BRIEF INSTRUCTIONS AND SERVICE PARTS LIST

MODEL J-4 WICO MAGNETOS

AS USED ON WISCONSIN VE-4 ENGINE



WICO-BUILT
IGNITION

Wico Electric Company
WEST SPRINGFIELD, MASSACHUSETTS

BRIEF INSTRUCTIONS FOR CARE OF MODEL J WICO MAGNETOS

TIMING TO IMPULSE SPARK

When the impulse coupling 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; turn the engine over to top dead center 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, usually designated by IGN, a different procedure is followed: Turn the 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 No. 1 cylinder. By means of a thin piece of paper between the points, the exact instant of breaker point opening can be determined. At this point, the magneto is in a position where a spark will be delivered to the No. 1 cylinder. Turn the engine over until the advance spark mark on the flywheel is correctly located on the compression stroke of No. 1 cylinder and couple the magneto to the engine.

BREAKER POINT OPENING

The breaker point opening should be adjusted to .015" by means of the small eccentric screw acting on the fixed contact bracket.

Admission to the breaker assembly is accomplished by removing the distributor cap, distributor arm and breaker cover.

LUBRICATION

Adequate means for lubricating the oil-less bushings have been provided by the two oil plugs located on the main housing and the end plate. It should not be necessary to oil the magneto as frequently as has been the common practice. Abnormal conditions, such as excessive heat or continuous service, may exist where it will be advisable to remove the oil plugs and fill the holes provided with Wico or S.A.E. No. 20 oil every 500 hours of operation.

REMOVAL OF DISTRIBUTOR CAP AND ARM

Unscrew the four screws enough to permit removal of the distributor cap. The distributor arm may then be removed from the cam.

When replacing the arm, first set the breaker cover sealing washer onto the breaker cover on the four prongs provided. Line up the key inside the arm with the flat on the cam and press the arm down until it bottoms. When replacing the cap, be sure the gasket is in place.

REPLACEMENT OF BREAKER POINTS

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

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

In reassembling, be sure the steel breaker arm spacer is in place. With the breaker arm group off, the fixed contact plate may be taken off the breaker arm pivot after the fixed contact screw and lock washer have been removed.

MAJOR REPAIRS SHOULD BE DONE AT THE NEAREST WICO SERVICE STATION OR DISTRIBUTOR. (See list on back of this folder)

The model J, Specification 1343, Wico Magneto used on the Wisconsin VE-4 engine is a magneto especially designed for this engine only. This magneto differs from the conventional magneto in that both the rotor shaft and the distributor arm turn at crankshaft speed. Due to the design of the circuit, four sparks per revolution are produced. Therefore, eight sparks are produced per engine cycle while only four of these sparks are needed for ignition purposes. The four sparks which are not used occur while the piston is on the exhaust stroke and therefore can do no harm.

LIST PRICE: J-4 \$26.80

FIRING INTERVAL: J-1343 . . every 90°

WARRANTY

We warrant each piece of apparatus manufactured by us to be free from defects in material and workmanship under normal use and service. Our obligation under this warranty is limited to the furnishing of any part of said apparatus which shall within a period of ninety (90) days after delivery to the original purchaser, be returned either to one of our authorized service stations, or to the factory, transportation charges prepaid, and which, upon examination by one of our authorized representatives, shall disclose to our satisfaction to have been thus defective.

Any magneto or other piece of apparatus shall not be considered to have been under normal use and service if it appears to have been subjected to misuse, abuse, neglect or accident, or if it has been repaired or altered outside of our factory so as, in our judgment, to affect its stability or reliability, or if any part not of Wico manufacture has been substituted for a part of Wico manufacture.

This warranty is in lieu of all other warranties, either expressed or implied; and we do not authorize any person or persons to assume for us any other liability in connection with the sale of our equipment; nor are we responsible for any liability for any damage or injury to any person or part resulting directly or indirectly from design, material, workmanship or installation of any of our apparatus.

WARRANTY ADJUSTMENT PROCEDURE

Apparatus assumed to come within the terms of the warranty should be submitted to the nearest authorized Wico Service Station with a formal request for adjustment.

If, upon examination by such authorized representation, the apparatus is found to be actually defective and within the warranty period, it will be placed in proper operating condition and no charge made, either for labor or material.

The term labor does not refer to that involving the removing or installing the apparatus, nor for transportation, duty or tax thereon, but only refers to the actual bench labor on the apparatus itself. Any labor charge other than for such bench labor, is to be borne by the owner, who will be required to sign a warranty Service Report form at the time a warranty adjustment is made. The service station will be reimbursed upon receipt of the warranty service report by the factory.

When the Service Station is in doubt as to the cause of the apparatus being inoperative, the owner should pay the service station for the material and labor charges, who will forward the units or parts claimed defective to the factory, together with a signed warranty Service Report form. Upon receipt and examination by the factory of the units or parts and the warranty service report form, the claim will be carefully considered and if in the opinion of the factory the units or parts are found to have been defective credit will be issued to the Service Station for both labor and material and the Service Station will reimburse the owner the amount paid for material and labor.

