

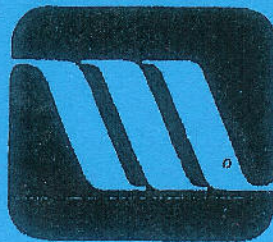
SERVICING MAYTAG MULTI-MOTORS

MODELS

72D, 72DA

82, 92, B, 31, 33, G, 11, 16-26-111-19

WICO MAGNETO MODEL FW-1781

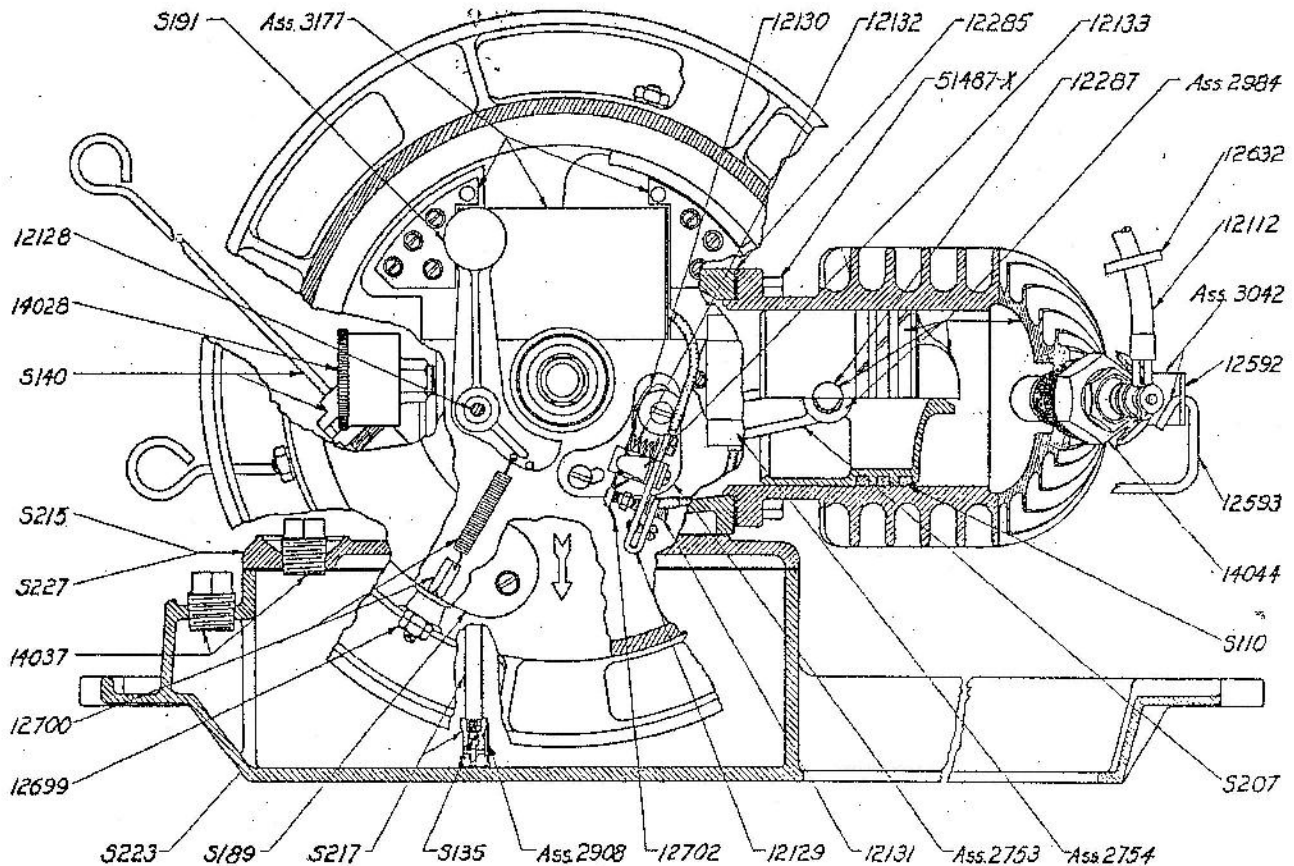


MAYTAG

THE MAYTAG COMPANY
NEWTON, IOWA 50208

Servicing Maytag Multi-Motors

Servicing Ass. 3023, the Model 82 Multi-Motor



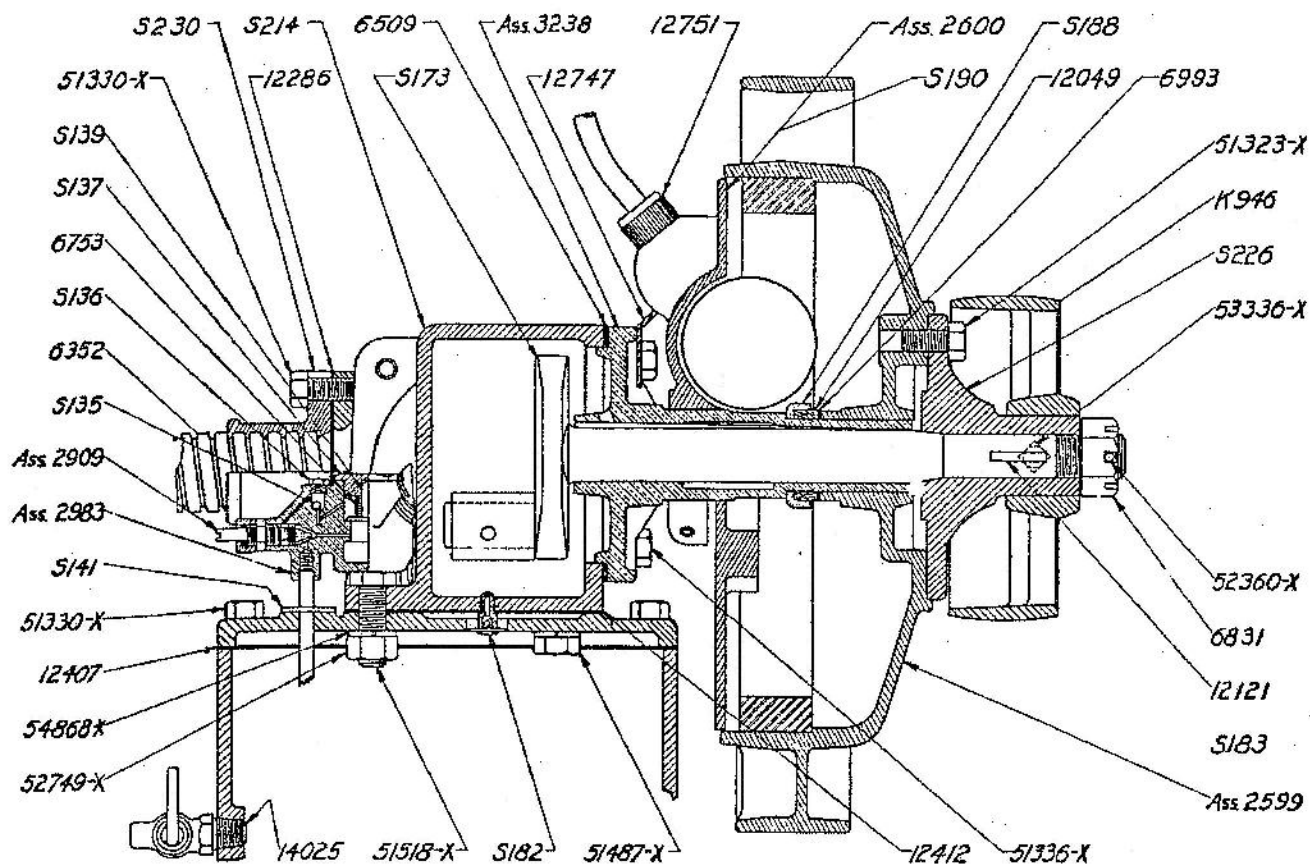
The Model 82 Multi-Motor

1. Dismantle as follows:

- (a) Remove cotter key and hex nut from crankshaft. To loosen flywheel, tap end of shaft with a fiber mallet.
- (b) Loosen clamp screw in armature plate and pull plate from bearing.
- (c) Crankshaft and bearing can be removed upon taking out the four bolts which hold bearing to crankcase.
- (d) Remove spark plug and switch rod No. 12593, then take out bolts holding cylinder to crankcase.
- (e) Detach carburetor from crankcase, then remove fuel tank cover so tank can be cleaned.

2. Cleaning and Inspecting Parts:

- (a) Piston, rings and cylinder should be thoroughly cleaned and the carbon removed from all parts, including the ring grooves. A broken piston ring filed to a sharp edge makes a good tool for cleaning grooves. Install new rings No. S-110 if old ones are worn and make certain they move freely when compressed. Wash all parts in a suitable solvent.
- (b) Remove all carbon from the four exhaust and intake ports of the cylinder with a narrow tool, being careful to avoid damaging the cylinder walls. Scrape all carbon out of cylinder head.
- (c) Wash fuel tank and crankcase thoroughly.
- (d) Clean and inspect flywheel, armature plate, spark plug and carburetor.



The Model 82 Multi-Motor

3. The following parts should be replaced if worn:

- S-182 Deflooder.
- S-186—Ass. 3238 Bearing for crankshaft.
- S-207 Connecting rod.
- S-110 Piston rings.
- S-139 Air valve in carburetor.
- 12121 Woodruff key for crankshaft.
- 12287 Wrist pin for piston.
- 12700
- 12127 Springs for governor.
- 12130 Breaker point, stationary.
- 12131 Breaker point, adjustable.
- 12112 Spark plug cable.
- Ass. 2909 Vapor nozzle for carburetor.
- Ass. 2983 Carburetor—If vapor nozzle or air valve is worn, it is advisable to install new carburetor.

4. Reassemble and adjust—Crankshaft Bearing and Cylinder Assembly as follows:

- (a) Bolt crankcase to fuel tank, first inspecting the deflooder S-182 in the bottom of crankcase to make sure the check ball is not sticking.
- (b) Install the crankshaft S-173 in the bearing Ass. 3238, using care to avoid damaging the bearing

with the key in crankshaft. If key No. 12121 in crankshaft is worn, a new one should be used.

- (c) Apply gasket cement to both sides of bearing gasket No. 6509 and place it on bearing. Hold the crankshaft and bearing in position, slip the connecting rod of the piston over the crank, making certain that the deflector on piston is on the side nearest the spark plug, and tighten the bolts holding the bearing to the crankcase.
- (d) Place cylinder over piston, after oiling the rings liberally and adjusting so that the gaps of the rings are not in line and do not pass the exhaust or intake ports. Slide cylinder in position.
- (e) Before bolting the cylinder to the crankcase, turn the crankshaft and note whether or not the cylinder rests evenly while the piston completes the forward and back stroke. If it appears to move to the side with the motion of the piston, it is evident that the connecting rod is out of line. By grasping the cylinder firmly, the rod may be bent slightly in either direction to correct the trouble. After the connecting rod is adjusted so that the piston moves freely without binding, install the cylinder gasket, applying gasket cement on both sides, and bolt the cylinder securely in place. In a few cases it may prove necessary to install one or two extra gaskets to permit the intake to be

fully exposed, allowing a full charge of gasoline to enter the compression chamber. The necessary number of gaskets is stamped on the side of the cylinder shoulder just back of the exhaust ports.

5. Carburetor—Service as follows:

- (a) Examine air valve S-139 and spring No. 6753. If valve is worn and spring weak, install new ones. Do not attempt to stretch spring as it is calibrated to give exactly the correct tension when new and correct tension cannot be restored. If air valve seat is worn, install new carburetor.
- (b) Examine vapor nozzle Ass. 2909. If vapor nozzle is worn or bent, install new one. If seat is worn, install new carburetor, Ass. 2983.
- (c) The check ball S-136 for the mixing chamber, and also for fuel tube, should be inspected and replaced if worn. Note that balls move freely and fuel passages are clean.
- (d) Use a new gasket No. 6290 covered on both sides with gasket cement when attaching carburetor to crankcase.

6. Magneto—Repair as follows:

- (a) **Points:** If points are worn or pitted, new ones should be installed. When replacing them, make certain the fiber insulating plates and washers are placed in exactly the same position to insulate the points from the armature plate. Wipe each part to remove all dirt and grease.
- (b) **Coil, condenser and magnet:** A weak coil and magnet is not common. The condenser is either good or bad—it is never weak. A coil might, in a few cases, be weak, but not completely dead. The possibility of a weak or dead magnet is very remote.
- (c) **Test coil and condenser** by means of a Hot-Shot battery. Place a piece of paper or insulating material between points. Connect wire from positive terminal of Hot-Shot battery to stationary breaker arm. Hold the high tension cable $\frac{1}{4}$ " from edge of armature plate and rub the wire from the other terminal of battery lightly across the rocker arm. If no spark results after testing as outlined, disconnect the condenser wire from breaker and repeat procedure. If no spark results with the condenser disconnected and the cable is making good connection with the coil, it is evident that the coil is bad. If, however, a good spark now shows, it proves that the condenser is bad and the coil is O. K.
- (d) **Unscrew the high tension wire** from the armature plate and examine the bakelite plug No. 12751. If it is cracked, the spark will short through to the armature plate. Also check the cable. If it is worn or broken, a new No. 12112 should be installed.
- (e) **Install armature plate.** Tighten clamp screw, then place collar S-188 and new felt washer No. 12049

over bearing. Follow with fiber washers No. 6993 over crankshaft bearing, using the number required to take up end play in crankshaft. Line key-way in coupler disc of flywheel with key in crankshaft, then slide flywheel in place. Tighten castellated nut on crankshaft, then insert new cotter key No. 52360X through slots in castellated nut and hole in end of crankshaft.

7. Adjustment of Points and Governor:

- (a) **Remove inspection plate** in flywheel and turn until points are at their widest opening. Adjust gap to .020" by loosening the lock nut and turning the adjustable point No. 12131. Breaker points should make a full contact and rest flat against each other when closed. After adjusting, tighten the lock nut.
- (b) **Check the governor** to make certain it moves freely. If necessary, place a few drops of clean light machine oil on the pivot screw. The governor controls the firing of the engine as no spark occurs until the governor arm strikes the blade and opens the points. To increase the speed of the engine, turn the adjusting nut to right. To decrease the speed, turn to the left. The engine should run between 1000 and 1050 R.P.M.
- (c) **To time the engine properly,** see that the arrow on the flywheel and the arrow or punch mark on the coupling disc are in direct line. When the engine is properly timed, the breaker points will open when the piston is approximately $\frac{1}{4}$ " before dead center on the outward stroke.

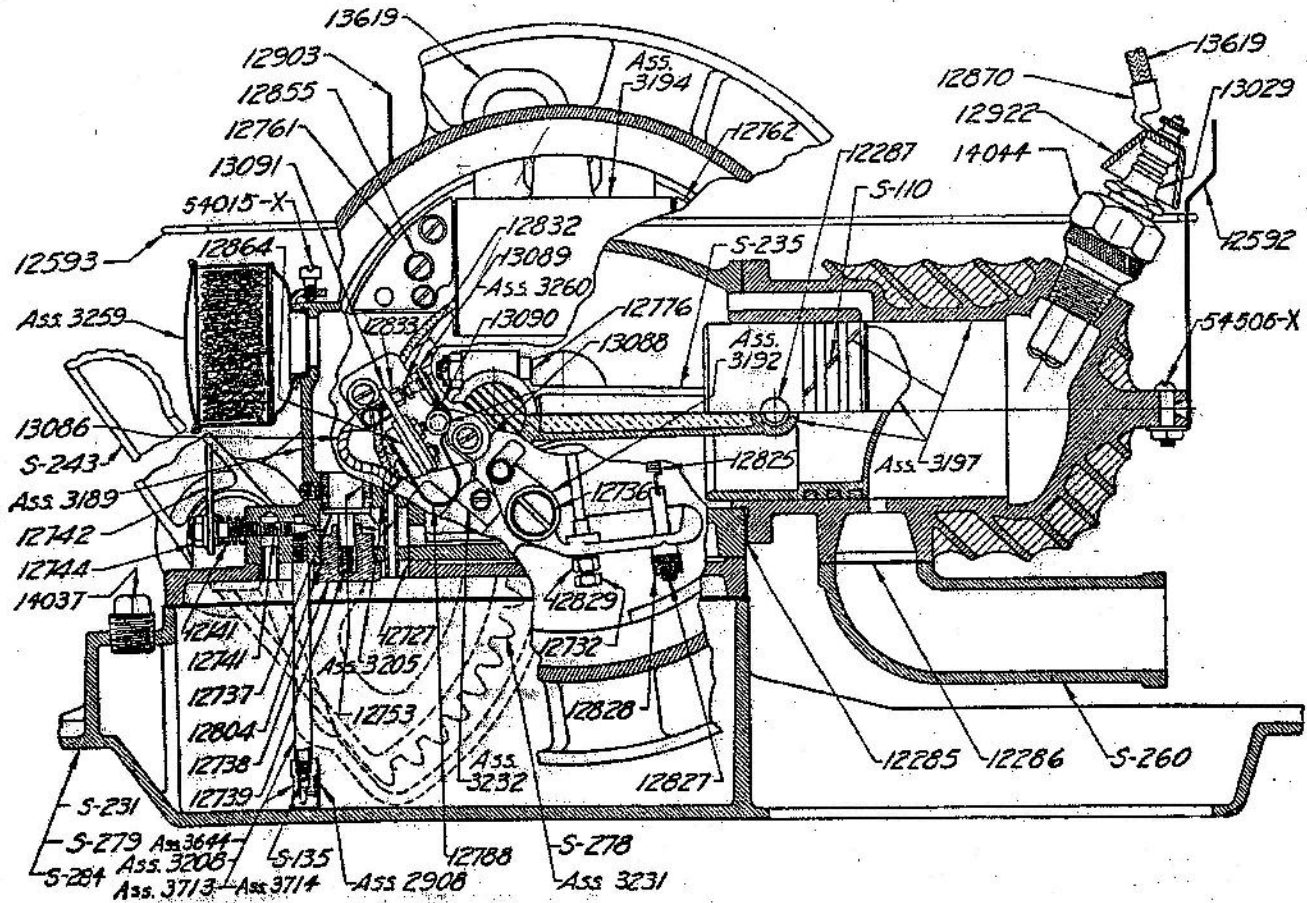
8. Final Check on Engine before starting:

- (a) **Before installing the spark plug,** test spark by holding spark cable terminal about $\frac{1}{4}$ " from cylinder and spinning flywheel. The intensity of the spark can sometimes be greatly increased by slightly closing or opening points as outlined in No. 7.
- (b) **Open vapor nozzle** about $\frac{1}{4}$ turn.

9. Starting and Breaking In:

- (a) **Start by spinning flywheel.** After it starts, gradually open the air valve and close the vapor nozzle. Find the correct position of the vapor nozzle, that is the position at which the engine operates with the most power, when warm, with air valve S-140 open. The approximately correct setting of the vapor nozzle is $\frac{1}{4}$ turn open. Any further adjustment by the user then should be made on the air valve S-140.
- (b) **After the engine is repaired, cleaned and adjusted,** it should be run for about 2 hours, especially if new rings are installed. When doing this, use an extra cup of Multi-Motor oil in the gasoline. This is necessary only for the breaking-in period.

**Servicing the Single Cylinder Multi-Motor as used on Models 92, B, 31, 33, G,
11, 16-26-111-19** **Section 4-b**



Side View Late Type Single Cylinder Multi-Motor

1. Dismantle:

- (a) Use wheel puller S-237 to remove flywheel. Place puller over end of crankshaft after removing hex nut and pulley. Center set screw in depression in S-238 coupling disc, tighten large pilot screw until firmly locked, then give head of screw a sharp blow. If S-237 is not available, loosen hex nut until flush with end of shaft, then with heavy blunt end punch against shaft, strike punch a sharp blow.
- (b) Loosen clamp screw of mounting plate and slide plate from bearing.
- (c) Remove segment cover S-242, segment S-241 and ratchet S-240. Take care not to lose the four balls which are between ratchet pinion S-240 and ratchet wheel S-239.
- (d) Take off carburetor which is held to crankcase with four screws. Through opening in crankcase, take cotter pins from connecting rod bolts and with wrench No. 38050 remove connecting rod cap.
- (e) Take out spark plug, cylinder head bolts, and remove piston assembly.

(f) Upon driving out taper pin No. 12803, the ratchet S-239 can be removed. Take hex bolts from bearing A-3188, thus completing the dismantling operation, except for removing fuel tank.

2. Clean and Inspect Parts:

- (a) Wash all parts, including fuel tank, in some suitable solvent.
- (b) Clean carbon from piston and cylinder. Make certain the ring grooves are clean. In the absence of anything better, file a broken piston ring to a sharp edge and use it to clean carbon from the grooves. Also make certain the four exhaust ports are free from carbon and that the intake ports are clean. Install new rings S-110 if old ones are worn.

3. Carburetor:

- (a) Remove needle valve, feed tube and strainer. Flatten lock washer No. 12804 for air valve cap. Tap air valve cap sharply with hammer and use special wrench No. 38053 to unscrew cap. Lift out air valve spring No. 12739 and air valve No. 12737.

- (b) **Air valve, air valve seat and spring:** Examine face of air valve No. 12737 and valve seat No. 12753 and if worn both should be replaced. The seat can be removed as follows: Loosen headless set screw 52908X, press seat into air chamber and remove through opening for air cleaner, Ass. 3259. Use tool 38449. Press new one from the bottom until it is $\frac{3}{4}$ " from the lower face. The machined end of the valve seat 12753 should be toward the bottom of the carburetor. See drawing. If the spring is weak or short, it should be replaced. The spring should never be stretched as its strength is calibrated to give the correct tension to permit the exact amount of air to enter the mixing chamber.
- (c) **Needle valve and seat:** Install new needle valve No. 12741 if old one is worn or bent. If seat is worn or damaged, it is necessary to replace complete carburetor body, Ass. 3189, or complete carburetor assembly.
- (d) **Feed tube and strainer:** If check ball is worn, install new ball S-135. If check ball seat is also worn, install new style disc type tube and strainer, Ass. 3713 for model 31, Ass. 3714 for models B-G-11-16-26-92-111.

4. Crankshaft and Crankshaft Bushings:

- (a) **Check crankshaft bushings and, if badly worn, new ones will be required.** Except in extreme cases, new bushings will not be needed, thus eliminating the necessity for removing the crankshaft and crankshaft bearing Ass. 3188.
- (b) **To install new bushings:** Observe location of the bushings as shown in the drawing. Press the No. 12720 in place in the crankcase from the inside. The bevel should be toward the inside and the slot up. Plain bushing No. 12752 should be pressed in the crankshaft bearing, Ass. 3188, casting S-234, with the bevel toward the crankcase. Press the other No. 12720 in the outer end of casting S-234 with the slot up. Run a $\frac{3}{16}$ " drill through the hole in the S-234 and drill through the bushing. Also drill a $\frac{3}{16}$ " hole in the outer bushing by passing drill through hole for ball oiler No. 13115.
- (c) **Bolt crank bearing, Ass. 3188, in place and run a $\frac{1}{8}$ " straight shank reamer through bushings, then use line reamer No. 38005. This is important. After reaming, remove crank bearing and install crankshaft, using gasket No. 12726 between Ass. 3188 and crankcase.**
- (d) **End play in crankshaft can be reduced by using shim No. 12754 between starter ratchet S-239 and crankcase. When assembling the crankshaft, place the felt washer No. 12722 next to the crankcase, follow with fiber washer No. 12723, then sufficient number of shims No. 12754 to remove all excess play. After installing the S-239, the shaft should turn freely.**

5. Connecting Rod S-235:

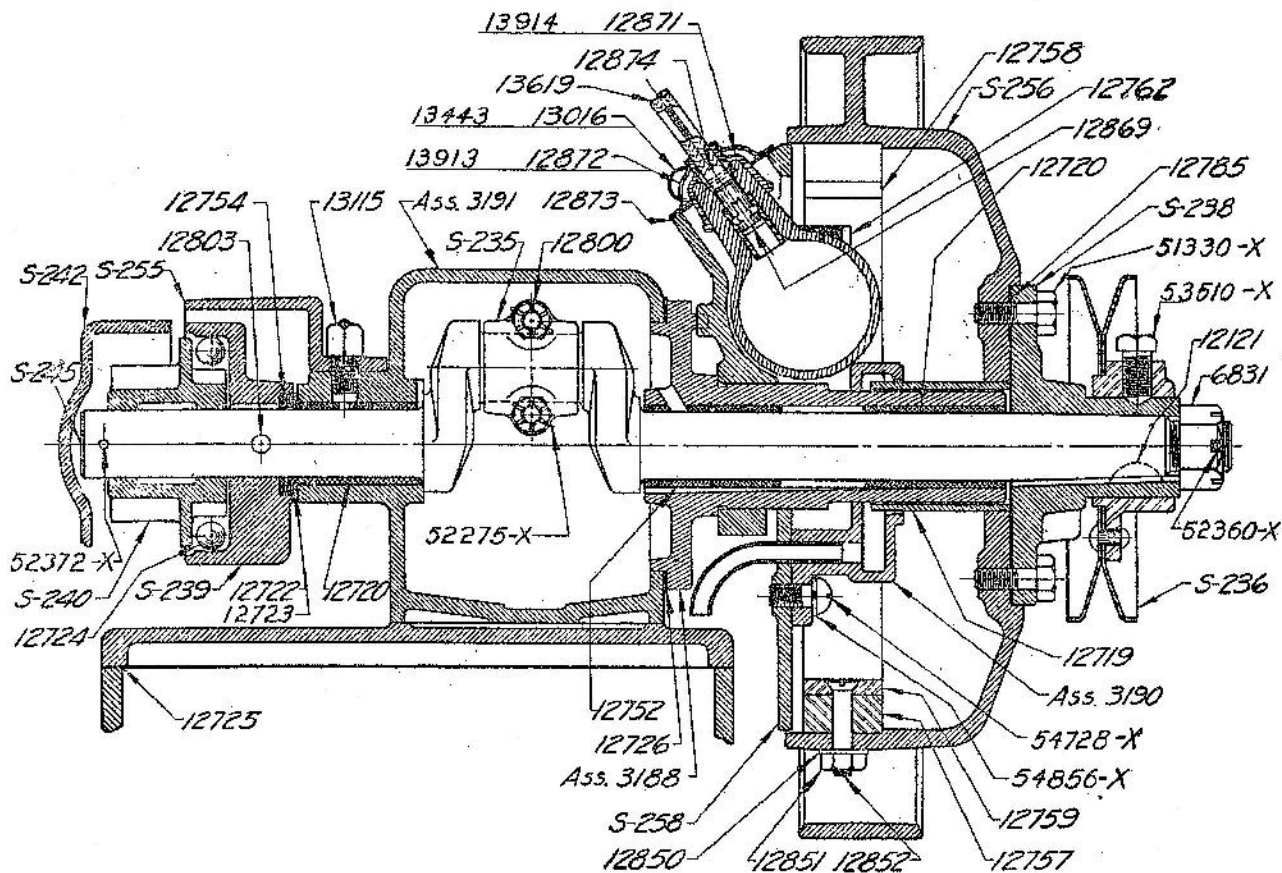
- (a) **If worn, file face of cap, bolt together and ream with a $\frac{1}{8}$ " reamer. By reaming as outlined, shims are never required. The cap should be bolted tightly when installed on crankshaft. Use new cotter keys 52275X through castellated nuts.**

6. Magneto:

- (a) **Wash flywheel and mounting plate in a clean solvent.**
- (b) **Examine mounting plate for the following:** Broken or loose wires, deteriorated spark plug cable, loose stud on interrupter plate, burned or pitted points and weak or broken spring No. 12768. If wires are broken or loose they should be replaced or soldered. If the spark plug cable is worn or insulation is rotten, a new cable should be installed. Points badly worn should be replaced and when replacing, it is necessary that the points make contact on the entire face. When replacing points, do not move the interrupter plate.
- (c) **If breaker assembly has been moved, tool No. 38018 should be used for locating proper setting. See instructions for timing, paragraph 9-a. If this tool is not available, follow instructions in paragraph 9-b.**

7. Assembling:

- (a) **Piston, cylinder and connecting rod:** If a new wrist pin is used, note that the connecting rod and piston are correctly assembled with the baffle plate up, and on the same side of assembly as groove in connecting rod. Use new piston rings if old ones are worn. Make certain that rings turn freely. Attach connecting rod to crankshaft. The groove in connecting rod cap should match with groove in rod. Tighten bolts and replace cotter keys. Cover both sides of gasket No. 12285 with gasket cement, oil piston rings liberally, and place gaps so they are not in line and will not pass either the intake or exhaust ports, and install cylinder. Hold the cylinder in place and turn crankshaft to determine whether the piston is binding in cylinder. If there is a bind, grasp the cylinder, after raising, and bend the connecting rod slightly to line it with the piston. After piston is lined, tighten the cylinder bolts securely, then turn crankshaft again to make certain it turns freely.
- (b) **Starter assembly:** Assemble starter ratchet S-240 and balls No. 12724. It is important that the balls be free from grease and dirt. A chatter in a slightly worn S-240 can be corrected by placing some hard oil inside the hub. Attach foot tread S-243. If it will not stay in place, install new brake shoe No. 10008.



End View of Late Type Single Cylinder Multi-Motor

- (c) Attach carburetor using gasket cement on gasket No. 12727 and lead washers No. 6023 beneath screw heads. Gasket No. 14096 is used beneath the carburetor of late type engines.
- (d) Magneto: Slide mounting plate in position over crankshaft bearing with the lug on the back of the plate between the lugs on bearing. Tighten clamp screw and slide flywheel in position, lining key in crankshaft with key way in coupling disc.
- (e) Tighten hex nut securely on crank shaft and install cotter key. Note: Observe instructions for testing and adjusting magneto, paragraph 8.

8. Testing and Adjusting Magneto:

- (a) Remove inspection plate and turn flywheel until points are open. Adjust points by regulating stop screw No. 12732 in the governor. The points should open approximately .020". To increase opening of points, loosen lock nut and turn stop screw to right. To decrease opening, turn screw to left. Use the gauge on magneto wrench No. 12799.
- (b) Hold spark cable $\frac{1}{4}$ " from cylinder and spin flywheel to test spark. If a spark results, it is evident that the magneto is all right. The strength

of the spark, though, may be increased by refining the adjustments on the points with the stop screw.

In case no spark appears, remove flywheel and again check wires leading to and from breaker assembly, spark plug cable and points. If the breaker assembly appears to be coated with oil that may not have been removed when cleaning, take out two screws holding plate for contact point and carefully wipe the plate, insulating strip and insulating bushings. Do not disturb the breaker plate when doing this.

- (c) Test coil and condenser with a Hot Shot battery as follows: Connect positive terminal of battery to the stationary breaker point. Place a strip of paper between the points and move wire from other terminal of battery back and forth over the breaker blade and at the same time hold spark cable $\frac{1}{4}$ " from plate. If a spark jumps from cable, the coil and condenser are evidently all right. If no spark appears, disconnect condenser and again test as described. If a spark now appears, the fault is in the condenser and a new one should be installed. However, if there is still no spark, disconnect coil, connect condenser and test again. This procedure is a definite method of testing for a dead coil or condenser.

9. Timing:

(a) Instructions for using tool No. 38018: Not Available

Tool No. 38018 has been developed to eliminate guess work in determining the proper location of the breaker assembly, without the aid of the flywheel. The advantage of the tool is that upon once determining the proper location of the complete breaker assembly, a more accurate adjustment of the governor stem screw and speed adjustment nut can be made, after the flywheel is installed. In other words, it is an accurate means of timing the Multi-Motor.

Remove the magneto plate and take off oil catch ring Ass. 3190. Press the central cylinder of the tool into the hole in the center of the magneto plate, with the long bent finger of the tool between the heels of the coil. Turn the tool until the finger is against the heel nearest the breaker assembly. Loosen the two screws that hold the breaker assembly to the mounting plate, and adjust the assembly so that when the tool is in this position the prong which contacts the breaker blade is just past the bulge on the breaker blade, but resting so that upon moving the finger clockwise the points immediately open to approximately .020".

Observe, when making the adjustments, that the other stud of the tool does not strike the pivot for the breaker blade. The two studs represent the path of the flywheel governor.

Upon locating the correct position of the breaker assembly, install the mounting plate and flywheel, then refine the adjustment of the points with the governor stem screw. It is quite obvious that if the breaker assembly was not properly located the stem screw would also be out of adjustment. Consequently, regulate the position of the stem screw in respect to the opening of the points. That is, turn the screw up or down until you reach the position at which the points open approximately .020".

The speed of the engine can be regulated by the adjusting nut on the screw to which the governor spring is attached. Turn the nut to the right to increase the speed, and to the left to decrease the speed. The speed should be approximately 1050 R.P.M.

- (b) If tool No. 38018 is not available, proceed as follows: With the flywheel in position, adjust stop screw so it is in the approximately correct position in the governor as determined by experience. Loosen screws holding breaker assembly plate and move plate so governor opens points approximately .020". Tighten screws, check spark and refine adjustment of points as necessary. This trial and error method is not recommended unless you are very familiar with the engine. In case the breaker assembly is out of adjustment and, without tool No. 38018 you are unable to make the adjustment, return the complete mag-

neto for repair to the nearest branch office or the factory.

10. Starting and Testing Repaired Engine:

- (a) Examine spark plug for cracks in porcelain. Clean and adjust points to .020". Attach plug to spark cable, lay plug on cylinder and spin flywheel. If spark goes through plug, install in cylinder.
- (b) Fill tank with "regular" or a good grade of low test gasoline properly mixed with genuine Maytag oil. Open needle valve and start in the usual manner.
- (c) Check speed. The Multi-Motor should operate at between 1050 and 1100 R.P.M. If necessary to change speed, turn adjusting nut on governor to right to increase and to left to decrease speed.
- (d) If new rings and bushings were installed, the engine should run idle for about 2 hours.
- (e) After engine is adjusted and run in, install the inspection plate, flywheel pulley, and check the nut on crankshaft making certain it is tight and that the cotter pin is in place.

SUMMARY

MOST COMMON COMPLAINTS AND METHODS OF CORRECTING:

1. Engine Overheats and Fires Rapidly:

- (a) Excess carbon. In most cases this results in one or more of the piston rings sticking, which will cause the engine to overheat. Increased friction, insufficient lubrication, or back pressure because of partially closed exhaust ports creates an overload and lowers the speed of the engine until the governor drops back, causing the engine to fire on every revolution. This gives the impression that the engine is running much faster than normal.
- (b) Repair by removing the cylinder and thoroughly cleaning all carbon from four exhaust and two intake ports, inside of cylinder head, piston, rings and ring grooves. Before assembling be sure that the rings turn freely and are oiled liberally. The gaps of the rings should not be in line and must not pass the ports. After repairing, instruct the operator to use only genuine Maytag Multi-Motor oil, mixed in the proportion of 1 part oil to 16 parts of good regular gasoline.

2. Engine Lacks Power and is Hard To Start:

- (a) This condition is usually due to the engine being dirty and badly carboned as outlined in 1-a, in addition to poor ignition. Poor or faulty ignition may result from a number of causes. The most common are:

Fouled spark plug or cracked porcelain.
High tension wire broken or not making connection.

Points burned and pitted, or incorrectly adjusted.

Broken wires or loose connections at coil, condenser, or interrupter assembly in armature plate.

(b) The condition and adjustment of the carburetor is also an important factor to be considered when repairing an engine which shows such characteristics.

(c) Repair by cleaning carbon from all parts as outlined in 1-b. Remove spark plug, clean and adjust or replace, whichever is necessary. Remove flywheel and armature plate, wash carefully in a clean solvent and inspect. Coil and condenser may be tested as instructed in paragraphs 8-b and 8-c. If breaker points are worn, they should be filed smooth or replaced. In filing or replacing the points, make certain that they make contact over the entire face of the point. After installing the flywheel and armature plate, adjust points to .020" at their widest break by means of the stem screw in the governor. See paragraph 8-a.

(d) To test spark through plug, connect high tension wire and lay plug on engine base. Spin flywheel and note intensity of spark at points of plug. Points of plug should be adjusted so that the gap is .020".

(e) In checking the carburetor, examine the needle valve, needle valve seat, air valve and air valve seat. If necessary, repair as outlined in paragraphs 3-a-b-c-d. Wash the air cleaner carefully in a solvent to remove any accumulation of lint or dirt which would interfere with the flow of air into the carburetor mixing chamber.

3. Engine leaking Gas and Oil through Crankshaft Bushings and around Carburetor Gaskets.

(a) This condition can be caused by one or more of the following:

Running the engine with an excessively rich mixture.

Broken carburetor gaskets, loose bolts or gaskets not cemented properly

Worn crankshaft bushings.
Broken or stuck piston rings.

(b) After the specific cause is determined and if the bushings are worn, install new bushings as instructed in paragraphs 4-a-b-c-d. If gaskets are loose or broken, replace with new gaskets properly cemented. If engine is not at fault but is being operated with a rich mixture, instruct the user accordingly. If rings are broken or stuck, repair as outlined in paragraph 2-b.

4. Engine squeaks or makes howling noise:

(a) Usually caused by:

Needle valve is adjusted so mixture is too lean, thus starving the engine.

Bushing No. 12720 for starter side of crankshaft not receiving lubrication.

Rings broken or carboned and stuck.

Starter ratchet pinion S-240 dry or worn.

(b) To repair:

Ease needle valve open slightly thereby giving the engine more lubrication.

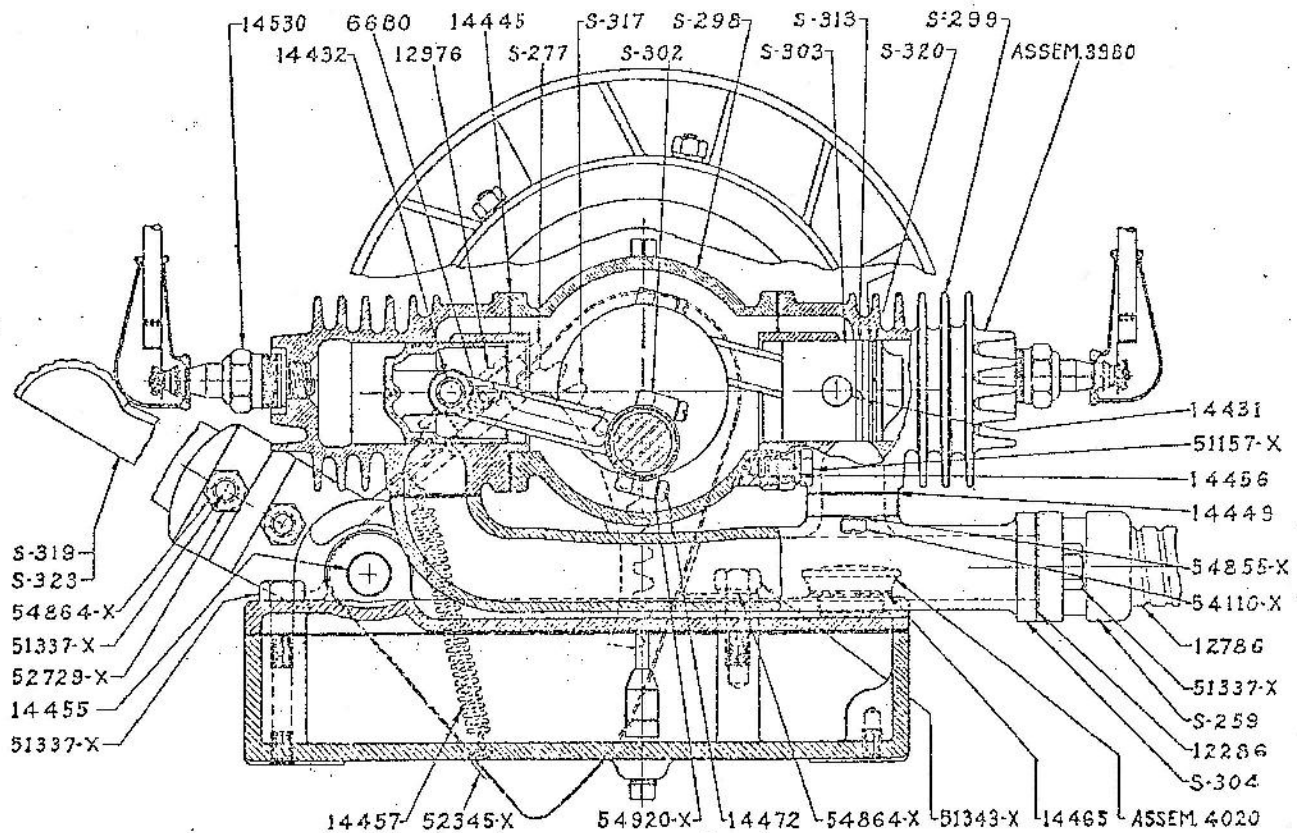
Oil liberally through ball oiler No. 13115 for No. 12720 bushing.

Remove cylinder and note condition of piston, rings and cylinder walls. Replace or clean rings as instructed in paragraph 2-b. If cylinder is scored, a new one will be required. In this case, we recommend that the entire piston and cylinder assembly be returned to the factory or branch office for inspection. The piston and cylinder are carefully matched and fitted at the factory and we do not recommend they be interchanged on the territory. If the ratchet pinion S-240 is found to be dry, remove and place a small amount of good cup grease in the groove around the inside. Do not oil or grease the balls or teeth of the ratchet. So doing would cause dirt to accumulate and the starter would not function properly. If badly worn, install a new one.