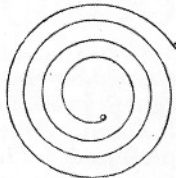
WICO ELECTRIC COMPANY,
West Springfield, Mass.



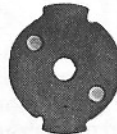
X3797



3870



15-186



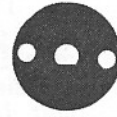
X2286



2122



M-42XA



2288



16-583
IVA-583



2076



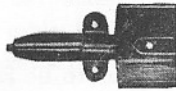
A-179X



A-243X



X3682



Y3684



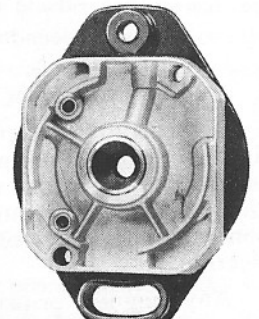
M-54X



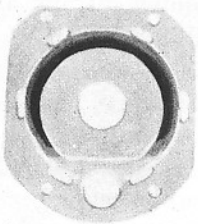
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X3975



X3907



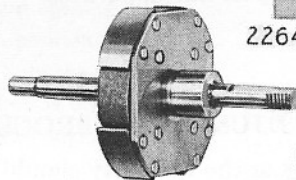
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X3765



3783



X3941

2264 A OR B

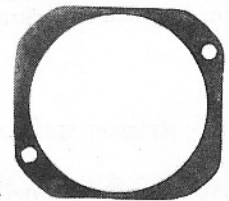
IXA-345



3940



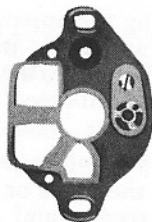
M-116X



5108



X3949



X3976



XI413



1196



XI408



3902



3806



IXA-256



1197T



1197



M-36X



1533



1902



16-738



1383



M-31X



M-90X



M-55XA



2573



M-55XA

PARTS LIST FOR WISCONSIN J-4 SPEC. J-1343

Part Number	Part Name	List Price	Part Number	Part Name	List Price
M-31X	Fixed Contact Screw	\$.05	2288	Drive Spring Retainer .....	.05
M-31X	Coil Ground Connection Screw .....	.05	2573	Breaker Arm Spring Screw L. W. ....	.05
M-35X*	Ground Stud Bushing (Part of Main Housing) .....	.05	2573	Ground Stud Nut L. W. ....	.05
M-36X*	Breaker Assembly Clamp Washer .....	.05	3230*	Ground Stud Nut .....	.05
M-42XA	Driven Flange Spacing Washer .....	.05	3538*	Ground Stud (part of main housing)	.10
M-54X	Secondary Pencil Screw L. W. ....	.05	3539*	Ground Stud Lock (part of main hous.)	.05
M-55XA	Breaker Arm Clamp Screw L. W. ....	.05	X3682	Coil Group	3.15
M-55XA	Breaker Assembly Screw L. W. ....	.05	Y3684	Secondary Pencil (use on serial numbers above #8641. On previous numbers use #4599.) .....	.50
M-55XA	Cam Screw L. W. ....	.05	3725	Ground Stud Washer (Part of main housing) .....	.05
M-55XA	Coil Ground Connection L. W. ....	.05	X3765	Inner Core Group .....	.55
M-55XA	Fixed Contact Screw L. W. ....	.05	3783	Inner Core Snap Ring .....	.05
M-90X	Condenser Screw L. W. ....	.05	3796	Breaker Cover .....	.20
M-96X*	Impulse Lock Nut Cotter Pin .....	.05	X3797	Distributor Arm Group .....	.50
M-116X	End Plate Screw L. W. ....	.05	3802	End Plate Gasket .....	.05
A-179X	Impulse Trip Arm .....	.25	3806	Cam Screw Lock Plate .....	.05
15-186	Drive Spring .....	.60	3808*	Name Plate .....	.20
A-243X	Snap Ring .....	.05	3810*	Secondary Pencil Contact Spring .....	.10
IXA-256	Fixed Contact Screw Washer .....	.05	X3813	Ground Stud Lead Group .....	.10
IXA-345	Oil Plug .....	.05	3870	Drive Cup	2.10
A-355	Lead Wire Group (12") .....	.35	3902	Breaker Cam	1.05
IVA-583	Drive Cup Spacing Washer (Steel) ....	.10	X3907	Use X3908	
16-583	Drive Cup Spacing Washer (Brass) ....	.10	X3908	End Plate Group	3.70
16-738	Breaker Arm Clamp Screw .....	.05	X3939*	Impulse Coupling Unit	3.70
16-738	Breaker Arm Spring Screw .....	.05	3940	End Plate Screw .....	.05
IXA-862*	Ground Stud Insulating Washer (part of main housing) .....	.05	X3941	Rotor Assembly	7.15
1146*	Cam Key .....	.05	X3949	Distributor Cap Unit (includes gasket, screws and lock washers)	2.40
1196	Fixed Contact .....	.55	X3975	Main Housing Assembly (for replacement only)	7.15
1197	Breaker Arm Spacing Washer (3/64") .....	.05	X3976	Breaker Plate Group	1.05
1197T	Breaker Arm Spacing Washer (.010") .....	.05	X4104*	Ground Switch Group .....	.25
1207*	Breaker Arm Clamp Screw Washer .....	.05	4299	Inner Core Spacing Washer .....	.05
1248*	Name Plate Drive Screw .....	.05	4474	Coil shield .....	.10
1383	Condenser Screw .....	.05	X4599	Secondary Pencil Replacement Kit (use on serial numbers previous to #8641. On subsequent numbers use #3684.) .....	.85
X1408	Breaker Arm Group	1.30	4992	Distributor Cap Gasket .....	.20
X1413	Condenser Assembly	1.25	5108	End Plate Spacer .....	.10
1418*	Breaker Arm Spacer .....	.05			
1533	Condenser Case Gasket .....	.05			
1902	Breaker Assembly Screw .....	.05			
1902	Cam Screw .....	.05			
1902	Secondary Pencil Screw .....	.05			
2076	Impulse Lock Nut .....	.35			
2122	Driven Flange Spacer .....	.10			
2264A or B	Coil Wedge .....	.05			
X2286	Driven Flange Group .....	.50			