5. Starter stuck or jammed:

(a) This condition is not common. If it does occur, examine the balls and teeth of the ratchet pinion S-239. If the balls are worn or broken, install new ones. This also applies to the ratchet pinion, S-240.

Servicing the Maytag Twin-Cylinder Multi-Motor



Side View of Twin Cylinder Multi-Motor

I. Dismantle:

- (a) Remove fly wheel as follows: Use wheel puller No. 38071. Take off hex nut, pulley, and washer; catch arms of puller on inside edge of wheel, tighten pilot screw until locked then give head of screw a sharp blow.
- (b) If a wheel puller is not available run nut back on shaft until flush with end after removing pulley, protect end of shaft with a wooden block and strike sharp blow to loosen wheel.
- (c) Slide thrust washer 14522 and cam 14523 from shaft. Use cam puller No. 38069. Loosen set screw holding mounting plate then slide plate from bearing casting.
- (d) Remove starter ratchet guard Ass. 3957, segment S-317, ratchet pinion S-310, and ratchet wheel S-307. Use wrench No. 38081 to loosen $\frac{1}{4}$ " hollow head set screw.
- (e) Take off cylinders, then remove piston assembly by taking out filister head machine screws 14472 from connecting rods. Unscrew crank bearing Ass. 3967 and pull crankshaft S-301 from crankcase.

Note: It is not necessary to remove Ass. 3967, crank bearing, S-301, crankshaft, or S-307, starter ratchet wheel, if the work to be done is merely cleaning carbon, adjusting points, etc.

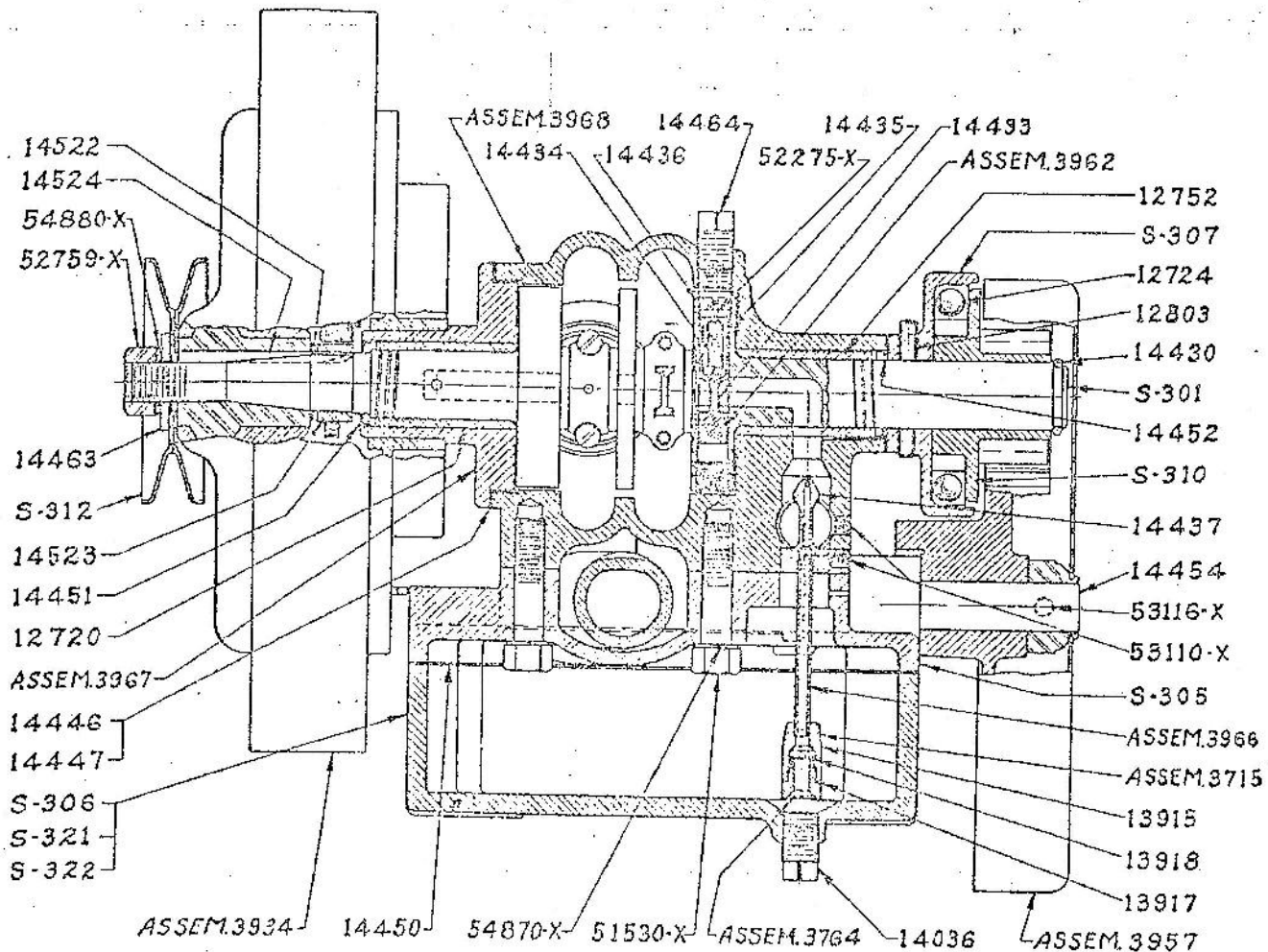
- (f) Remove fuel tank and fuel tank cover from crankcase then take off exhaust manifold. Take out set screw 53110X with wrench 38081 to remove carburetor jet and feed tube. Also take off air tube complete by loosening hollow head set screw.

2. Cleaning and inspecting parts:

- (a) Remove all grease and dirt by washing parts in a solvent. Carefully clean and dry inside of fuel tank.
- (b) Clean carbon from beneath piston rings, piston head, combustion chamber of cylinders and from exhaust ports. Also clean exhaust manifold. Check intake ports to make certain they are open.

3. Crankcase Ass. 3968 and Crank Bearing Ass. 3967:

- (a) Except in very unusual cases it will not be necessary to install new bushings 12752 in crankcase, 12720 in crankshaft bearing or tighten connecting rods. Should you find this necessary, press the new bushing in place, then run a $\frac{5}{8}$ " drill through bushing No. 12752, for intake. Ream the bushings with $\frac{3}{8}$ " SS reamer. Place the same number of shim gaskets that were between the bearing flange and crankcase on bearing then screw bearing Ass. 3967 in position and line the



End View of Twin Cylinder Multi-Motor

bushing by using line reamer No. 35005. Make certain the passage beneath the crankcase bushing that leads from the outer end to the intake chamber (note drawing) is open. If not, run a No. 50 drill through this passage.

The installation of new bushings would require the removal of the oil retainers. Therefore new ones should be installed—14451 for flywheel end and 14452 for starter end.

If connecting rods are worn, file face of cap, attach to rod with screws, then ream with $\frac{1}{8}$ " SS reamer.

4. Ass. 3980 — Cylinder, piston, connecting rod, and wrist pin:

- Clean carbon from piston ring grooves, piston head, cylinder head, exhaust ports and intake ports.
- Use new piston rings if old ones are worn—two S-320 in top groove and one S-313 in lower groove. The rings should move freely in grooves and should be set so when piston is assembled in cylinder the gaps are not in line and do not pass either the intake or exhaust ports.

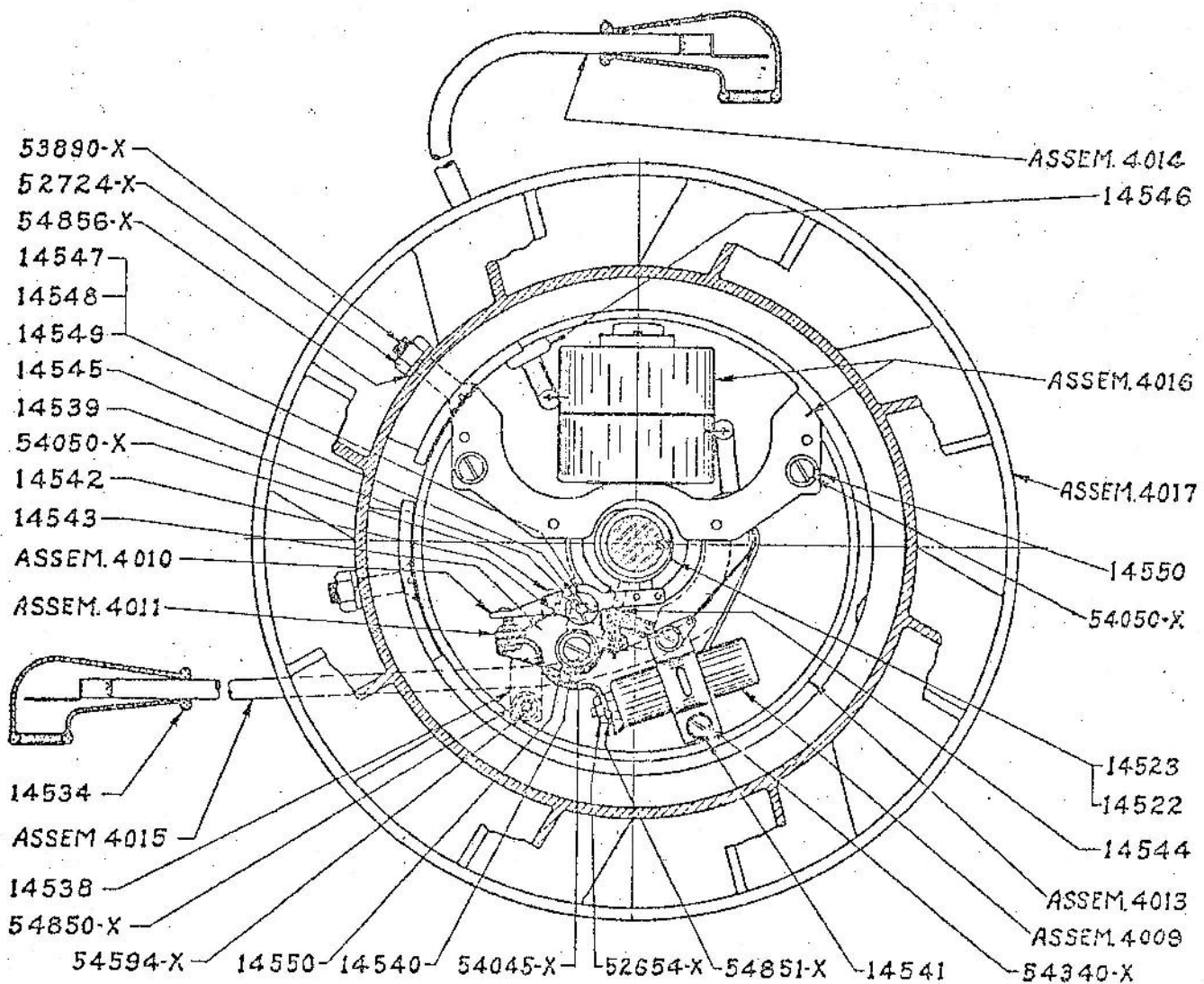
(c) The first twin connecting rods were not slotted. In those cases when repairing, attach the cap to the rod and file $\frac{1}{8}$ " notches on each side of rod at points where cap meets the rod.

- Attach connecting rod to crankshaft, making certain the groove in connecting rod cap matches with groove in rod. See that the aluminum wrist pin retainer plugs 14431 are in place. Cover cylinder gasket 14445 with gasket cement and place in position and slide cylinder in place. Before bolting cylinder to crankcase, hold cylinder and spin crankshaft. If the movement of the piston forces the cylinder to one side or the other, indications are that the rod is sprung. Correct by springing rod by moving cylinder in opposite direction.

NOTE: Make certain the cylinders are right side up. The sharp break in baffle should be toward intake ports. See drawing.

5. Carburetor jet 14437 and feed tube Ass. 3715:

- Feed tube, strainer, and jet should be free from foreign matter that would obstruct the passage of gasoline. Clean jet with a No. 72 drill used by hand.



Flywheel Assembly Complete. Twin Cylinder Multi-Motor

(b) Carburetor jet 14437 is held in place by hollow head set screw 53110X. When assembling, the bottom of the jet should be flush with the bottom of crankcase (see drawing) and should be turned so set screw does not tighten against the groove.

6. Governor Ass. 3962:

- (a) The governor regulates the flow of fuel into the crankcase thereby controlling the speed of the engine.
- (b) The governor seldom requires adjustment. Generally, a variation in speed is the result of improper air adjustment, incorrect adjustment of spark plug or magneto points, excess carbon deposit, etc., rather than incorrect adjustment of governor.
- (c) Governor adjustment. The governor screw 14435 and limit screw in opposite end of hole through crankshaft are the same. The screw to adjust, however, can be distinguished since it holds the ends of the cotter pin to which the governor spring is attached. Turning the screw to the right

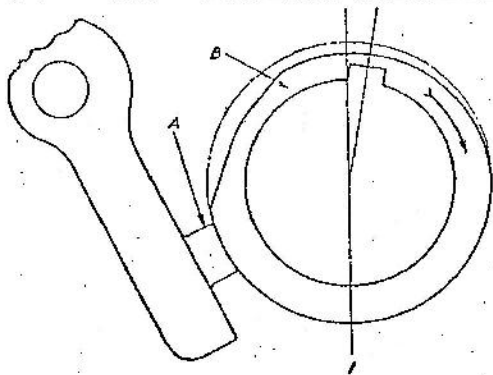
(clockwise) decreases the speed, while turning it to the left increases the speed.

7. End play of crank shaft:

- (a) Controlled by shim gaskets between bearing flange and crankcase. Part numbers of gaskets: 14446, .006" to .009" thick, and 14447, ".003" to .005" thick.

8. Magneto and Flywheel:

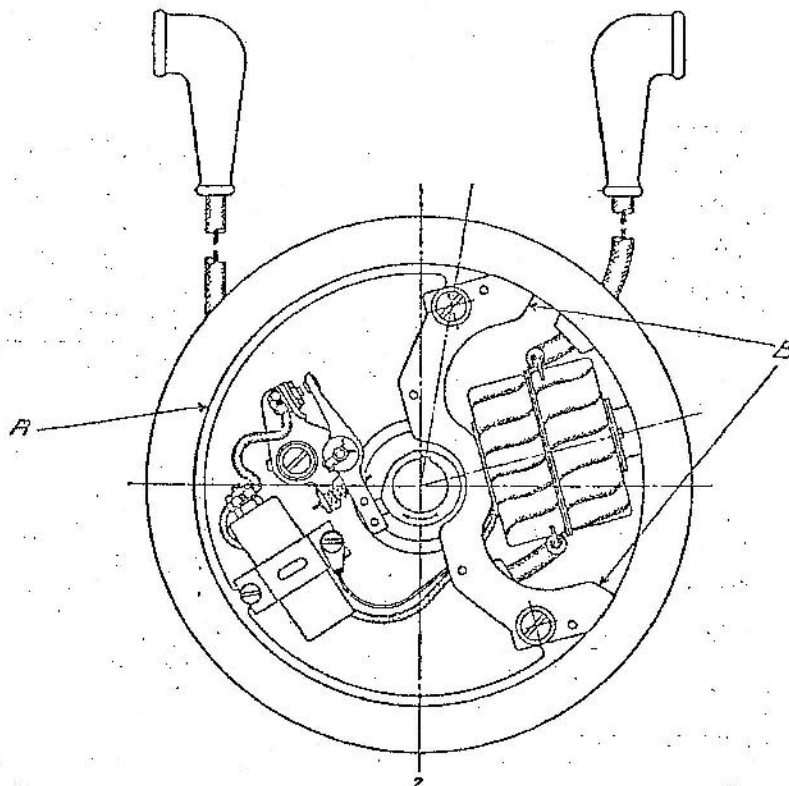
- (a) Wash flywheel and mounting plate, if dirty, with a clean solvent and wipe dry.
- (b) The points can be adjusted without the flywheel. Slide the mounting plate into position, tighten clamp screw and follow with cam 14523. Make certain the cam is installed with the arrow pointing toward the right, that is, the same direction the crankshaft rotates.
- (c) The cam is eccentric as shown in the drawing No. 1. To correctly adjust the points turn the crankshaft in the direction it normally operates until



Drawing No. 1

Drawing No. 1 is enlarged view showing eccentricity of cam "B" and correct position of breaker blade shoe "A" when adjusting points.

Drawing No. 2 shows complete mounting plate assembly with cam. This likewise indicates the correct position of cam when testing or adjusting points. The circular rib "A" serves as a guide when replacing winding core heads "B".



2
Drawing No. 2

the shoe of the breaker blade is against the heavy section of cam just past the breaking edge. The correct position is shown. Check the opening and if the gap is not exactly .020", loosen screw 54045X and move breaker bracket up or down as necessary to make the gap .020". After tightening the screw again check the opening to determine whether the action of tightening the screw moved the lower point. Use gauge No. 38070. Clean points with a carborundum stone or No. 240 grain emery cloth.

(d) Replacement of windings. The circular rib "A" as shown in drawing No. 2 serves as a guide for proper location of winding on Stator plate, to insure a correct running clearance between winding core heads "B" and magnet pole shoes. Oversize holes are provided in winding core heads to permit accurate positioning of winding on Stator plate before tightening the two (2) mounting screws securely. Both core heads "B" should be flush with the outside diameter of circular rib "A".

(c) Testing. When testing the spark always have the other spark wire attached to the spark plug or grounded. Too often when testing an engine, one wire is disconnected and held away from the engine, thus permitting the engine to run on one cylinder. This, however, should not be done since it breaks the circuit and does not permit a natural spark at the other plug. If you wish to demonstrate that the twin will run and operate a washer load on one cylinder, ground one spark plug wire

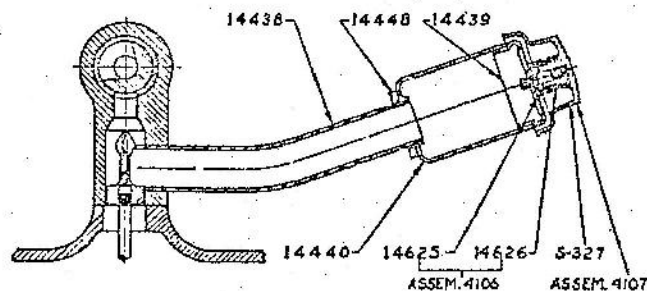
to the cylinder, then start the engine on one plug.

(f) Slide 14522, thrust washer for breaker cam, in place over crankshaft, install flywheel with steel washer and pulley, then tighten hex nut on crankshaft.

9. Spark plugs:

(a) Clean and check opening of points. The points should be opened to .037". Use gauge of tool No. 38070.

(b) Test by laying the plug on engine with spark cable attached and spin flywheel. A bad plug should be replaced with a new Maytag plug.



10. Ass. 3965 air intake with tube and cap:

(a) The air cap 14441 should be adjusted so that when the engine is running under normal conditions the word run is at the top. If for some reason

the engine runs best with the word run to either the right or left of top, adjust by loosening lock nut No. 14448, turn large intake shell 14440 with air cap No. 14441 to the correct position then re-tighten lock nut. Use sealer No. 55712X for air intake tube.

- (b) The new metal air control with spring is known as Ass. 4107. The instructions given in (a) will apply.

11. Finish — Black Crystal Enamel:

(a) Black crystal enamel is available. The contents of can should be stirred thoroughly and strained through three thicknesses of cheese cloth before using. The enamel when received is thinned to proper consistency for use. If it is necessary to thin enamel of a can that has been opened, use naphtha.

(b) **Drying.** To obtain crystal finish make an improvised oven out of a cardboard or wooden box just large enough to accommodate the engine. Cut hole in each side about one inch in diameter approximately two inches from the bottom to allow the fumes to escape. Cut hole in top of box large enough to use a reflector with 200 watt light globe. Place engine so spot painted is nearest the globe and leave for two hours.

If you have an oven on which you can control the temperature, leave engine in oven for about thirty minutes at about 260 degrees F., or for two hours if temperature is between 160 and 190 degrees F. **CAUTION—Do not leave engine in oven at 260 degrees F. longer than 30 minutes.**

(c) **Refinishing engines that were originally finished with black crystal enamel.** Clean with naphtha, sand until smooth, spots from which enamel has been completely removed. Apply enamel with brush or spray to the spots to be touched up and immediately place engine in oven.