*Not illustrated.

Prices subject to change without notice.

WICO ELECTRIC COMPANY, WEST SPRINGFIELD, MASSACHUSETTS, U. S. A.

KANSAS (Cont'd)

Hardner A. W. Mohr Garage
Hesper Auto Electric Co.
Hays Basgal & Syms, 121 East 8th St.
Hawthorn Zecher Bros.
Hawthorn F. M. Emerson Garage, 894 Cheyenne St.
Hutchinson Hilton Electric Co., 199 E. Shawnee St.
Independence Ben Ludwig Electric Service
Jackson A. H. Davis Electric Co., 802 N. Washington Ave.
Johnson City Meade Battery & Electric Company, 114 E. 7th St.
Kennett Ed. Nardien Mch. Co.
Kingman N. E. Hobson & Son, 121 Ave. A & East
Lansed Smith & Kennedy
Lawrence Donnell Electric, 615 Main St.
Lenora Smith's Electric Service
Liberal Cheatum Electric Co.
Lian Promisk Oil Company
Lyons Turner Battery & Electric
Madison Madison Service Station
Manhattan Soper Electric Co., 117 N. 3rd Ave.
Manokato The Hanna Hardware Co., Inc.
Marion Nelson Super Service, 115 E. Main St.
Mayville Wolf Auto Supply, 718 Broadway
McGracken McGracken Electric
McPherson G. O. Swanson Elec., 230 N. Maple
Milton Wilson Electric, Milton Garage
Mill Hope John Schmidt Garage
Newton Bonstead Magneto Service, 115 West Broadway
Oakley Hutchinson Battery & Electric Co.
Oakley Jenk Auto Electric Service
Oberlin Oberlin Auto Electric, 211 S. Penn. St.
Oshtemo J. C. Walter Electric Co.
Oshtemo H. E. Shorpe Co.
Ottawa Carpenter Super Service
Parsons Walterscheid Farm Equip. Co., 2011 Broadway St.
Peoa Wilson Electric, 218 West Highway 49
Reynolds Turner Battery & Electric, 218 West Highway 49
Salina E. S. Cowie Co., 216 W. Ache
Scott City Storm Machine Shop
Seaton Hardie Electric Service
Smith Center Cole Machine Shop
Stafford Click's Electric Service, 400 S. Main St.
St. Francis Manson Electric Shop
Topeka Burkhardt Battery & Elec. Co., 112 W. 4th St.
Topeka Lester Automotive Battery & Electric Co., 219-214 E. 6th St.
Turton Iruno Magneto Service
Wakarusa Harris Garage
Wallington Jack Lane Chevrolet Co., 210 N. Washington
Wichita E. S. Cowie Electric Co., 230 S. Topeka Ave.
Winfield Barker Magneto Electric, 214 W. 9th St.

KENTUCKY

Ashtand Wurts Bros. Specialized Service, 292 17th St.
Bowling Green Motor & Elec. Supply Co., 523 10th St.
Lexington Fulton Ignition Co., 108 St. at Vine
Lexington United Service Co.
Louisville Fulton Convey & Co., 805 W. Main St.
Louisville Kentucky Ignition Co., 737-739 S. 3rd St.
Louisville Schaaf Auto Electric Co., 420 E. Broadway
Owensboro Collett Bros., 118 St. Ann
Owensboro Owensboro Storage Battery Co., 317 W. 4th St.
Padesch Store Electric & Battery Co., 615 Jefferson St.

LOUISIANA

Baton Rouge United Service, Inc., 1202 Main St.
Crawley Acadia Battery Station, 192 E. 4th St.
Lake Charles Chain Battery Station, 805 Hodges St.
Lake Charles Nemo's Radiator Service, 318 Ryan St.
Monroe United Elec. Service, Inc., 907 Louisville Ave.
Monroe John D. Maggio, Brother & First St.
New Orleans J. M. Walton, 1009 St. D.
New Orleans D. H. Castilla
Rochelle H. D. P. DePriest Magneto Service, Box 45
Shreveport Magneto Ignition Service Co., 804 Louisiana Ave.
Talbot H. P. DePriest Magneto Service, Box 45

MAINE

Bangor Arvid L. Ebbeson, 600 Main St.
Fort Kent M. P. V. Roy
Gardiner Bailey's Auto Elec. Service, 165 Bridge St.
Leicester Ingraham's, 41-45 Bangor St.
Leicester Palmer King Motor Co., 111 Middle St.
Portland Lefebvre Electric Co., 290 E. Broadway
Presque Isle Garland's Auto Electric Service, 5 Church St.
Van Buren Knight-Hall Co., 538 Maine St.
Ware Garland's Tune-Up Service, Main St.
Wiscasset Grover D. Lovejoy, 30 Charles St.

MARYLAND

Baltimore Parks & Hill Auto Corp., 1033 Cathedral St.
Easton Robert L. Roberts
Hagerstown Auto Electric Service Co., 81 E. Baltimore St.
Salisbury Salisbury Battery Co.

MASSACHUSETTS

Boston A. & J. Auto Ignition Co., 55 Brighton Ave.
Fall River Williton Auto Electric Serv., 81-85 Troy St.
Fitchburg Fitchburg Auto Electric Co., 214 Linnburg St.
Franklinham W. H. Barr Battery & Service Station, 45 Howard St.
Haverhill Krohn's Automotive Serv., 151 Federal St.
Lawrence Connor Battery Ignition Service, 636 Essex St.
Lowell Markus Motor Service, Inc., John's French St.
New Bedford C. E. Beckman Co., 11-35 Commercial St.
Newburyport Davis Electric Service, 50 Merrimack St.
N. Adams Auto Elec. Service, 245 W. Main St.
Norwood Kleps Auto Elec. Service, 12 Guild St.
Pittsfield Arthur E. Smith Auto Electric, 75 Tyler St.
Salem George D. Grant, 99 Derby St.
Salem C. F. Hallin Co., of Salem, 274 Derby St.
Springfield L. W. Jaeger Ignition Co., 3040 Columbus Ave.
Worcester Jenkins & Robinson, 69 Central St.

MICHIGAN

Alma Brown's Garage, 230 W. Superior St.
Alpena Electric Service & Supply Co.
Ann Arbor A. & L. Battery & Electric Serv., 595 S. Main St.
Battle Creek Haddock Brothers, 19 Green St.
Bay City Valley Electric Serv. Co., 1011 No. Washington St.
Benona Harbor Auto Elec. Serv., 260 E. Main St.
Coldwater Carson Auto Elec. Serv., 46 E. Chicago St.
Detroit Auto Electric & Service Corp., 90 Selden Ave.
Detroit Dix Auto Electric Service, 3993 W. Verner Highway
Detroit Greenleaf, Inc., 9279 Jefferson Ave.
Detroit Kline Auto Elec., 10350 Harper Avenue
Detroit Knorr Maynard, Inc., 5743 Woodward Ave.
Detroit Magneto Service Co., 1230 W. Fort St.
Easton M. & M. Elec. Service Co., 935 W. Wuzran Ave.
Escanaba Richie Electric Co., 111 N. 11th St.
Flint Auto Elec. Serv., 1600 Detroit St.
Flint Kennedy Motor Parts, 1808 N. Saginaw St.
Grand Rapids Auto Clinic, 13-15 Market Ave.
Grand Rapids Roward, Inc., 62-68 Conner Ave., S.W.
Houghton O. K. Auto Parts, 407 Memorial Ave.

Inwood O. K. Auto Parts, 216 W. Aurora St.
Ipswich Andracchi Magneto Serv., 318 W. Division St.
Jackson Hill Parts Service Co., 608 Broadway Ave.
Jackson M. & W. Auto Electric, 202 Clinton St.
Kalamazoo M. & T. Battery & Electric, 131 W. Kalamazoo St.
Kalamazoo Ralph M. Ralston Co., 201 N. Park St.
Kalamazoo Paul Automobile Parts Co.
Lansing General Parts & Serv., Inc., 511 N. Grand Ave.
Lansing Auto Electrical Parts Co., 150 E. Michigan Ave.
MI. Clemons Auto Electric Shop, 165 N. Gratiot
MI. Clemons Roy's Magneto Service, 201 E. W. Broadway
Muskegon Reliable Tire & Accessories Co., 438 W. Western
Port Haven Auto Electric Shop, 286 S. Saginaw St.
Port Haven Spring's Battery & Electric, 611 W. Huron St.
Royal Oak Rols Battery Service, 515 S. Main St.
Saginaw Russell Electric Co., 1915 N. Michigan
South St. Marie Electric Equipment Co., 189 W. Spruce St.
St. James Oursen's Electric Service
Traverse City Mack's Garage, Case & State St.
Traverse City Northwestern Elec. Serv., 441 E. Front St.