After touched up spots have dried thoroughly, spray on a light coat of black lacquer (not crystal finish) over entire engine. This will renew the crystal finish. It is not necessary to dry black lacquer in oven. Do not attempt to completely repaint an engine with crystal enamel over the original black crystal—rather, proceed as described above.

(d) **To refinish a green engine with black crystal enamel:** Clean thoroughly with naphtha and let dry. Smooth down marred places, spray on an even coat of black crystal enamel, then place engine in oven and follow process described in No. 11-b.

(e) **Cleaning.** Remove dust by brushing with a dry brush. If necessary, wipe engine with a brush using gasoline or naphtha.

12. Miscellaneous:

(a) Hard to start.

1. No gasoline in fuel tank; spark plugs dirty; water or an inferior grade of gasoline in the fuel tank; spark plug cable disconnected; or air control cap open one full turn.
2. Continuing to spin the flywheel with the air control nearly closed will result in a flooded condition. To start then it would be necessary to open the air cap by turning toward the left at least one full turn and spin the flywheel two or three times. As soon as the engine starts the air cap can be gradually turned to the right, to the word "run."
3. Air tube loose, permitting air to enter the crankcase. To repair, remove the tube, cover outside surface of the end which enters the casting with sealer, No. 55712X. Place the tube back in position and carefully tighten the set screw holding it.
4. No spark. Check the spark plug points, as well as breaker points, and adjust. See paragraph No. 8.
5. The most satisfactory results will be obtained by adding a fresh supply of fuel at the beginning of each washing.

(b) Engine hard to start when cold.

1. This objection is usually the result of the operator failing to follow instructions and closing the air control cap when stopping the engine. Closing the cap naturally draws an excess supply of fuel into the crankcase, and the engine cannot then be started immediately without going through the operation of deflooding by opening the control cap one full turn. Always instruct the operator to stop the twin by opening the air control one full turn. After the engine stops, close the air cap until ready to start the engine again.

(c) Coughs or back-fires.

1. Spark plug points too close. Use spark plug gauge No. 38070, and open points to .037". Also, if necessary, check and adjust the breaker points so that they open exactly .020". See magneto instructions paragraph No. 8.

(d) Lack of power.

1. This would result if the engine is firing on only one cylinder. Check and clean spark plugs. Use genuine Maytag plugs to replace those broken or damaged.
2. This may also be caused by the engine heating. Opening air control cap too far, thereby starving the engine, would cause the engine to heat and lose power. This would be particularly noticeable when the engine is new. In case of a new engine heating, add at least one

extra cup of genuine Maytag Multi-Motor oil to each measure of gasoline, and do not open the air control cap quite as far as usual. Use genuine Maytag Multi-Motor oil only.

3. Carburetor jet partly closed. Repair by removing the jet and carefully cleaning. Use a No. 72 (.025" in diameter) drill by hand for cleaning opening through jet. (See 5-a.)

(e) Engine stops during washing.

1. Out of gasoline.
2. Breather through side of fuel tank cover stopped.
3. Air cap incorrectly adjusted.
4. Breaker points out of adjustment. (See paragraph No. 8.)

(f) Uses too much gasoline.

1. The twin operating on only one cylinder uses approximately twice as much gasoline as it will if both cylinders are firing. Therefore, an objection of this kind indicates that the engine is only firing on one cylinder. Carefully clean the spark plugs, adjust the spark plug points, and as a further test switch the spark plugs from one cylinder to the other.

(g) Insufficient speed.

1. Carburetor jet partly clogged. Remove fuel tank cover, take out the carburetor jet, and clean the jet, as well as feed tube and strainer. (See 5-a.)
2. Make certain the air control is properly adjusted.

3. Governor. As a last resort, if the engine is apparently operating all right except running too slow, remove the pipe plug in the crankcase and adjust the governor. (See Par. 6.)

(h) Magneto.

1. Breaker points. Incorrect adjustment of the breaker points will cause the Multi-Motor engine to be hard to start; start only in case one spark plug cable is grounded; spark plugs to foul; to stop during washing, then be very hard to start.

- (i) Exhaust hose. If on a new hose the ferrule is not sealed, liquid may seep around the S-259. Use sealer No. 55712X between ferrule and flexible tube.

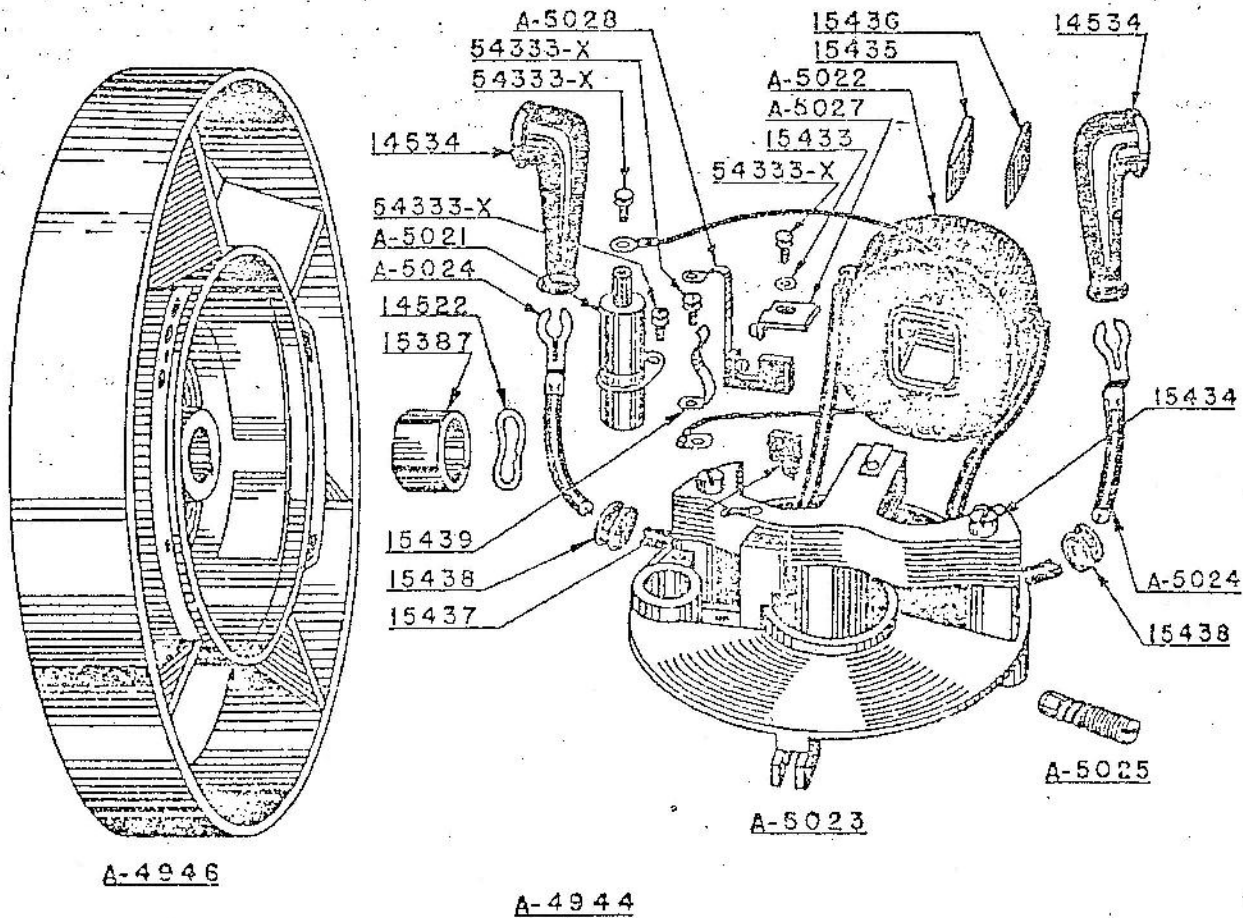
- (j) Starter ratchet guard Ass. 3957. If noisy loosen set screw and press guard in to take up excess clearance between guard and segment, then tighten set screw.

- (k) Gasoline. Use the same grade gasoline in the Twin Multi-Motor that would be used in an automobile. We recommend using, under normal conditions, a good grade of "regular"; however, for easier starting in cold weather use high test or ethyl.

Special attention by salesmen in giving adequate instructions at the time the machine is sold, following directions enclosed with each new Maytag, will go a long way toward eliminating complaints. Always recommend the use of GENUINE MAYTAG MULTI-MOTOR OIL and a good grade of regular gasoline.

Service Instructions

Wico Magneto Model FW-1781, For Maytag Twin Cylinder Multi-Motors



1. Testing:

- (a) If there is any indication that the magneto is causing trouble, we recommend that a test be made before attempting to repair it.
- (b) If engine fails to start, check the spark by holding on of the high tension cables about 3/16" away from the cylinder and at the same time spinning the fly-wheel. A properly performing magneto should supply a spark which will jump this gap.
- (c) If engine misses while running, check the spark plugs at both cylinders by holding each high tension cable 1/18" away from the spark plug terminal. Disconnect only one cable at a time—leaving the other cable attached to the spark plug. A good spark plug, properly adjusted, should fire in this manner. Check and clean, or replace spark plugs as outlined in Part 9 - Section 4C of the Service Manual.

2. Magneto Adjustment:

- (a) **Breaker points.**
Remove fly-wheel as instructed in Part 1 - Section 4C, of Engine Service Manual. Turn the crankshaft in the direction it normally operates (clockwise on the magneto end of the shaft), until the breaker arm shoe is on the high point of the cam after passing the flat surface. Check the opening of the points with a feeler gauge. The correct opening is exactly .020". If points require adjusting, loosen the screw which locks the stationary contact plate (A-5027), and move the plate to give the proper point setting, then lock the plate securely again by tightening the screw. Construction of the breaker assembly assures proper alignment of the contact surface.
- (b) The breaker point setting should be adjusted in the manner described and at no time should the fixed contact plate be bent, or other alteration made, to provide adjustment.

3. Replacement of Parts:

- (a) The moving contact is an integral part of the breaker arm assembly. Should it be necessary to change either the breaker arm assembly (A-5028) or the fixed contact (A-5027), due to normal wear, both parts should be replaced. A contact replacement set would consist of both the fixed contact and the breaker arm assembly.
- (b) To replace the contacts, remove the condenser connection screw and the fixed contact clamp screw. The contacts can then be removed from the stator plate. If necessary, the breaker spring (15439) can be removed by taking out the breaker spring clamp screw.
- (c) To remove the condenser (A-5021), take out the screw in the end of the condenser which holds the connecting wire from the coil and the breaker connection strip, then remove the screw which fastens the condenser attachment bracket and the primary ground connection to the stator plate. Make sure all connections are clean and tight when replacing the condenser, and avoid bending the connecting strip to disturb alignment of the breaker arm.
- (d) To remove the coil assembly (A-5022), disconnect the primary connection and ground connection to the condenser and condenser clamp, then take out the two screws holding the coil assembly to the stator plate. Using a screw driver, pry up the core from the dowel pins which locate its position on the stator plate and detach the two spark plug cables.

(e) Replacement of coil winding.

With the coil assembly removed from the stator, bend up the coil locking lamination, and carefully pull the winding from the core. Remove the wedges from inside the coil. Slide the new winding over the core, using care to avoid damage, and drive the wedges between the coil and the core in the same position as when removed. Bend the locking lamination down, and install the coil on the plate by reversing the removal procedure. Make sure the core screws are securely tightened. Connect the primary coil lead to the condenser post and the stranded lead to the condenser clamp.

(f) Lubrication.

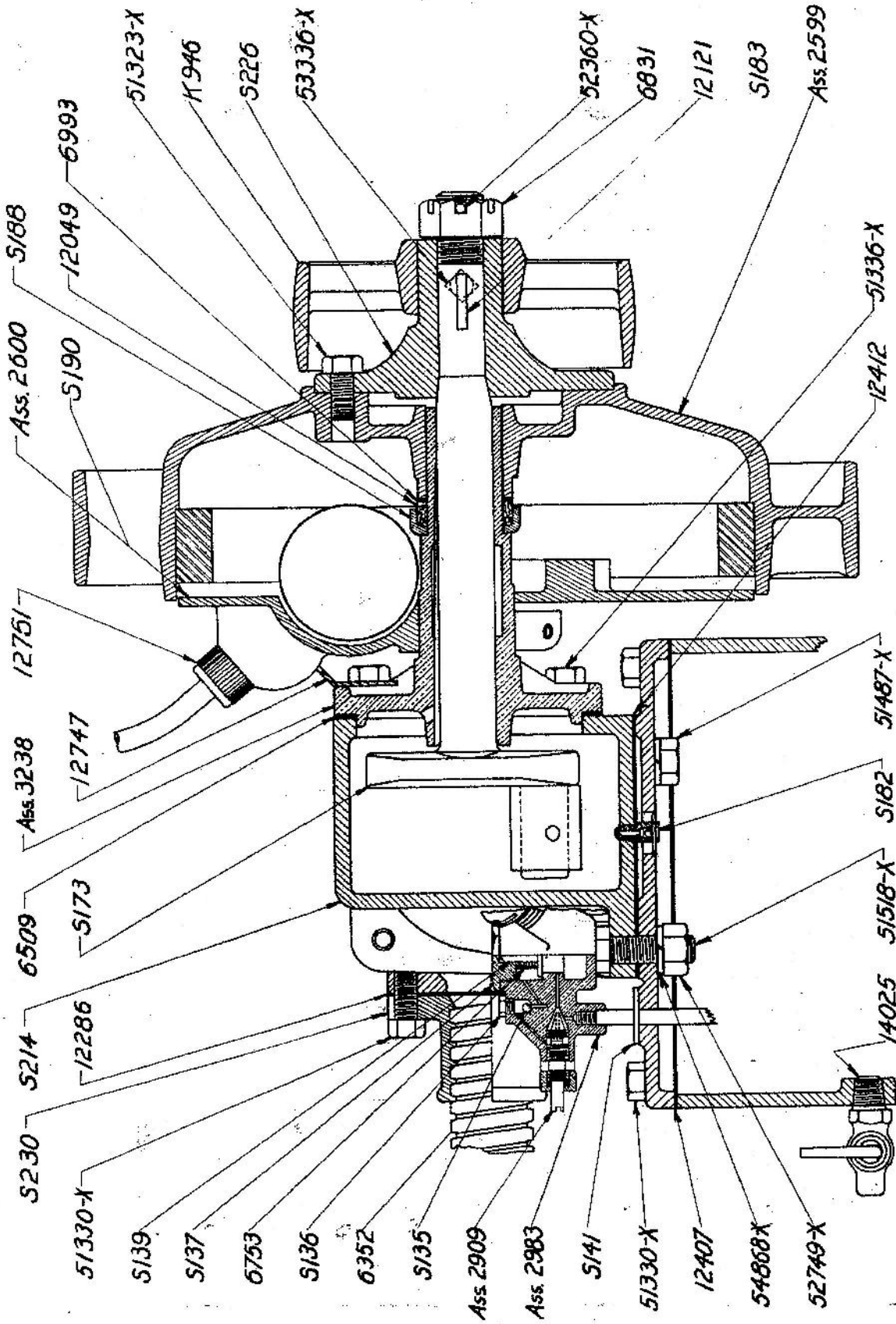
The cam wiper felt (15437) should be replaced as necessary, or re-oiled with a few drops of heavy oil.

4. General Information:

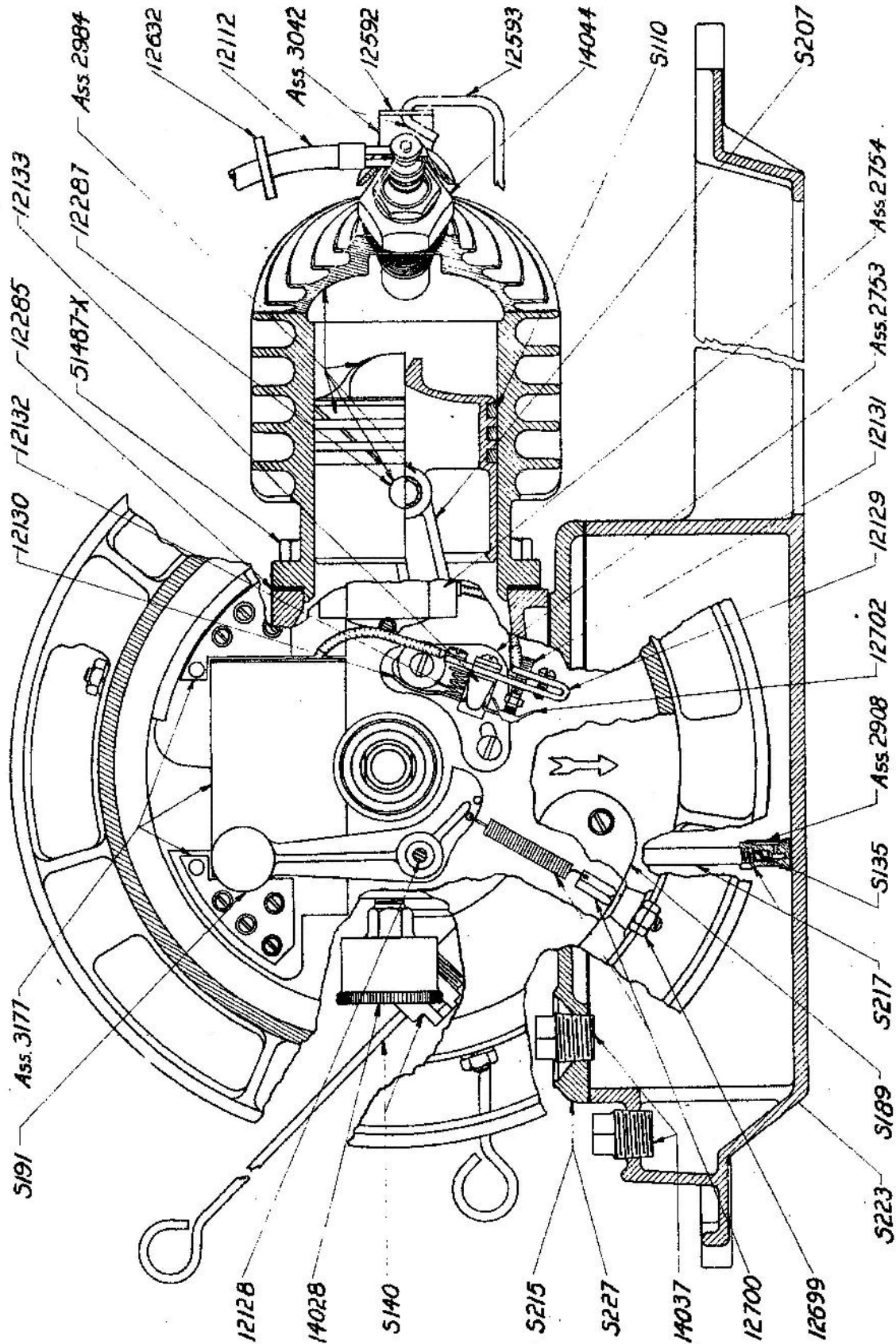
If the magneto fails to function after checking in accordance with the above instructions, we suggest writing The Maytag Company, Newton, Iowa, or your nearest branch office for further instruction - or returning the complete magneto for service.

Service Department

THE MAYTAG COMPANY
Newton, Iowa



MODEL 82 - MULTI-MOTOR



MODEL 82 - MULTI-MOTOR

List of Repair Parts for
Maytag Square Aluminum Tub Washer

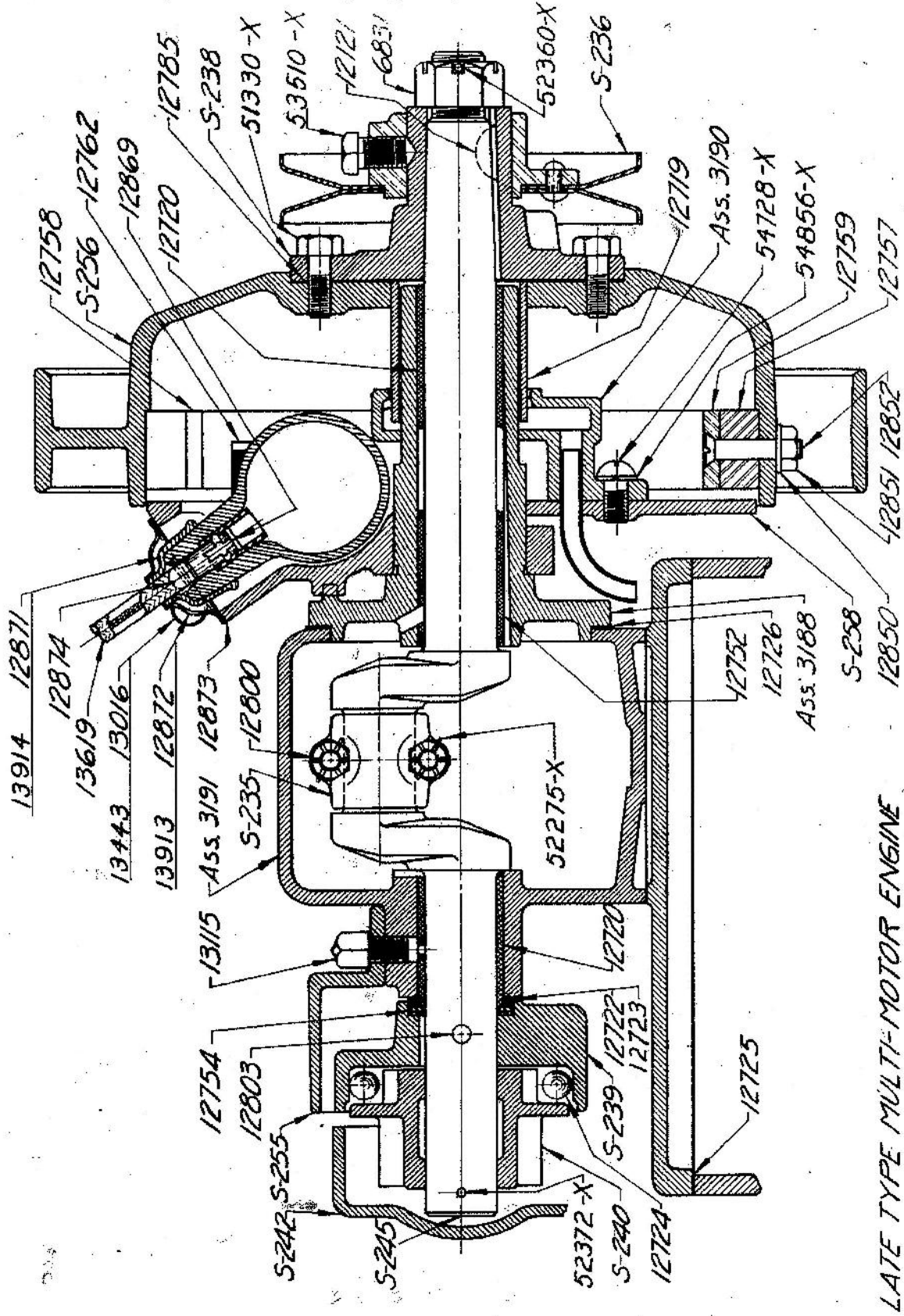
Model 82
Engine Parts

PART NO.	DESCRIPTION	PART NO.	DESCRIPTION
<u>"S" Parts</u>		<u>Miscellaneous Parts</u>	
S-110	Piston ring for 3/4 H.P.	51323-X	5/16 x 5/8" hex. head machine bolt, in S-226
S-133	Plug screw in carburetor		
S-135	Check ball in carburetor	51330-X	5/16 x 3/4" hex. head machine bolt, in S-227
S-136	Check ball plug in carburetor		
S-137	Air valve cap in carburetor	51336-X	5/16 x 7/8" hex. head machine bolt, in S-220
S-139	Air valve in carburetor		
S-140	Air adjusting cap and rod in carburetor	51487-X	3/8 x 3/4" hex. head machine bolt, in S-204 and S-227
S-141	Washer for feed tube		
S-173	Crankshaft for magneto	51752-X	1/4 x 1-7/8" square head machine bolt, in S-224
S-182	Deflooder in bottom of crankcase		
S-188	Collar for felt washer	52360-X	1/8 x 3/4" spring cotter, (in 6381)
S-204	Cylinder for 3/4 H.P. (Sold in Ass. 2984)	52372-X	1/8 x 1" spring cotter, in 12287
		52724-X	1/4" hex. nut, on 51752-X
S-205	Piston for 3/4 H.P. (Sold in Ass. 2984)	52779-X	No. 10-24 nut 3/8 square on 54506-X
		54438-X	No. 10-24 x 1/2" round head machine screw for carburetor
S-207	Connecting rod for 3/4 H.P.		
S-214	Crankcase for 3/4 H.P.	54506-X	No. 10-24 x 3/4" round head machine screw in 12592
S-215	Cover for fuel tank		
S-216	Fuel tank for 3/4 H.P.	54550-X	3/16" split lock washer, on 54506-X
S-217	Feed tube with strainer 3-5/4" over-all	54568-X	3/8" split lock washer, on 51487-X
S-220	Crankshaft bearing (See Ass. 3233)	57205-X	Oil, multi-motor, 1 qt. can filled
S-221	Coupling disc for magneto	57201-X	Oil, multi-motor, 1 case (24 1 qt. cans)
S-223	Frame fuel tank 3/4 H.P.	57211-X	Oil, multi-motor, 1 gal. can filled
S-224	One-half muffler to clamp on hose	57221-X	Oil, multi-motor, 1 case (6 1-gal. cans)
S-225	One-half terminal to clamp on hose	57350-X	Enamel, green, 1 pt. can filled
S-226	Coupling disc for magneto	57355-X	Enamel, green, 1 qt. can filled
S-227	Cover for fuel tank	57360-X	Enamel, green, 1 gal. can filled
S-230	Flanged terminal for exhaust hose	57361-X	Enamel, green, 5 gal. can filled
<u>Steel Numbered Parts</u>			
6290	Gasket for carburetor		
6352	Flexible tube for exhaust hose		
6509	Gasket for crankcase and bearing		
6753	Spring for air valve in carburetor		
6831	Castellated nut for crankshaft		
6893	Fiber washer 1" I.D. x 1-9/32 O.D. for crankshaft		
12045	Felt washer for crankshaft		
12110	Leather belt 1-1/2" x 40"		
12121	Woodruff key for crankshaft		
12235	Gasket for cylinder and crankcase		
12236	Gasket for cylinder and exhaust hose		
12287	Wrist pin 7/16 x 2-5/16"		
12407	Gasket for fuel tank		
12412	Gasket for crankcase and cover		
12592	Spring for switch		
12593	Rod for switch		
12747	Timer plate for magneto		
12844	Guide for switch rod		
12895	Fuel mixer and filler can		
14025	1/8" brass drain cock		
14028	Cups grease No. 0 Male 1/8" thread		
14031	Cups aluminum measuring		
14037	Plugs, pipe, 3/8"		
14044	G-34 spark plug		
<u>Assemblies</u>			
Ass. 2908	Strainer for feed tube		
Ass. 2909	Adjustable vapor nozzle for carburetor		
Ass. 2983	Carburetor for 3/4 H.P. complete		
Ass. 2984	Cylinder, piston, rings and connecting rod		
Ass. 2889	Exhaust hose with terminals		
Ass. 3022	Muffler with clamping jaws		
Ass. 3042	Switch for engine		
Ass. 3233	Crankshaft bearing		

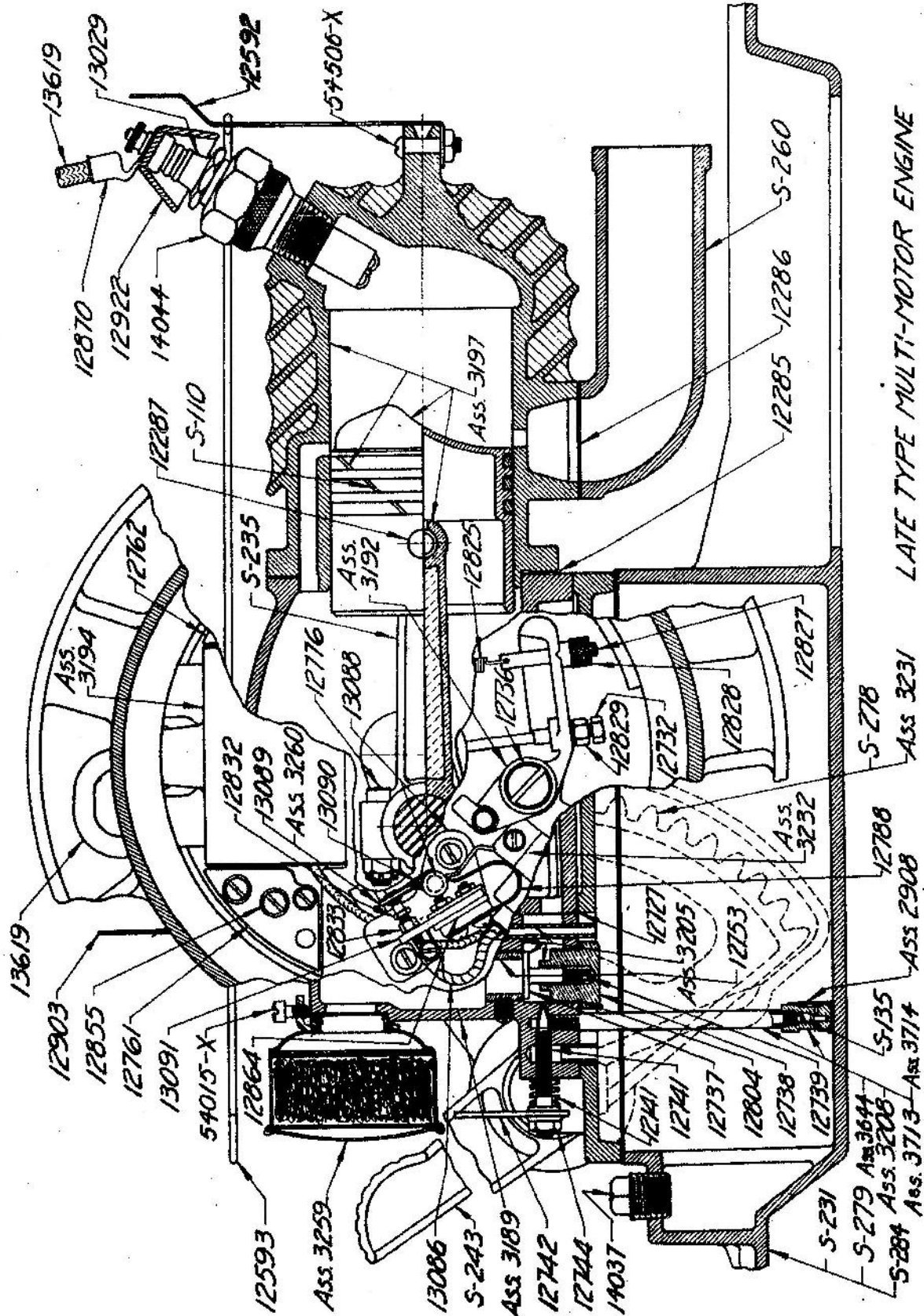
**List of Repair Parts for
Maytag Square Aluminum Tub Washer**

**Model 82
Engine Parts**

<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
<u>JOHNSON MAGNETO PARTS</u>		<u>BOSCH MAGNETO PARTS</u>	
<u>"S" Parts</u>		<u>"S" Parts</u>	
S-183	Flywheel only	S-248	Mounting plate
S-189	Cover for inspection hole	S-249	Cover for inspection hole
S-190	Mounting plate only	S-250	Flywheel only
S-191	Governor arm		
<u>Steel Numbered Parts</u>		<u>Steel Numbered Parts</u>	
12112	Spark plug cable	12728	Adjusting screw for governor
12126	Adjusting nut for governor	12729	Lock nut for contact screw
12127	Spring with round screw for governor	12755	Governor cam
12128	Governor arm screw	12756	Yoke for holding tension spring
12129	Breaker bracket	12757	Magnet
12130	Breaker blade with contact point	12758	Pole shoe (long)
12131	Breaker adjusting screw with contact point	12759	Pole shoe (short)
12132	Spring for breaker blade	12760	Striking block on interrupter cam
12133	Spring holder	12761	Pole assembly (left hand)
12134	Magneto wrench	12762	Pole assembly (right hand)
12632	Washer for spark plug cable	12764	Interrupter lever with contact point
12699	Adjusting nut for square stem on governor	12765	Plate supporting adjustable contact point
12700	Spring with square stem for governor	12767	Contact screw with nut
12702	Deflector for contact point	12768	Short circuiting lever
12750	Contact rivet and spring in 12751	12769	High tension cable with small cover plate
12751	High tension plug	12788	Spring for interrupter lever
13847	Screw for 12751 plug	12847	Screw for fastening S-249
14038	Rawhide plug for S-191	12848	Lock washer for 12847, 12855, 12859
14051	Rubber gasket for 12751	12850	Lock washer for 12849, 12852
14178	Terminal clip for high tension cable	12851	Hex. nut for 12849, 12852
		12853	Screw for clamping mounting plate
		12854	Lock washer for 12853
		12855	Screw for fastening poles to plate
		12856	Screw for condenser to plate
		12857	Lock washer for 12856
		12858	Interrupter plate with stud
		12859	Screw for fastening interrupter
		12860	Plain washer for 12859
		12861	Stud for interrupter lever
		12862	Felt wick for interrupter lever
		12863	Insulating bushing for plate
		12864	Insulating strip for plate
		12865	Screw for fastening contact plate
		12866	Plain washer for 12865
		12867	Lock washer for 12865
		12868	Hex. nut for 12865
		12869	Terminal for cable
		12870	Terminal clip
		12871	Rubber bushing for cable
		12872	Retainer for rubber bushing
		12873	Gasket for 12872
		12874	Screw for retainer
		12875	Lock washer for 12874
		12877	Tension spring for governor
		12878	Coil spring for short circuit lever
			<u>Assemblies</u>
Ass.2599	Flywheel assembled	Ass.3174	Interrupter complete
Ass.2600	Mounting plate assembled	Ass.3175	Condenser
Ass.2752	Magneto complete	Ass.3176	Coil assembly
Ass.2753	Breaker complete		
Ass.2754	Condenser		
Ass.3177	Coil with heels		



LATE TYPE MULTI-MOTOR ENGINE



LATE TYPE MULTI-MOTOR ENGINE

**List of Repair Parts for
Maytag Multi-Motor Engine** **1927
Single-Cylinder Engine**

PART NO.	DESCRIPTION	PART NO.	DESCRIPTION
	K Parts	12741	Needle valve in carburetor
K-966	Stop for engine base	12742	Handle for needle valve
	S Parts	12743	Air screen retainer
		12744	Lock nut for needle valve
S-110	Piston ring	12752	Bushing with straight oil groove
S-135	Check ball, bottom of carburetor stem	12753	Air valve seat in carburetor
S-204	Cylinder (See Ass.3197)	12754	Washer for S-239
S-231	Fuel tank, model 92 & B	12776	Special bolt for connecting rod
S-232	Cover for fuel tank	12785	Gasket for flywheel and coupling disc
S-233	Crankcase (sold as Ass.3191)	12786	Exhaust hose 1-3/16" x 8'
S-234	Crank bearing (sold as Ass.3188)	12800	1/4" castellated nut for 12776
S-235	Connecting rod	12801	5/16 x 7/8" hex. hd. cap screw, slotted - 5 used
S-236	Sheave pulley, 1-1/4" bore	12802	5/16 x 1-1/4" hex. hd. cap screw, slotted - 1 used
S-237	Hub puller		#4 x 1-3/4" taper pin, split end
S-238	Coupling disc	12803	Lock washer for air valve in carburetor
S-239	Starter ratchet wheel	12804	Drain tube in carburetor
S-240	Ratchet pinion	12819	Ferrule for exhaust hose
S-241	Segment for starter (replaced with Ass.3231)	12843	Guide for switch rod
S-242	Guard for segment	12844	Brass screw for carburetor
S-243	Foot tread	12889	1/2" protection sleeve for exhaust hose
S-244	Carburetor body (sold as Ass.3189)	12892	Fuel mixer and filler can
S-245	Crankshaft	12895	Caution plate (model 92, B, 11, and 111)
S-251	Piston (See Ass.3197)	12903	Spring for foot tread brake shoe
S-252	Elbow connection (replaced with S-260)	12918	Rubber cap for spark plug
S-253	One-half muffler	12922	Washer for engine hook bolt
S-254	Flanged terminal for exhaust hose	12925	Special screw for yielding tooth
S-255	Guard for starter ratchet	12976	Porcelain core for long spark plug
S-259	Flanged terminal	13029	Exhaust hose 12' long
S-260	Elbow connection for exhaust hose	13114	Ball oiler for engine bearing
S-264	Flat pulley 4-1/4" x 1-1/4" bore	13115	Caution plate, model G
S-277	Yielding tooth for starter segment	13391	Caution plate, model 16
S-278	Starter segment (sold as Ass.3231)	13474	Exhaust hose, 20' long
S-279	Fuel tank, models G, 16, 26, 11 & 111	13534	Transfer "Patents" for engine
S-284	Fuel tank, models 31 and 33	13592	Check valve body
S-297	Starter segment guard	13915	Gasket for check valve
S-319	Starter pedal, models G, 16, 26, 11, 111, 111, 111-X, 19 & 19-X	13917	Valve disc
	Steel Numbered Parts	13918	Aluminum measuring cup, 2 oz.
6023	Lead washer for carburetor screw	14031	1/8" pipe plug
6680	Coil spring for S-277	14036	3/8" pipe plug
6831	Nut for crankshaft	14037	G-34 spark plug
6989	Headless set screw for foot lever	14044	Guarantee transfer
10008	Brake shoe for foot lever	14073	Gasket under carburetor
12121	Woodruff key for crankshaft	14096	Wrist pin for piston
12141	Coil spring for needle valve	14173	#10-32 x 3/8" fil. hd. mach. screw
12285	Gasket for cylinder and crankcase	14341	Switch rod for engine
12286	Gasket for cylinder and exhaust hose	14342	Decalcomania caution transfer - Model 19
12287	Wrist pin, 7/16 x 2-5/16"	14387	Decalcomania caution transfer - Model 31
12317	Steel shim washer	14388	Decalcomania caution transfer - Model 111
12582	Hook bolt for engine base	14389	Decalcomania caution transfer - Model 111
12592	Spring for switch	14390	Porcelain for short spark plug
12593	Rod for switch	14391	
12720	Bushing with return oil groove	Ass.2908	Assemblies
12721	Stud pin for starter lever	Ass.3162	Strainer for feed tube
12722	Felt washer for crankshaft	Ass.3188	Multi-motor packing
12723	Fibre washer for crankshaft	Ass.3189	Crank bearing
12724	3/8" steel ball for starter	Ass.3190	Carburetor body
12725	Gasket for fuel tank	Ass.3191	Oil catch ring
12726	Gasket for crankcase and bearing	Ass.3197	Crankcase and bushing
12727	Gasket for carburetor	Ass.3198	Cylinder, piston, rings & connecting rod
12730	Breather pipe for carburetor	Ass.3205	Exhaust hose 8' long
12731	Tension spring for starter		Carburetor complete, model 92, G, B, 16, 26, 11 & 111 (Use Ass.3734)
12735	Tubing for oil arrester	Ass.3208	Feed tube and strainer, model 92, G, B, 16, 26, 111 & 11
12737	Air valve for carburetor	Ass.3231	Segment with yielding tooth
12738	Air valve cap for carburetor	Ass.3259	Air filter
12739	Spring for air valve in carburetor	Ass.3285	Exhaust hose 12' long
12740	Air screen in carburetor	Ass.3475	Exhaust hose 20' long

*NOTE: Used on Models 92,G,B,16,26,11,111,31 & 33

List of Repair Parts for
Maytag Multi-Motor Engine

1927
Single-Cylinder Engine

PART NO.	DESCRIPTION	PART NO.	DESCRIPTION
Ass.3644	Feed tube and strainer, model 31 (Use Ass.3713)		
Ass.3645	Carburetor complete, model 31		
Ass.3713	Feed tube, disc type strainer, model 31		
Ass.3714	Feed tube, disc type strainer, model B, G, 11, 16, 26, 92 & 111		
Ass.3715	Strainer complete, disc type		
Ass.3734	Carburetor with disc type strainer, model B, G, 11, 16, 26, 92 & 111		
Ass.3764	Check valve seat with screen		
Ass.3856	Starter segment with yielding tooth		
<u>Miscellaneous Parts</u>			
51330-X	5/16 x 3/4" machine bolt, hex. head, in S-260 and S-234		
51336-X	5/16 x 7/8" machine bolt, hex. head, through S-232		
51487-X	3/8 x 3/4" machine bolt, hex. head, through S-204		
51752-X	1/4 x 1-7/8" machine bolt, hex. head, in S-253		
52275-X	1/16 x 3/8" spring cotter, through 12776		
52360-X	1/8 x 3/4" spring cotter, in 12731		
52372-X	1/8 x 1" spring cotter, through 12287 and 12721		
52724-X	1/4" hex. nut, on 51752-X		
52734-X	5/16" hex. nut, on bolt in S-238		
52779-X	#10-24 x 3/8" square nut, on 54488-X		
52908-X	1/4 x 1/4" set screw, headless, in S-244		
53330-X	5/16 x 5/8" set screw, square head, in S-242		
53510-X	3/8 x 5/8" set screw, square head, in S-236		
54488-X	#10-24 x 1/2" machine screw, round head, through 12892		
54500-X	#10-24 x 3/4" machine screw, round head, through 12592		
54728-X	1/4 x 5/8" machine screw, round head, through assembly 3190		
54850-X	3/16" split lock washer, on 12741		
54856-X	1/4" split lock washer, on 54728-X		
54862-X	5/16" split lock washer, on 13115		
57201-X	Oil, Multi-motor, 1 qt. can filled		
57205-X	Oil, Multi-motor, 1 case (24 1-qt. cans)		
57211-X	Oil, Multi-motor, 1 gal. can filled		
57221-X	Oil, Multi-motor, 1 case (6 1-gal. cans)		
57350-X	Enamel, green, 1 pt. can filled		
57355-X	Enamel, green, 1 qt. can filled		
57360-X	Enamel, green, 1 gal. can filled		
57361-X	Enamel, green, 5 gal. can filled		
57845-X	Lacquer sealer, 1 pt. can filled inside of engine parts		
57846-X	Lacquer sealer, 1 qt. can filled, inside of engine parts		
57847-X	Lacquer sealer, 1 gal. can filled, inside of engine parts		