MINNESOTA

Albert Lea Smith Tire & Electric, 216 S. Washington St.
Alexandria Friday's Auto Electric Co., 110 5th Ave. S.
Avon Austin Carburetor & Electric Co., 211 E. Maple St.
Benone Johnson Auto Electric
Bleu Earth City Gray Electric & Magneto Service Co.
Brainerd Electric Garage, 718 E. Maple St.
Crookston Crookston Mfg. Co., 411 No. Main St.
Crookston Joe E. Schroeder, 217 N. Broadway
Duluth United Electric Service Co., 301 E. Superior St.
Fergus Falls Olson Auto Electric Service, 121 Carver Ave.
Hibbing Walter Benke Garage, 212 W. 10th St.
Grand Rapids Burler's Garage, 200 Polkman Ave., N.
Hancock Klitton County Implement Co., Main Street
Hancock Sletner Garage
Hibbing W. E. Horn Auto Elec. Service, 1932 Second St.
Kennelworth Kenyon Implement Co.
Litchfield Kruger's Garage, 117 W. 2nd St.
Madison Spilke Garage, Box 162
Mankato Mankato Service Co., 698 S. Front St.
Marshall Mack's Carburetor & Electric Service, 412 West Main
Minneapolis Fowler Electric Co., 2901 Nicollet Ave.
Minneapolis Reinhard Bros., Inc., 11 S. 9th St.
Montevideo Wagon Auto Electric, 208 S. 1st St.
Moris Highland Brothers, 703 Atlanta Ave.
New Ulm Auto Electric Service, 110 N. Broadway
North Prairie Fortwegner Electric Shop
Plymouth Sturdevant Auto Electric, 118 2nd St. N. W.
Red Wing Red Wing Auto Electric
Redwood Falls Carburetor & Elec. Co., 108 East 3rd St.
Rochester Alexander Auto Electric, 320 1st Ave. S. W.
St. Cloud Stevenson's, 22 North 5th Ave.
St. James Oursen's Electric Service
St. Paul Gruber Auto Electric, 263 W. Kellogg Blvd.
Spring Valley Marchant Super Service, 121 Main St.
Thief River Falls Wilson Bros. Auto Elec. Co., 221 First St. E.
Virginia McClellan Auto Elec. Co., 114 Chestnut St.
Virginia Saranen Auto Elec. Serv., 112 North 2nd Ave.
Wadena Christenson Battery & Elec. Co., 313 2nd Ave. N. W.
Wells Well's Garage, Carlson's
Wentworth Boeck's Garage
Willmar Nelson Auto Electric Co.
Winona Auto Elec. Serv., 118 Main St.
Worthington Fellender & Hogg's Motor Sales, 920 Main St.

MISSISSIPPI

Clarksdale Delta Welding Shop
Greenville Thomson's Battery & Elec. St., 217 Main St.
Greenwood D. & N. Auto Parts Co., 480 Howard St.
Hattiesburg Saphire Service Co., Inc.
Hattiesburg Carburetor & Ign. Co., 306 Hardy St.
Meridian Bolentine's Service, 119 S. Broadway
Meridian Motor Service Co., Inc.
Vicksburg Morrissey's Storage Garage, Inc.

MISSOURI

Cape Girardeau Wagner Electric Serv., Rear 815 Broadway
Cliftonville Industrial Equipment Co., 614 Elm St.
Columbia Tom Funk's Automotive Serv., 112 S. 8th St.
Hennibel Whitney Automotive Serv., 4th & Church St.
Joplin Dave's Magneto Service, 622 Wall St.
Kennett City The E. S. Cowie Electric Co., 1819-23 Wyandotte St.
Kennett City Herb Battery & Electric Co., 301 McGee St.
Leatic Miller Battery & Electric, 216 West Liberty St.
Madison Electrical & Magneto Service, 217 1/2 S. 1st St.
St. Louis Medart Auto Electric Co., 2134 Washington Blvd.
Sedalia Brown's Automotive Clinic, 224 & Montauk
Springfield Wheat's Elec. Service, 204-8 Pershing St.
Washington Washington Battery Co., 110 Lafayette St.

MONTANA

Baker Radtke Radio Electric
Billings Carburetor & Electric Co., 3107-09 First Ave., North
Billings "Patsy" & Spitzer, 200 North 23rd St.
Bossman Auto Electric Station, 102 W. Main St.
Butte Beery's Auto Supply, 114 East Broadway
Circle The Inland Motor Co.
Cutbank Fischer & Son, 106 N. Central Ave.
Fairview Tom & Home Serv.
Gleedale Harpster Autom. Electric, 190 W. Beahon
Great Falls Art & Ross Serv. Co., 300 1st Ave. S.
Great Falls Starter & Battery Co., 510 First Ave.
Hardin Miles & Ulmer Co.
Horn 7-0-6 Auto Electric, 108 1st St.
Hogeland Hogeland Motor Inn
Kollipal Sinter Auto Co.
Lewistown Electric Service Corp., 214 Montana Ave.
Miles City Harold's Elec. Shop, 628 N. 7th
Minotola Battery Supply Co., Main & Stevens
Pleasanton Peterson Common Store
Poplar Andy's Repair Shop
Shelby Kingler's Garage, 80 Main St.
Shelby Lloyd Middleworth, Front St.