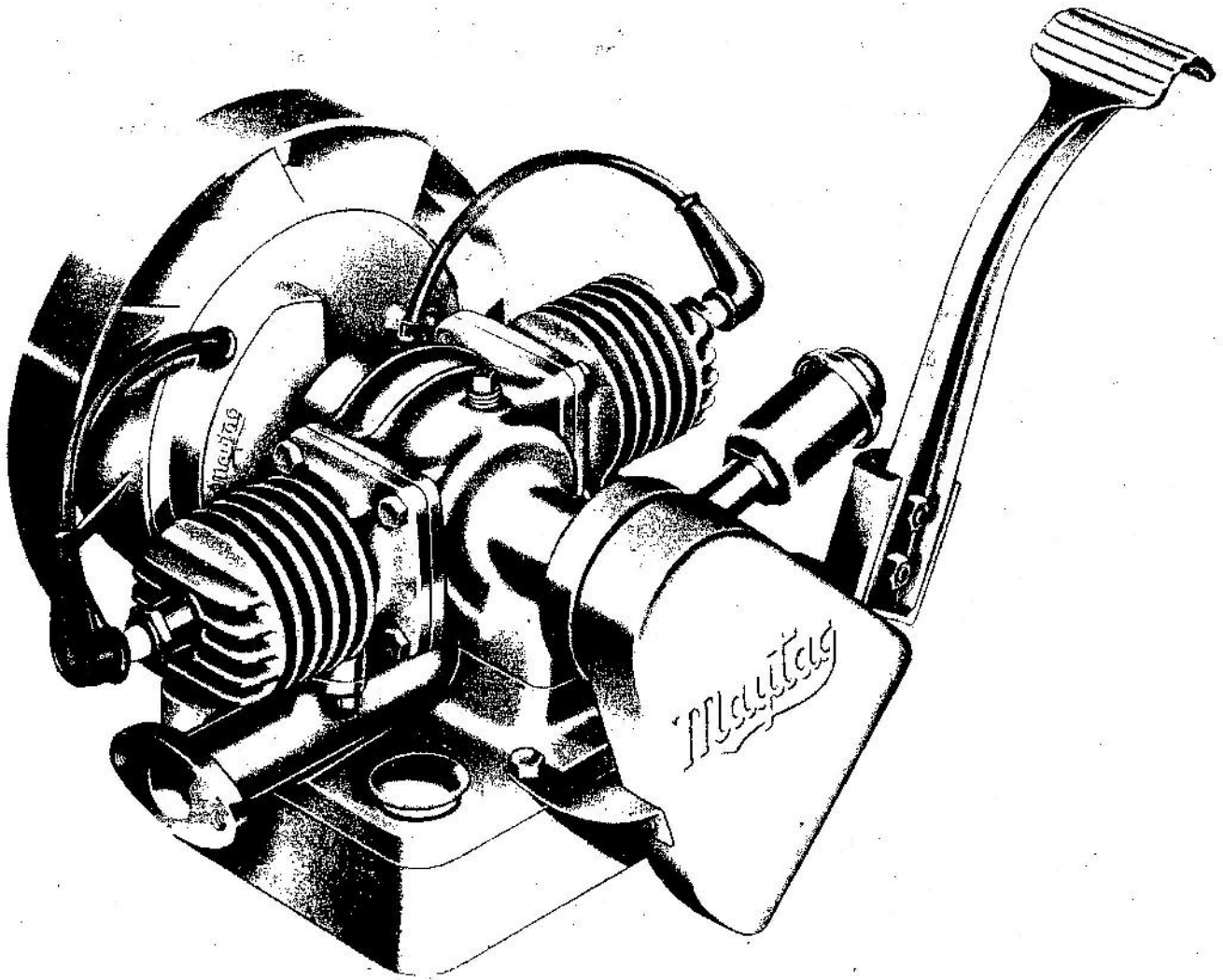
*NOTE: Used on Models 92,G,B,16,26,11,111,31 & 33

**List of Repair Parts for
Maytag Multi-Motor Engine**

Bosch Magneto Parts

PART NO.	DESCRIPTION	PART NO.	DESCRIPTION
"S" Parts			
S-256	Fly wheel only	12875	No. 40463-Lock washer for 12874
S-257	Cover for inspection hole	13016	No. 79381-Clamp for cable, small plate
S-258	Mounting plate only	13085	No. 95470-Screw condenser to plate
		13086	No. 79461-Lead assembly, condenser to interrupter
		13087	No. 75705-Screw lead to condenser
		13088	No. 78856-Interrupter plate with large stud
12719	No. 77774-Brass sleeve oil slinger	13089	No. 80410-Interrupter lever for large stud
12732	No. 77776-Stop screw for governor arm	13090	No. 79322-Felt wick for large stud
12733	No. 77368-Roller for governor arm	13091	No. 78727-Plate for contact screw
12734	No. 77367-Roller pin for governor arm	13092	No. 75517-Screw, lead to interrupter
12736	No. 77371-Pivot bolt for governor arm	13093	No. 95209-Lock washer for 13092
12757	No. 76499-Magnet	13442	No. 82923-Rubber sleeve for cable, large plate
12758	No. 75487-Pole shoe (long)		No. 83416-Clamp for cable, large plate
12759	No. 76500-Pole shoe (short)	13443	No. 83163-High tension cable with large plate
12761	No. 77110-Pole assembly (left hand)	13619	No. 83161-Retainer for rubber bushing
12762	No. 77111-Pole assembly (right hand)	13913	No. 83162-Rubber bushing for cable, large plate
12769	No. 76521-High tension cable with small cover plate (Model 92, G & B)	13914	#83164-Gasket under 13913
12788	No. 75499-Spring for interrupter lever	14108	Coil wire insulator
12799	No. 67733-Wrench	14368	Condenser wire insulator
12825	No. 77372-Tension spring for governor	14370	Lead wire on Ass.3175
12826	No. 77775-Stud for holding tension spring	14495	Washer between governor arm and fly wheel
12827	No. 77366-Stud for adjusting tension spring		
12828	No. 77365-Adjusting nut		
12829	No. 80029-Lock nut for stop screw		
12850	No. 77731-Interrupter lever for small stud	Ass.3175	No. 75626-Condenser flat, first used
12851	No. 77305-Plate supporting Adj. contact screw	Ass.3183	Bosch magneto complete
12852	No. 77777-Contact screw for upper point	Ass.3192	No. 77369 or 77364-Governor arm
12853	No. 66775-Lock nut for contact screw	Ass.3194	No. 77360-Coil assembly
12847	No. 75425-Screw for fastening S-257 to fly wheel	Ass.3195	No. 77378-Fly wheel assembly
12848	No. 1286-Lock washer for 12847, 12855, 12859	Ass.3196	No. 77363-Mounting plate assembly
12849	No. 77531-Screw for fastening magnet to housing	Ass.3232	No. 78745-Condenser, round latest type
12850	No. 40067-Lock washer for 12849, 12852	Ass.3260	No. 80411-Interrupter with large stud
12851	No. 75514-Hex. nut for 12849, 12852		
12852	No. 77532-Screw for fastening pole shoe		
12853	No. 77103-Screw for clamping mounting plate		
12854	No. 60595-Lock washer for 12853		
12855	No. 76559-Screw for fastening poles to plate		
12856	No. 77445-Screw for condenser to plate		
12857	No. 65008-Lock washer for 12856		
12858	No. 81563-Interrupter plate with small stud		
12859	No. 94236-Screw for fastening interrupter		
12860	No. 60077-Plain washer for 12859		
12861	No. 75500-Stud for interrupter lever		
12862	No. 75870-Felt wick for small stud		
12863	No. 75502-Insulating bushing for plate		
12864	No. 75501-Insulating strip for plate		
12865	No. 95800-Screw for fastening contact plate		
12866	No. 41051-Plain washer for 12865		
12867	No. 53544-Lock washer for 12865		
12868	No. 94519-Hex. nut for 12865		
12869	No. 65936-Terminal for cable		
12870	No. 75608-Terminal clip		
12871	No. 76562-Rubber bushing for cable, small plate		
12872	No. 75650-Retainer for rubber bushing		
12873	No. 76561-Gasket for 12872		
12874	No. 76563-Screw for retainer		

*NOTE: Used on Models 92,G,B,16,26,11,111,31 and 33

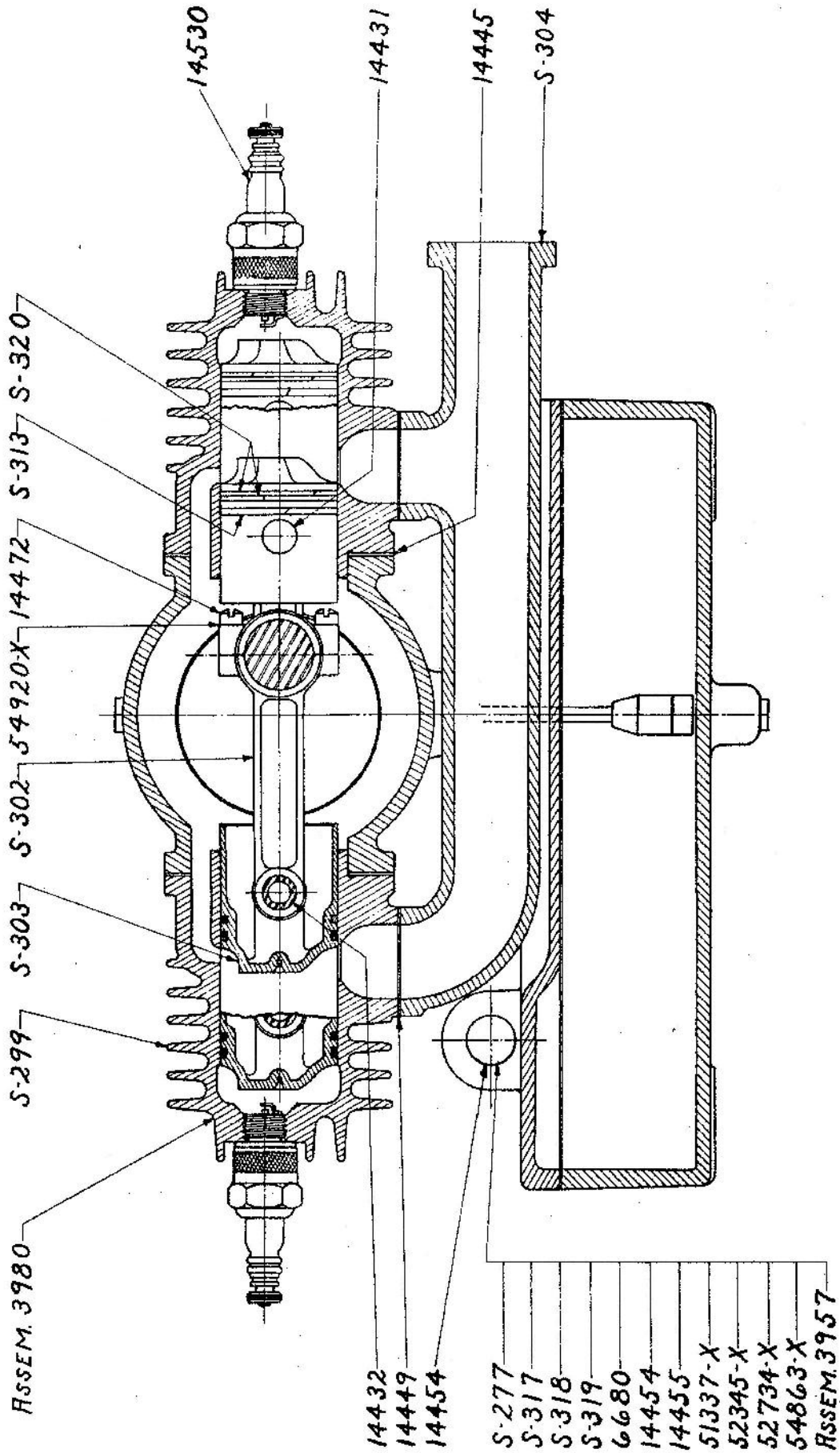


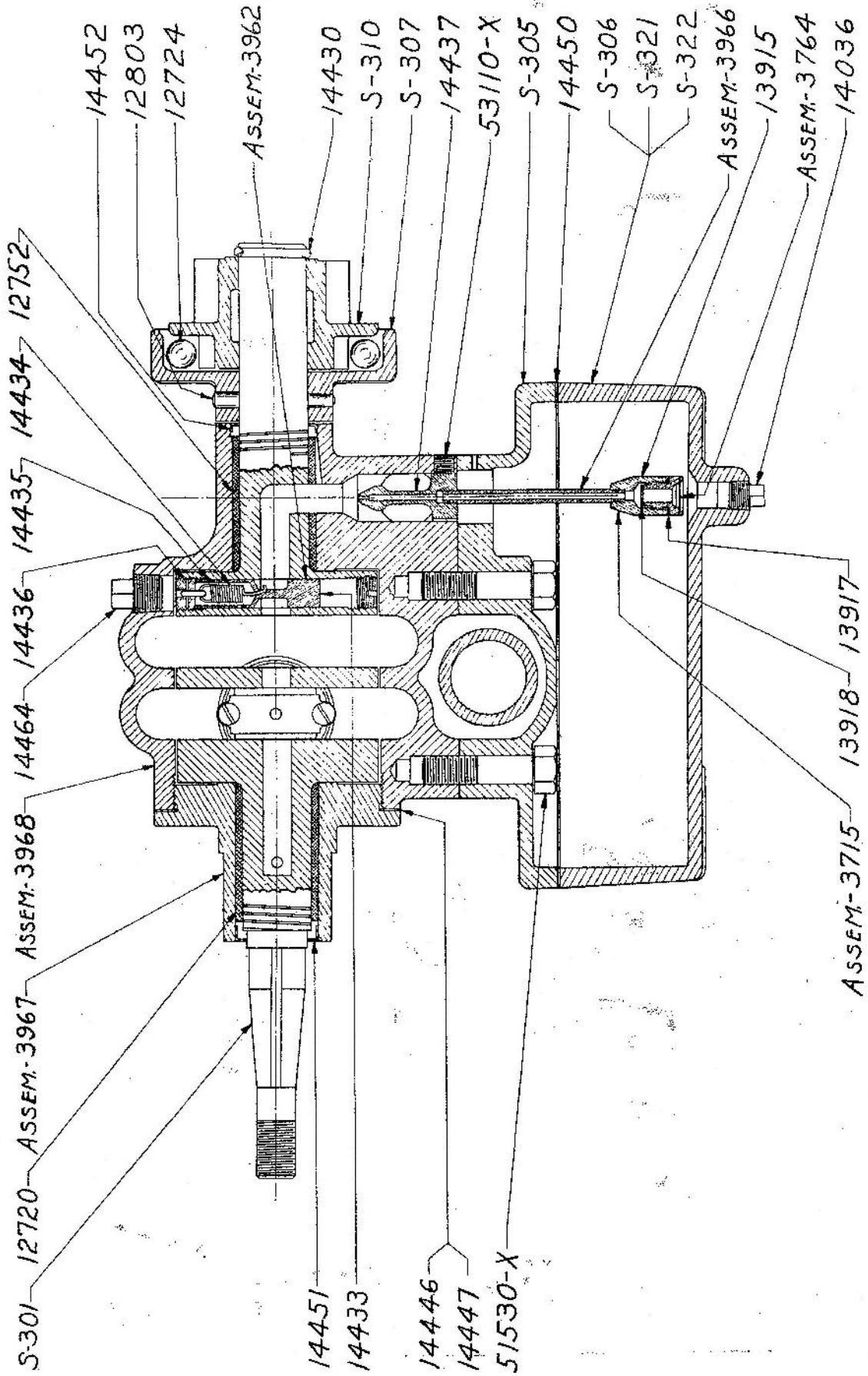
IMPORTANT

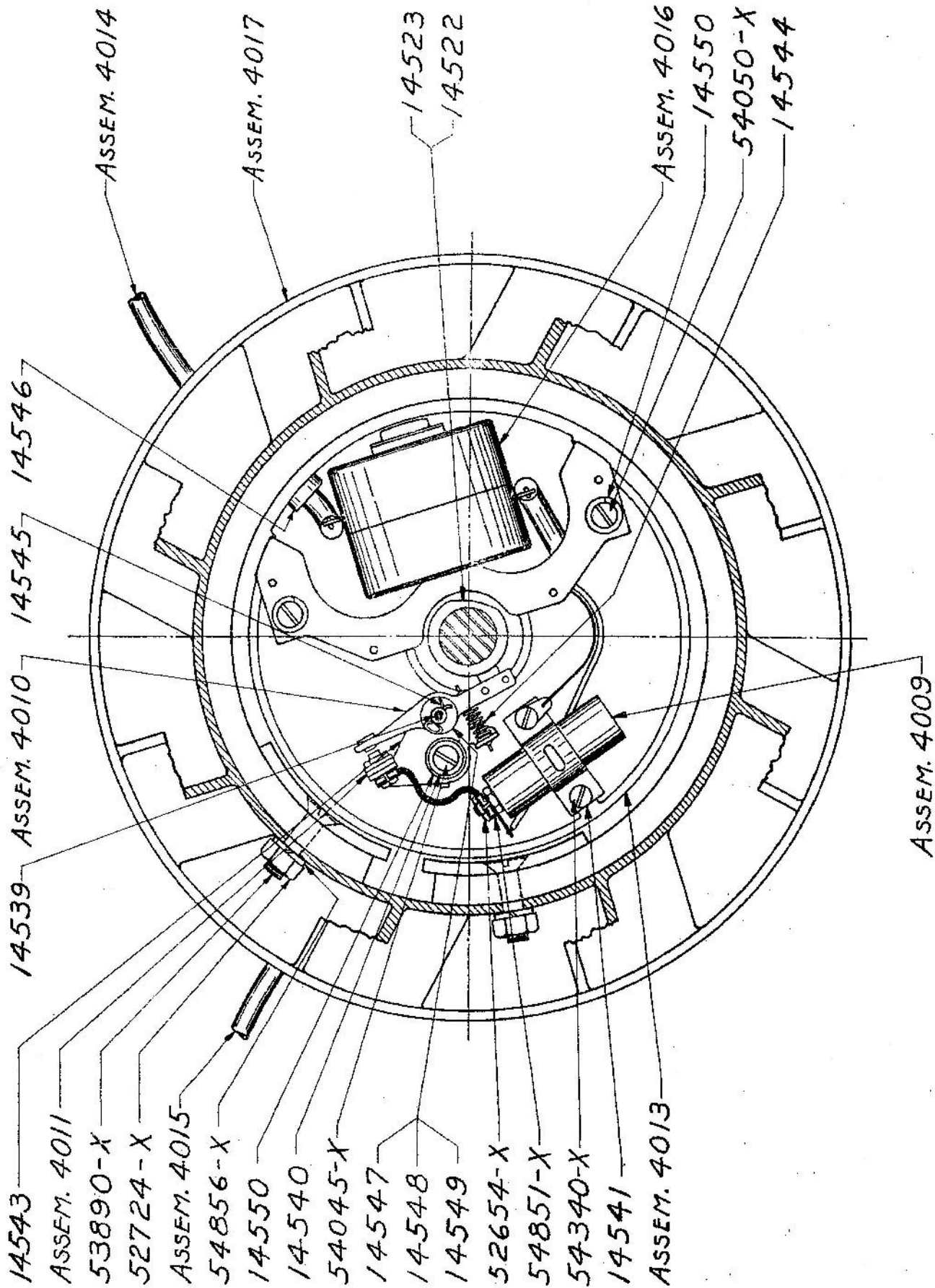
1. Tools for repairing washers, ironers and engines listed on Page No.2700.