NEBRASKA

Allamore Schaler Auto Supply
Albion Greenberg Electric Service
Beatrice Sprague Electric Service, 204 Court St.
Chadron Tschoner Bros., 294 East Second
Fall City Joy's Machine Shop
Farmort Auto Elec. & Battery Co.
Geary Ted B. Miller Co.
Grand Island Re Co.
Hastings Hastings's Battery & Electric, 212 N. Lexington
Holdrege Bieman's Auto Electric & Radio Service
Keamey Bieman's Auto Elec., 9 E. 25th St.
Lincoln Carl A. Anderson, Inc., 1637 S. St.
McCook McCook Equiv. Exchange
Nebraska City Guy J. Lick, 1800 Central St.
Norfolk Looker Bros., 5th & Madison
North Platte Reison Service Co., 502 N. Jefferson St.
Omaha Carl A. Anderson, 16th & Jones St.
Omaha West's Machine & Electric
Scottsblf Auto Electric Service, 1410 First Ave.
Sidney Halliburth Battery & Electric
Sussex B. C. Robinson

York Murphy Auto Electric, 411 Florio St.
NEVADA
Las Vegas Motor Supply Co., 121 S. Main St.
Reno Air Service Co., 241 S. Virginia St.
Reno Autom. & Electrical Supply Co., 392 Sierra St.

NEW HAMPSHIRE
Concord Merrill & Cole, 151 North Main St.
Dover Avery Auto Electric Service Co., Pierce St.
Keene Wilcox Battery Service, Rear 34 Washington St.
Lacrosse J. H. Chase Co., 95 Water St.
Manchester Gilman & Kinne, 519 Elm St.
Nashua Nashua Battery Shop, 2 Otisden
Portsmouth James L. Welch Auto Elec. Serv., 68 State St.
West Lebanon Hinthorn's Automotive Service, Bridge St.

NEW JERSEY
Atlantic City Irwin's Auto Elec. Co., Inc., 2722 Atlantic Ave.
Bridgeton L. J. Dezenbaber & Son, 145 S. Laurel St.
Camden Henry K. Pope & Sons, 1409 Hudson Ave.
Cedarville J. L. Danzberger's Son, Main St. & Maple Ave.
Dover H. Lintermann Auto Electric, 200 E. Blackwell St.
Hackensack Bergen Magneto Co., 58 First St.
Hackensack Hackensack Mag. & Bat. Station, 17 Main St.
Hackensack Warren Motor Service, 240 Main St.
Jersey City Sparrow Electric, 854 Connapaw Ave.
Newark Dix Magneto Co., 176 Central Ave.
Newark "Henry's", Inc., 247 Washington St.
Newark Tire Trading Co., 237-241 Halsted St.
New Brunswick Call's Auto Electric, 99 Albany St.
Paterson Reliable Magneto Repair Co., 20 Prince St.
Port Amboy Wurgler's, Ltd., 154 New Brunswick Ave.
Plainfield F. W. Huttenlocher, 247 Washington Ave.
Red Bank Douglas Electric Co., 35 E. Front St.
Somerville Battery & Electric Service Co., 100 E. Main St.
Trenton Tranton Auto Electric, 30 Passaic St.
Vineland Pagano Bros., Inc., 718 Londa Ave.
Washington Washington Auto Parts, R. # 30
Wildwood Allard Bat. & Elec. Serv., 134 E. Schellenger Ave.

NEW MEXICO
Albuquerque Hill's Auto Elec. Serv., 415 W. Marquette St.
Albuquerque Pryor Auto Electric Service, 523 N. 4th St.
Albuquerque "Spitzer" Electrical Co.
Carlsbad Hall Machine & Welding Co., 102 West Menard
Clayton E. C. Closser Automotive Service, 5th & Mitchell St.
 Gallup Walsh Battery & Electric Serv., 200 W. 46 Ave.
Hobbs Barnes Electric Co.
Las Cruces Cruces Motor Parts, 115 W. Bowman St.
Parales United Auto Stores
Raton Nixon's Specialized Service, 214-B S. 2nd St.
Silver City Auto Service Co., 294 W. Second
Silver City Silver City Boy's & Ign. Co., 103 E. College Ave.
Tucuman A-1 Auto Electric Co., 113 E. Center St.