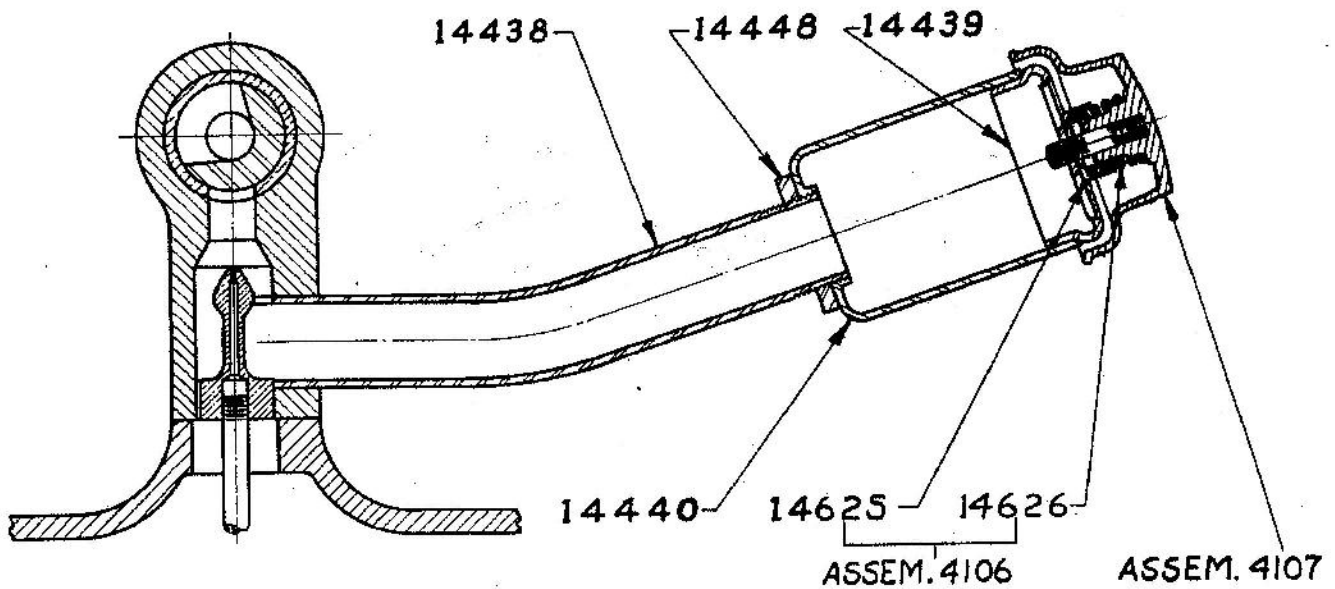
SPECIAL NOTICE

When ordering painted parts please specify color.









PART NO.	DESCRIPTION	PART NO.	DESCRIPTION
"S" Parts			
S-259	Flanged exhaust terminal	S-319	Starter pedal (Models G, 16, 26, 11, N11, 111, N11-X, 19 & 19-X)
S-277	Yielding tooth	S-320	Piston ring, upper (2 used)
S-298	Crankcase (See Ass.3968)	S-321	Fuel tank (Model G, 16, 26, 11, N11, 111, N11-X, 19 & 19-X)
S-299	Cylinder	S-322	Fuel tank (Models 82, 92 & B)
S-300	Crank bearing (See Ass.3967)	S-323	Starter pedal
S-301	Crankshaft	S-327	Air cap choke (Ship Ass.4107)
S-302	Connecting rod	S-333	Engine pulley
S-303	Piston	S-334	Fuel tank (Use Ass.4393)
S-304	Exhaust manifold	S-335	Drain plug
S-305	Fuel tank cover	S-338	Starter pedal
S-306	Fuel tank (Models 31, 33, & 33-X)		Steel Numbered Parts
S-307	Starter ratchet wheel	6680	Coil spring for S-277
S-309	Muffler	12286	Gasket between Ass.3974 and S-304
S-310	Ratchet pinion	12720	Bushing in S-300
S-312	Pulley "V" type	12724	3/8" steel ball in starter
S-313	Piston ring, lower (1 used)	12752	Bushing in S-298
S-317	Starter segment (See Ass.3971)	12786	Flexible exhaust hose
S-318	Starter pedal (Models 82, 92, B, 31, 33, & 33-X) (Use S-323)		

List of Repair Parts for
Maytag Multi-Motor Engine

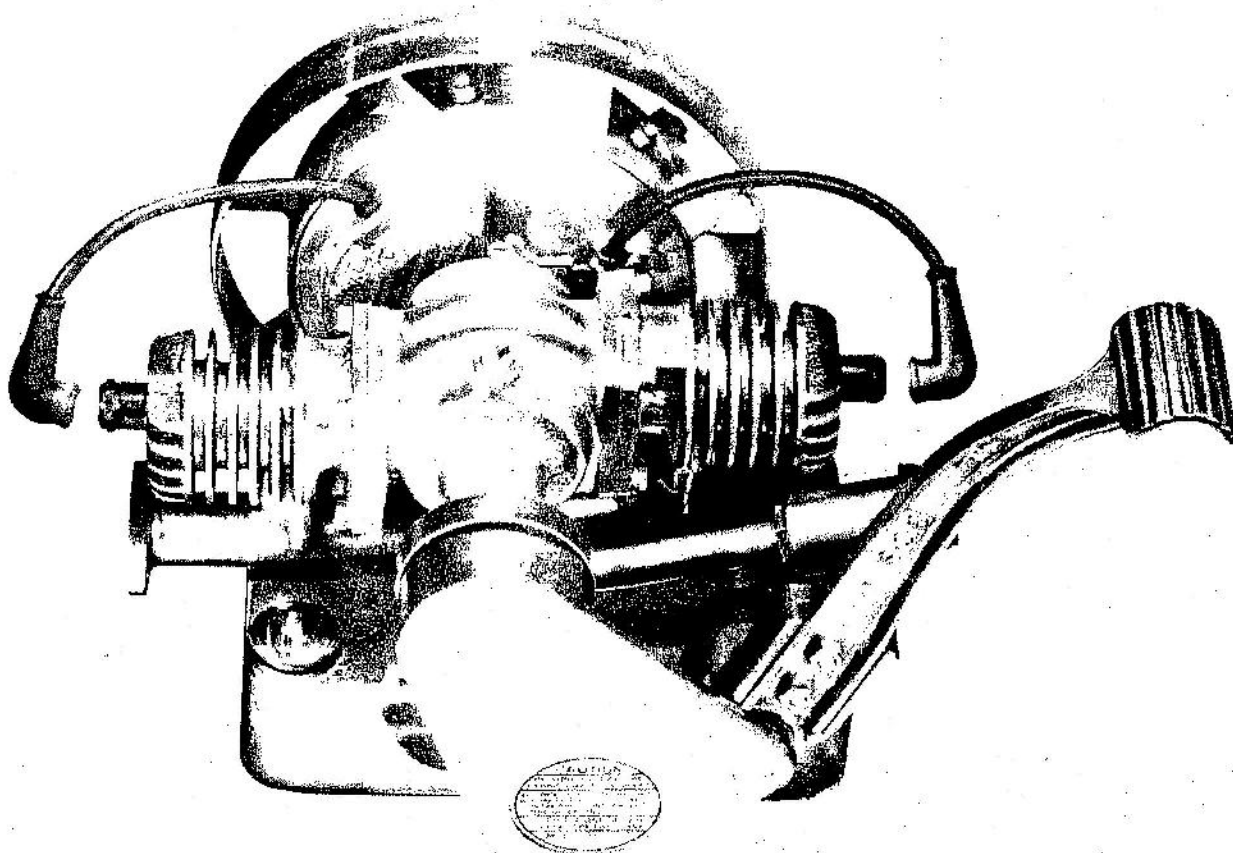
Twin-Cylinder

PART NO.	DESCRIPTION	PART NO.	DESCRIPTION
12803	#4 x 1-3/4" taper pin split end	Ass.3968	Crankcase with bushing
12843	Ferrule for exhaust hose	Ass.3971	Starter segment with S-277
12891	Washer on 51323-X	Ass.3974	Exhaust hose
12892	Protection sleeve for exhaust hose	Ass.3980	Cylinder, piston, connecting rod and rings
12895	Fuel mixer and filler can		
12976	Screw for S-277 yielding tooth	Ass.4004	Twin-cylinder engine complete with packing Model 82 & 92
13592	"Patents" transfer		
13915	Check valve body for disc type strainer	Ass.4005	Twin-cylinder engine complete with packing Model B
13917	Gasket for disc type strainer		
13918	Valve disc for disc type strainer	Ass.4006	Twin-cylinder engine complete with packing Model 31 & 33
14031	Oil measure 2 oz. size		
14036	Pipe plug 1/8" - in fuel tank	Ass.4007	Twin-cylinder engine complete with packing Model 33-X
14073	"Guarantee" transfer		
14088	Carburetor air cap spring	Ass.4008	Twin-cylinder engine complete with packing Models G, 16, 26, 11, 111, 111, 111-X, 19 & 19-X
14430	Snap ring for crankshaft		
14431	Wrist pin retainer plug		
14432	Wrist pin	Ass.4018	Multi-motor packing for Twin-cylinder engine All models
14433	Governor valve		
14434	Governor spacer	Ass.4020	Fuel tank cap with anchor
14435	Governor spring	Ass.4106	Air cap spring with ferrule
14436	Governor screw	Ass.4107	Air cap complete for intake
14437	Carburetor jet	Ass.4369	Lead wire with terminals for condenser on Eiseman magneto
14438	Intake connection		
14439	Intake cap	Ass.4392	Engine complete with packing
14440	Intake shell	Ass.4393	Fuel tank with drain plug
14445	Gasket between cylinder and crankcase	Ass.4394	Multi-motor packing
14446	Gasket between crank bearing and crankcase, .006 - .009" thick	Ass.4565	Engine complete with packing
14447	Gasket between crank bearing and crankcase, .003 - .005" thick		
14448	Intake lock nut		
14449	Gasket between exhaust manifold and cylinder		
14450	Fuel tank gasket		
14451	Oil retainer flywheel end		
14452	Oil retainer starter end		
14454	Stud pin for starter		
14455	Snap ring for stud pin		
14456	Washer on 54110-X		
14457	Tension spring for starter		
14463	Pulley washer		
14464	Pipe plug 1/4" - in S-298		
14465	Gasket for fuel tank cap		
14472	#10-32 x 5/8" Fil hd. machine screw, in connecting rod		
14525	Engine hook bolt (4 used)		
14530	Spark plug for Twin-cylinder engine		
14531	Template used for marking base frame L3856		
14625	Ferrule for air cap spring		
14875	Screw, cap, hex. hd. self-tapping #14 x 1/2" in 14746 and S-334		
14876	Screw, cap, hex. hd. self-tapping 5/16 x 1-1/8" in S-334		
14879	Belt guard		
14880	Gasket for S-335		
14911	Mounting bracket		
14936	Decalcomania transfer "Model X" - Caution		
15036	Decalcomania transfer "Model 11"		
15037	Decalcomania transfer "Model 33"		
15038	Decalcomania transfer "Model 109"		
15039	Decalcomania transfer "Model 19"		
<u>Assemblies</u>			
Ass.3715	Disc type strainer complete		
Ass.3764	Check valve seat with strainer		
Ass.3957	Segment guard		
Ass.3962	Governor		
Ass.3965	Air intake with tube and cap		
Ass.3966	Feed tube and strainer complete		
Ass.3967	Crank bearing with bushing		

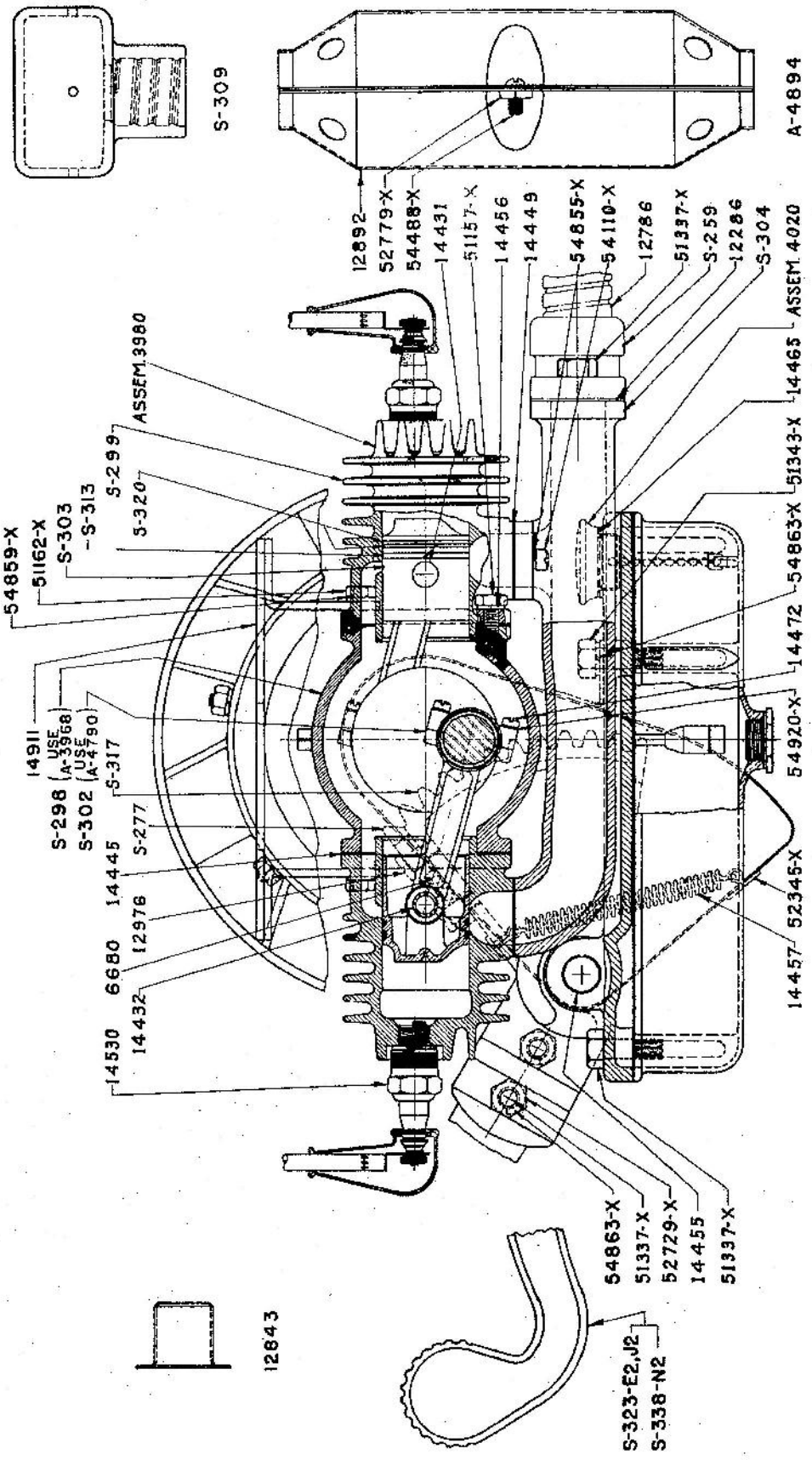
List of Repair Parts for
Maytag Multi-Motor Engine