NEW YORK

Albany Roemer & Zeller, 396 Central Ave.
Albany J. M. Steinhilber, Inc., 340 Central Ave.
Amthill L. I.
Amthill Battery & Ignition Serv., Broadway & Avon Place
Aver Mark J. Davis, Berwyn Ave. & 1st St.
Batavia Hull Electric Service, 925 W. Main St.
Biogonville Wakeman & Brainard, 262 State St.
Bolivar Magneto Repair & Baling Co., 60 Wallville Ave.
Brooklyn Madison Magneto Co., Inc., 1147 Bedford Ave.
Brooklyn Bronx Johnson Motors, 2395 E. 18th St.
Buffalo Battery Starter Co., 2505 Main St.
Buffalo "Peter Heitrich Elec. Serv., 1032 Elliott St.
Buffalo Kay Electric Service, 22 Sumner St.
Canfield Booth's Elec. Serv., 21 Otter Creek Pl.
Canfield Newing Motor Co., Inc., Main St. at Garfield Ave.
For Rockaway George Smith, 1425 For Rockaway Blvd.
Flushing J. A. & B. Brenneis, Inc., 35-23 Leavitt St.
Fredonia Peter Zabrasky, R. D. No. 20
Geneva Auto Electric Service, Lake St.
Geneva Glenn Carver Motor Service, Inc., 118 Glen Cove St.
Glen Falls Holmes Automotive Service, 41 Park St.
Hempstead, L. I. Onan Bros. & Co., Inc., 936 Main St.
Hicksville Nassau Center Auto Electricians, 30-34 Jericho Rd.
Hornell Hornell Auto Supply, 58 Broadway
Hudson Auto Electric Repair
Hudson Falls Percy E. Carpenter, 7 Monticello Ave.
Jamestown Strum Bat. & Elec. Serv., Inc., 114 E. 4th St.
Lockport Holland Electric Shop, 67 South 24th St.
Lockport Pils Service, Niagara & Chute St.
Long Island City "Steiner Bros., Inc., North Blvd. at 34th St.
Minerva, L. I. Meyer Nelson, Jericho Turnpike
Newburgh J. G. Metzger, Inc., 99 Broadway
New York City National Ignition Co., 2301 Jerome Ave.
New York City Quality Elec. Products Co., 317 W. 59th St.
Niagara Falls Main Auto Electric Service, 310 Main St.
Nyack Nyack Carburetor Sales & Serv., 258 Main St.
Ogdensburg Ogdensburg Battery Co., 209-213 Catherine St.
Olean Henry H. Hill, Inc., 434 N. Union St.
Oneonta Oneonta Tire & Auto Parts, Inc., 116 Main St.
Peen Yan Wesley P. Turner, Autom. Electrician, 92 Maiden Lane
Port Richmond, L. I. William S. Archer, 1960 Richmond Tr.
Rochester Jerome's Ignition Serv., 110 Webster Ave.
Rochester Rochester Mag. & Starter, 265 Hayward Ave.
Schenectady Ethlich Electric Service, Inc., 998 State St.
Schenectady C. L. Wuebker, 1015 Erie Blvd.
Sodus De Hand Bros, Belden Ave.
Syracuse Bergdorf Electric Co., 111 Temple St.
Troy Ethlich Electric Service, 900 Fourth
Utica Leo Electrical Co., Inc., 925 Pearl St.
Utica Stielhaver Electric, 320 Lafayette St.
Watertown North County Battery Sales, 621 State St.
Watbury, L. I. Baker Auto Electric Service, Bulter St.
White Plains A. L. Allison, Garden, 174-186 Grove St.

NORTH CAROLINA

Asheville H. P. Eld Co.
Asheville Battery & Ignition Co.
Charlotte "Carolina Rim & Wheel Co., 306 N. Graham St.
Charlotte Hill's Auto Elec. & Carburetor Service, 639 Dowd Rd.
Durham Clark & Surrill, Inc.
Durham Greensboro Auto Elec. Co., 509 S. Spring St.
Hendersonville The H. H. H. Co.
Hickory Huggins Battery & Electric Service, 107 So. Main St.
Lenoir Sharp's Auto Repair, 416 W. Harper Ave.
Raleigh Carolina Rim & Wheel Co., 391-325 S. Blount St.
Raleigh A. M. Tyler Co., 126 E. Morgan St.
Winston-Salem United Auto Serv., Inc., 118-124 N. Main St.

NORTH DAKOTA
Bismark Wilson Electric Service, 300 S. 3rd
Devils Lake West Motor Parts Co., 205 Fifth St.
Dickinson Paul Mann Garage, 208 1st Ave. W.
Fargo Howard B. Tilden Co., 109 1/2 1st St.
Fargo "Reinhard Bros.
Fargo United Elec. Service, Inc., 312 First Ave. North
Grand Forks Reiquan Garage
Jamestown Mann's Radio & Elec. Serv., 213 1st Ave. S.
Langdon Wm. E. Porter
Minot Motor Service

Oakes Oakes Electric Shop
Valley City Sullivan Magneto Service
Wahpeton Morris Auto Electric, 518 W. Main St.
Williston Williston Auto Electric Service, 191 E. Broadway

OHIO

Alton Austin Ignition Co., 56 North Union St.
Alton Hopkins & Kipp Auto Electric, Inc., 359 Broadway St.
Alton Valley Auto & Machine Shop, 39 N. Valley St.
Alvordton Alvordton Garage
Ashabula Larson Auto Electric, 1819 E. 44th St.
Baldonia Branran Auto Elec. Serv., 112 N. Detroit Ave.
Bayview Link Ignition Co., 526 Garfield St.
Bowling Green Gem Electric Co., 298 S. Main St.
Bucyrus Haala's Bat. & Ign. Serv., 234 N. Sandusky Ave.
Canton Dragg Auto Parts Co., 700 Turner Ave.
Canton Carburer Sales & Service, 288 Water Ave., N.E.
Canton Ohio Battery & Ign. Co., 831 N. Market St.
Calina Baker Electric, 121 W. Logan St.
Centerton Fred Heister
Chickawa Chickawa Garage
Chillicothe Oil & Battery Service, 2nd & Mulberry St.
Cincinnati J. W. Harris, 433-435 W. Ninth Ave.
Cincinnati W. R. Holly Co., 7219 Vine St.
Cincinnati Tri-State Ignition, Inc., 8th & Broadway
Cincinnati Valley Auto Parts, 3711 Madison
Cleveland The Cleveland Ignition Co., 820 W. Erie St.
Cleveland Industrial Eng. Parts, Inc., 1053 E. 61st St.
Cleveland Malin & Co., 4811 Mayfield Rd., P.O. Box 96
Cleveland Meinert Magneto Co., 1759 E. 21st St.
Columbus The G. W. Holmes Co., 198 E. Gay St.
Columbus Brooks Ignition Co., 1310 Broadway St.
Columbus The Columbus Ignition Co., 211 Neilston St.
Coonhatch Auto Supply Co., 115 N. Second St.
Coonhatch Bower Service Center, 131 S. 6th St.
Coonhatch Central Auto Parts Co., 614 Walnut St.
Cuyahoga Cliff Immenet Serv.
Dayton Auto Electric Equip. Co., 10 N. St. Clair St.
Dayton Ludlow Battery & Ignition Co., 491 South Ludlow St.
Delaware The Willey & Garmon Co.
Delphos Max Magneto Service, Box 108
Douglas "Stevenson's", 218 E. Steiner
East Liverpool Wilson Bat's & Ign. Co., 730 Dresden Ave.
Easton Johnson Electric Co.
Findlay Bairs Elec. Service, 129 W. Main Cross St.
Fostoria Kinman Electrical Service, 107 S. Wood St.
Franklin Dodson Garage, 200 High Street
Franklin Mohler Auto Supply Co., 402 E. State St.
Greenville Batten's Elec. & Mag. Serv., 241 Fairview Ave.
Hamilton Coin Farm Implement & Auto Repair, Walnut St. & B. & O. E. R.
Hillsboro Automotive Service, 500 S. Main St.
Hime Yookan Garage
Jackson Jackson Implement Co.
Lancaster Kiener & Dilger, 101 W. Winding St.
Lima Blodgett Armature Co., 110-112 W. Wayne St.
Lima The Electric Ignition Co., 820 W. Erie St.
Ligon The Melrose St. Clair Co., 51 So. Mulberry St.
London The Hill Co., 125 S. Oak St.
Lorain Moore & Myers, 595 Broadway
Madison Heister & Sons
Mansfield Forts Auto Electric Service, 25 N. Franklin
Mansfield Rex Gilbert Auto Elec. Service, 355 Marion Ave.
Marion Marion Ignition Co., 181 Front St.
Marysville W. Don Davis Co., 137 W. Church St.
Medina Howard Supply Co.
Medina George Lawrence, 111 West Smith Rd.
Middletown Walter S. Gennato, 1405 Woodlawn Ave.
Millersburg Calhoun Electric & Mch. Shop, W. Jackson St.
Newark Arneson Electric Co., 50 W. Main St.
Newark Electric Garage, 200 High Street
Norwalk Bennett Electric, 21 Mill St.
Norwood Haus & Company, 2075 Mills
Oak Harbor Oak Harbor Implement Co.
Port Clinton Black Machine Shop, 86 Madison Ave.
Port Clinton M. P. Battery Co., 921 4th St.
Sandusky Asher Bros. Company, First at Erie St.
Sandusky Howard Cross Parts & Serv. Garage R. N. 2
Sidney Dunson Supply Co., 328 N. Main St.
St. Clairsville Elroy Battery Co.
Springfield Autom. Eng. & Sales Co., 95 W. Washington St.
Tiffin Rogers Auto Electric Service, 77 Jefferson St.
Uledo The Electric Power Maintenance Co., 26-30 17th St.
Uledo Toledo Auto Elec. Co., 26-17th St.
Upper Sandusky Lincoln Highway Electric Shop, 321 S. Sandusky Ave.
Van Wert Young Hardware Co.
Wesley Automotive Inc. of Wesley, 147 Pine Ave.
Wes. Court House Chiffin Auto Elec. Serv., 118 Central Pl.
Waynesville Howell Tractor Co.
Willard Fred Heister
Wilmington C. M. Coshman, 372 E. Main St.
Woodsport Wooster Storage Battery Co., 520 Liberty St.
Wrentham Electric Distributors
Wesley Weaver Electric Co., 11-13 W. Market St.
Youngstown DuChon Bros. & Elec. Co., 135 W. Rayan Ave.
Youngstown Electric Equipment Co., 187 Market St.
Zanesville Walker Auto Parts, 53 S. 2nd St.

OKLAHOMA

Ada Morris Clark Implement Co., 210 W. 12th St.
Alva Child Bradley Electric Service, 207 S. Main St.
Alva Alvo Bros. & Electric
Alva Lee's Battery & Electric, 617 Barnes
Anadarko Meddely Auto Supply
Anadarko Auto Elec. Sales & Service Co., 291 West Main St.
Bartlesville Weiss Ignition Co.,