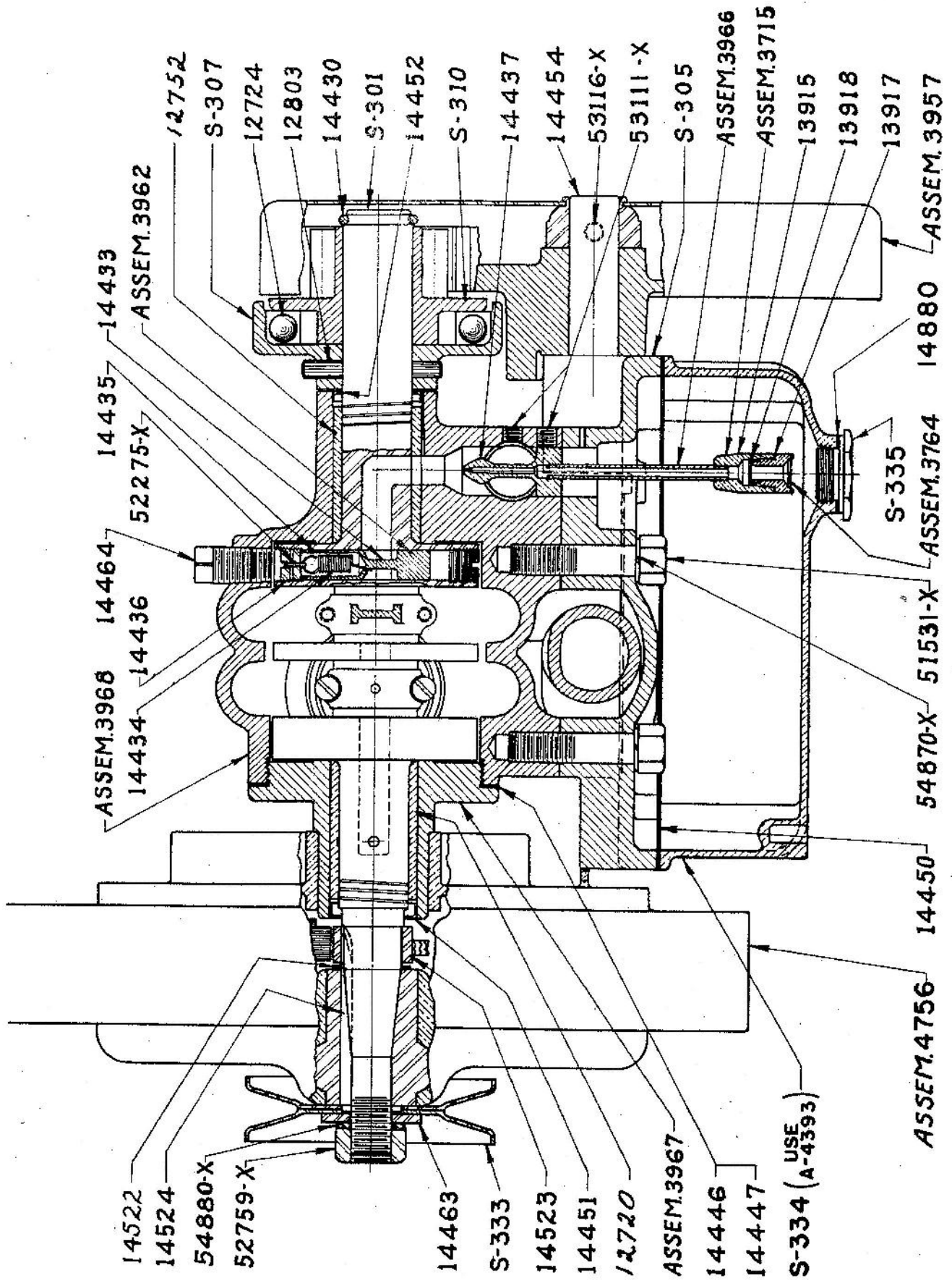
Magneto Parts
Twin-Cylinder

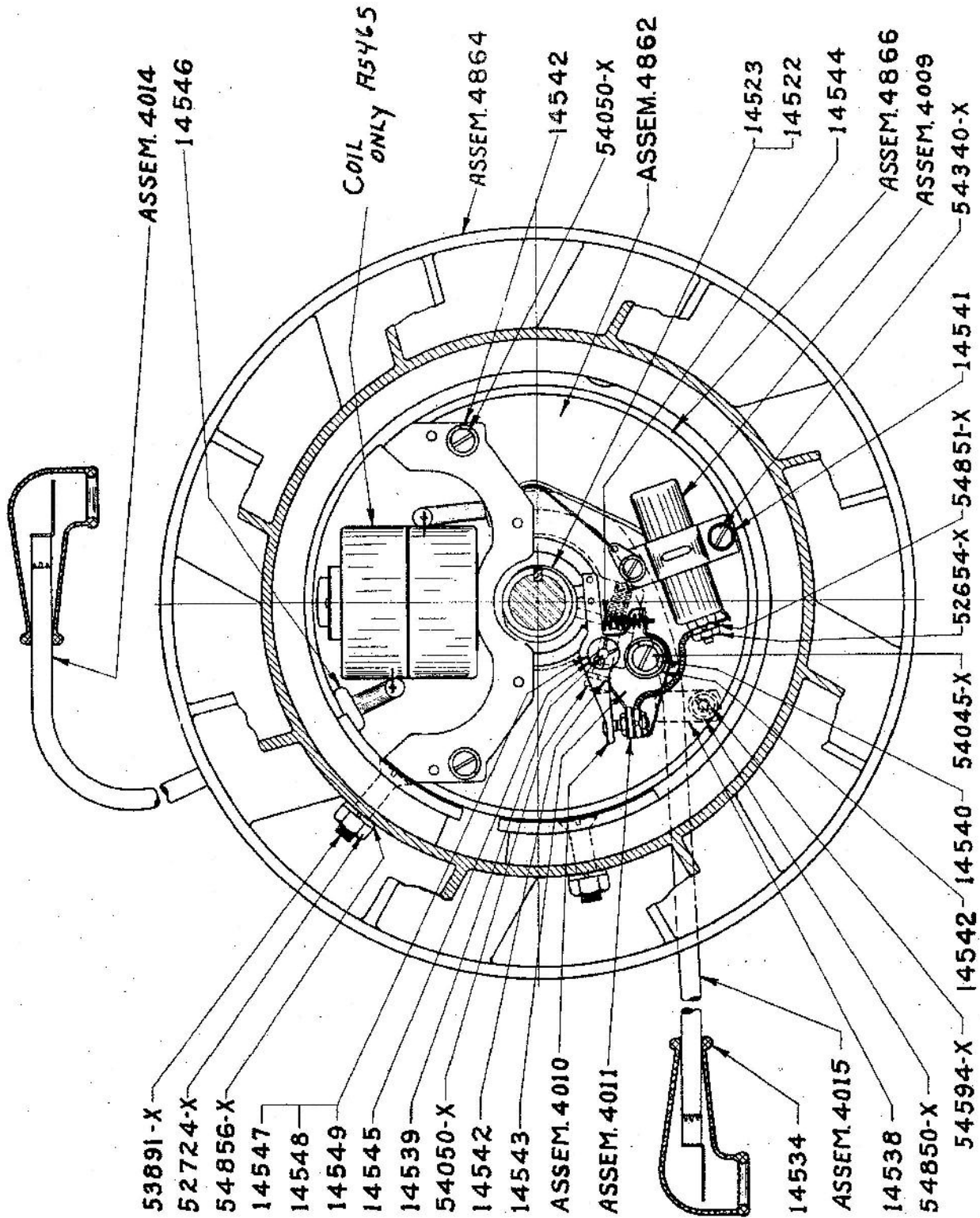
PART NO.	DESCRIPTION	PART NO.	DESCRIPTION
<u>Steel Numbered Parts</u>			
14522	Thrust washer for breaker cam	52654-X	#8-32 hex. nut - on condenser binding post
14523	Breaker cam	52724-X	1/4 x 7/16 x 7/32" hex. nut
14524	Flat key for rotor hub and breaker cam	52729-X	5/16" hex. nut on 51337-X
14534	Rubber nipple for spark plug terminal	52734-X	5/16" hex. nut on 51330-X - 51343-X
14538	Clamp for high tension cable	52759-X	1/2" hex. nut on crankshaft
14539	Oil wick for breaker lever pin	52779-X	#10-24 sq. nut on 54488-X
14540	1/32" plain washer for 54045-X screw	53110-X	1/4 x 1/4" set screw, hol. hd. ; Ass.3965 to S-298 and 14437 to S-298
14541	Washer split lock for condenser mounting screw	53116-X	1/4 x 5/16" set screw, hol. hd. Ass.3957 to 14454
14542	Washer split lock for stator hub clamp screw	53890-X	1/4 x 13/16" mach. screw, flat hd. - for magneto shoe
14543	Cushion gasket for breaker plate	54045-X	#12-24 x 1/2" mach. screw, flat hd. - breaker plate screw
14544	Coil spring for breaker lever	54050-X	#12-24 x 1-1/8" mach. screw, fil. hd. - coil screw & mounting plate clamp
14545	Retaining spring for breaker lever	54110-X	1/4 x 5/8" mach. screw, fil. hd., S-304 to S-299
14546	Rubber grommet for high tension cable	54488-X	#10-24 x 1/2" mach. screw, rd. hd., in 12892
14547	Space washer for breaker lever, .050"	54594-X	#10-32 x 3/8" mach. screw, rd. hd. for 14538
14549	Space washer for breaker lever .015"	54850-X	3/16 x 3/64 x 3/64" split lock washer - on 54594-X
14550	Washer, split lock, for breaker plate fastening screw	54855-X	1/4 x 1/16 x 1/16" split lock washer, on 54110-X
14875	Screw, cap hex. hd. self tapping #14 x 1/2" in S-334	54856-X	1/4 x 3/32 x 3/64" split lock washer - on 53890-X
14876	Screw, cap hex. hd. self tapping 5/16 x 1-1/8" in S-334	54859-X	1/4 x 1/8 x 1/16" split lock washer on 51162-X
14879	Belt guard	54863-X	5/16" washer, split lock, Galv.
14880	Gasket for S-335	54864-X	5/16" split lock washer, on 51337-X
14896	Alum. rivet, magnet to flywheel, Eiseman	54870-X	3/8 x 1/8 x 1/16" split lock washer
14911	Mounting bracket	54880-X	1/2 x 11/64 x 1/16" nut under crankshaft
14936	"Caution" transfer	54920-X	#10 Internal tooth shakeproof washer on 14472
15030	Pole shoe for Eiseman Magneto	55712-X	Sealer for carburetor air intake tube
15031	Magnet for Eiseman Magneto	57201-X	Oil, multi-motor, 1 qt. can filled
15032	Rotor for Eiseman Magneto	57205-X	Oil, multi-motor, 1 case (24 1-qt. cans filled)
15086	Bolt, carriage, special, 5/16 x 1" - Engine bracket to frame brace	57211-X	Oil, multi-motor, 1 gal. can filled
<u>Assemblies</u>			
Ass.3934	Magneto complete	57221-X	Oil, multi-motor, 1 case (6 1-gal. cans filled)
Ass.4009	Condenser	57350-X	Enamel, green, 1 pt. can filled
Ass.4010	Interrupter lever with contact point	57355-X	Enamel, green, 1 qt. can filled
Ass.4011	Breaker plate contact point and condenser lead	57360-X	Enamel, green, 5 gal. can filled
Ass.4012	Stator assembly complete	57845-X	Lacquer sealer, inside engine parts, 1 pt. can filled
Ass.4013	Stator plate	57846-X	Lacquer sealer, inside engine parts, 1 qt. can filled
Ass.4014	High tension cable (short)	57847-X	Lacquer sealer, inside engine parts, 1 gal. can filled
Ass.4015	High tension cable (long)	57962-X	Black crystal enamel, 1/2 pt. can filled
Ass.4016	Coil	57963-X	Black crystal enamel, 1 pt. can filled
Ass.4017	Rotor plate	57964-X	Black crystal enamel, 1 qt. can filled
Ass.4107	Air cap complete for intake	57965-X	Black crystal enamel, 1 gal. can filled
Ass.4392	Engine complete with packing		
Ass.4393	Fuel tank with drain plug		
Ass.4394	Multi-motor packing		
Ass.4563	Engine complete less packing and exhaust hose		
Ass.4564	Engine complete w/exhaust hose only		
Ass.4565	Engine complete with packing		
<u>Miscellaneous Parts</u>			
51157-X	1/4 x 5/8" mach. bolt, hex. hd. - S-299 to S-298		
51162-X	Bolt, mach. hex. hd. 5/16 x 3/4" in 14911		
51323-X	5/16 x 5/8" mach. bolt, hex. hd. - Engine to base frame		
51330-X	Bolt, mach. hex. hd. 5/16 x 3/4" in 14911		
51337-X	5/16 x 7/8" mach. bolt, hex. hd. - S-305 to fuel tank		
51343-X	5/16 x 1" mach. bolt, hex. hd. - S-305 to fuel tank		
51530-X	3/8 x 1-1/2" mach. bolt, hex. hd. - S-305 to S-298		
52275-X	1/16 x 3/8" Cotter key, in governor		
52345-X	1/8 x 1/2" Cotter key, for tension spring		

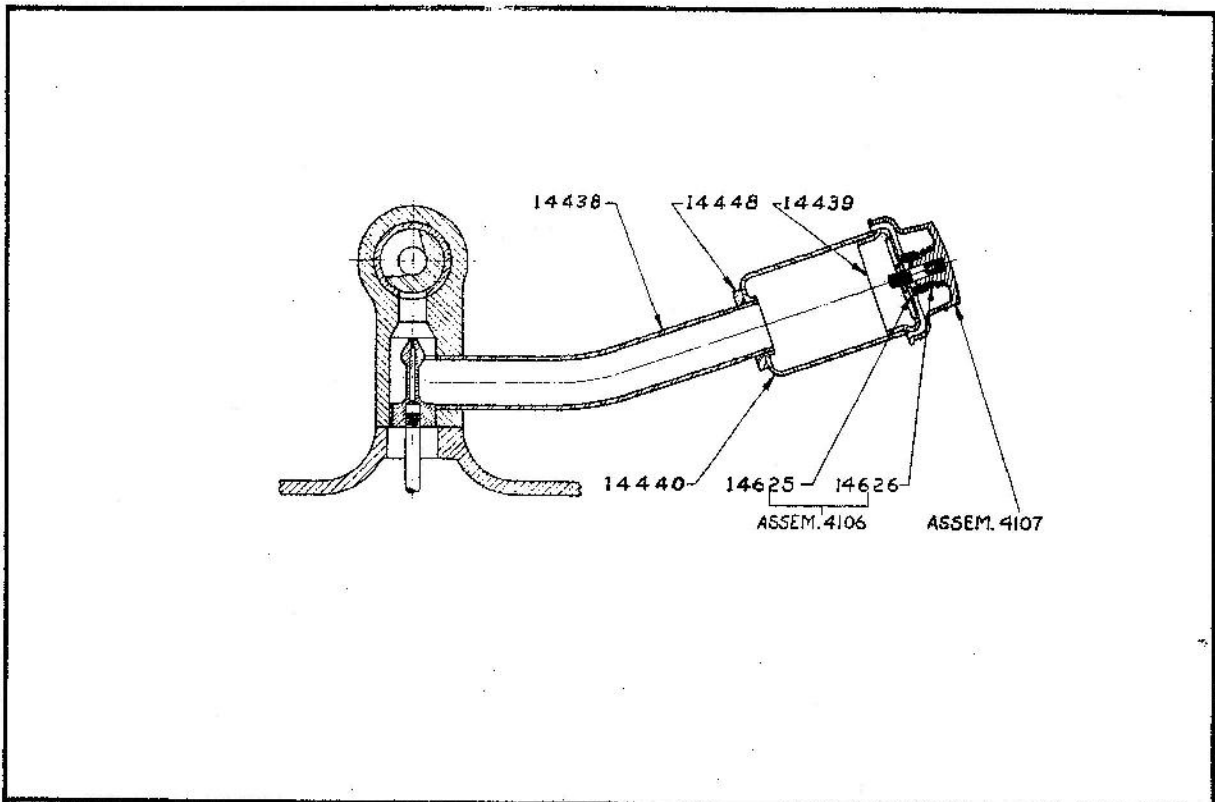


Use this section for twin-cylinder Multi-motor with flywheel
model 72-DA (serial no. 981250 up). For older twin-cylinder
multi-motors use preceding section.









PART NO.	DESCRIPTION	PART NO.	DESCRIPTION
	<u>"S" Parts</u>		
S-259	Flanged terminal for exhaust hose	S-319	Starter pedal (Models G, 16, 26, 11, 111, N11-X, 19 & 19-X)
S-277	Yielding tooth for starter segment	S-320	Piston ring, upper, (2used)
S-298	Crankcase - See Ass.3968	S-321	Fuel tank (Models G, 16, 26, 11, N11, N11-X, 19 & 19-X)
S-299	Cylinder	S-322	Fuel tank (Models 82, 92, and B)
S-300	Crank bearing - See Ass.3967	S-323	Starter pedal (Models E, J, E2, J2)
S-301	Crankshaft	S-333	Engine pulley
S-302	Connecting rod - See Ass.4790	S-334	Fuel tank - See Ass.4393
S-303	Piston	S-335	Drain plug for S-334
S-304	Exhaust manifold	S-336	Starter pedal (Models N, N2)
S-305	Cover for fuel tank		<u>Assemblies</u>
S-306	Fuel tank (Models 31, 33, & 33-X)	Ass.3715	Strainer for feed tube complete
S-307	Starter ratchet wheel	Ass.3764	Check valve seat with strainer
S-309	Muffler for exhaust hose	Ass.3957	Segment guard
S-310	Ratchet pinion	Ass.3962	Governor
S-313	Piston ring, lower (1 used)	Ass.3965	Air intake with tube and cap
S-315	Feed tube only for Ass.3966		
S-317	Starter segment		

List of Repair Parts for
Maytag Multi-Motor Engine

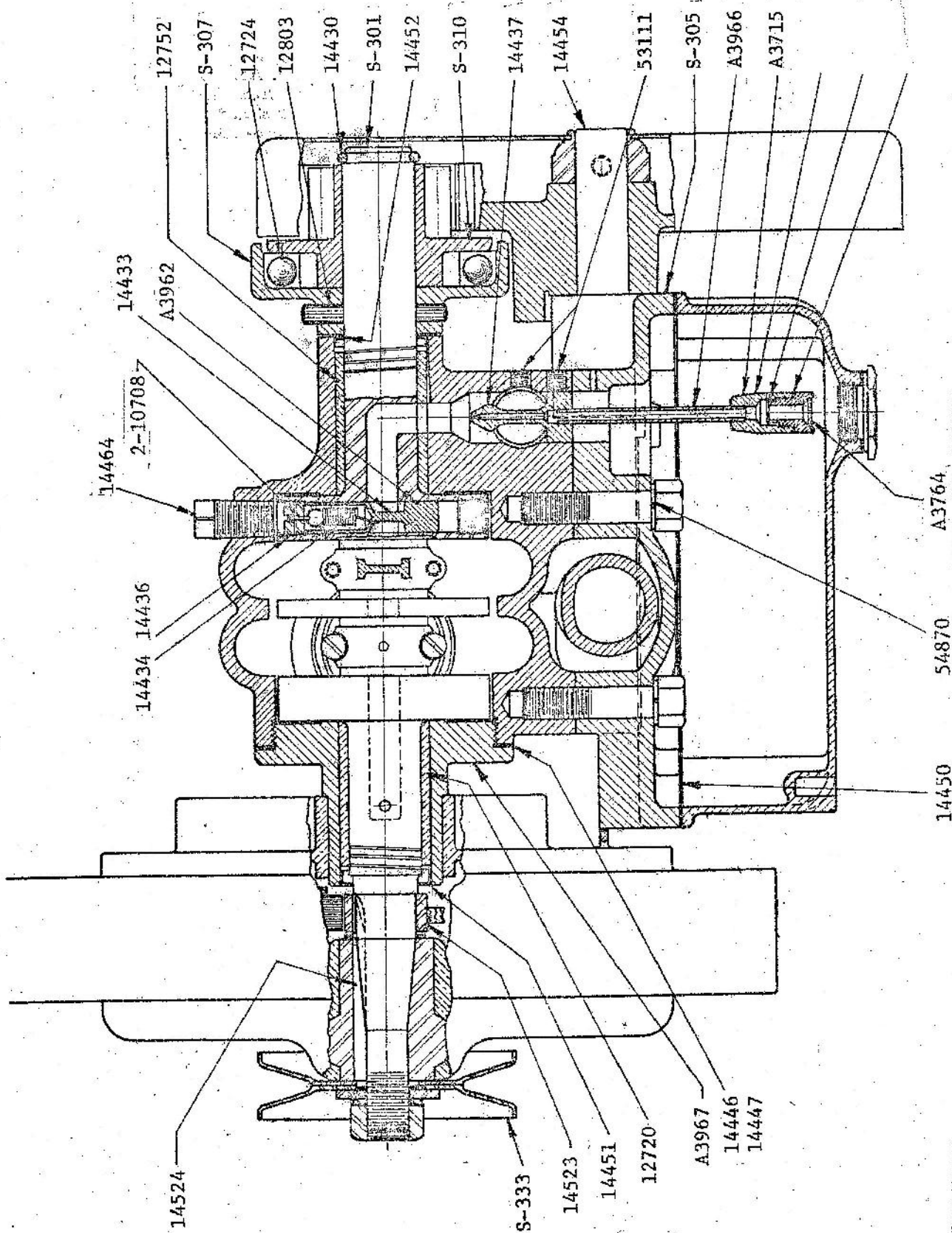
Twin Cylinder

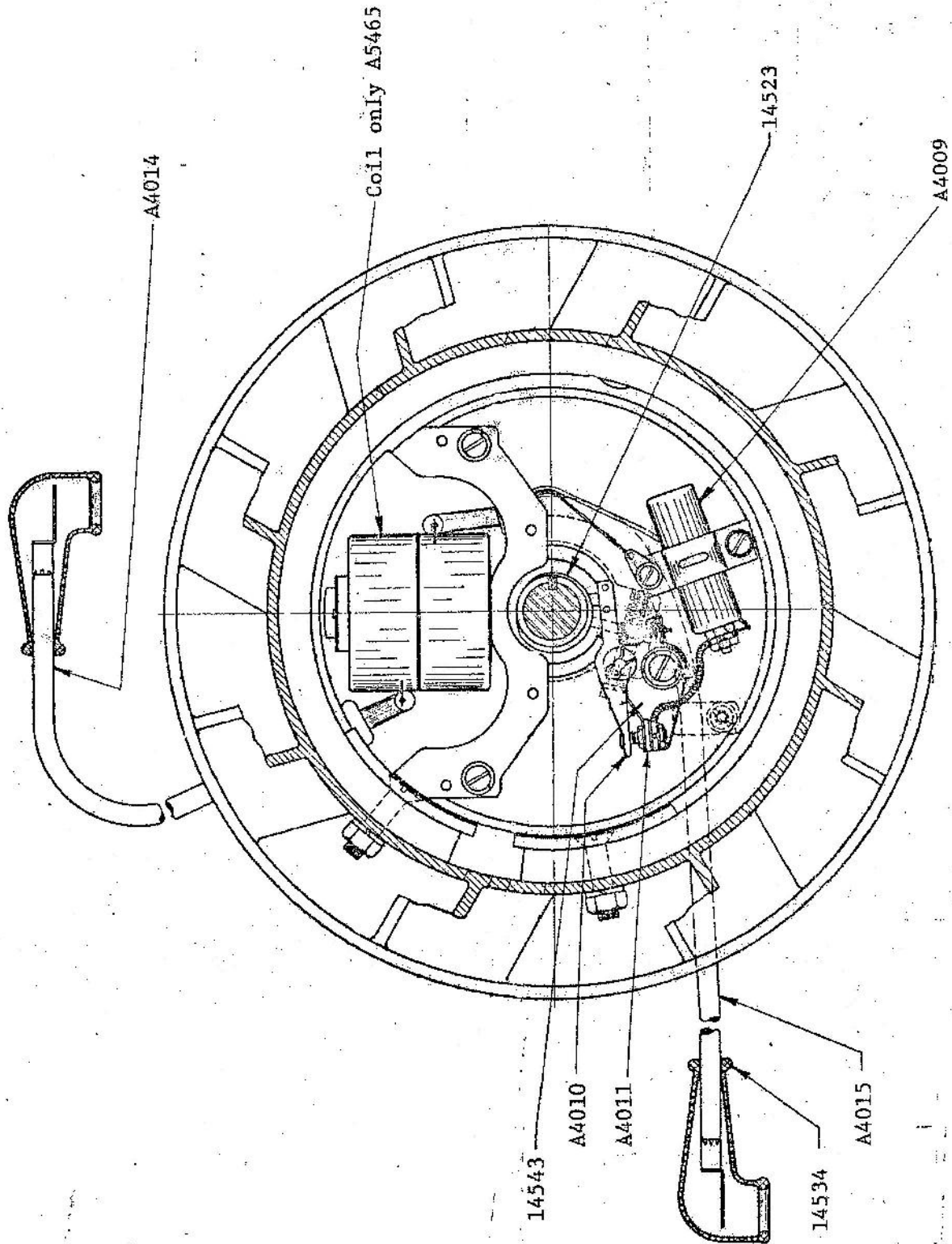
PART NO.	DESCRIPTION	PART NO.	DESCRIPTION
Ass.3966	Feed tube and strainer complete	14435	Governor spacer
Ass.3967	Crank bearing with bushing	14436	Governor screw
Ass.3968	Crankcase with bushing	14437	Carburetor jet
Ass.3971	Starter segment with S-277	14438	Intake connection
Ass.3974	Exhaust hose with muffler	14439	Intake cap
Ass.3980	Cylinder, piston, connection rod and ring assembly	14440	Intake shell
Ass.4009	Condenser	14445	Gasket between cylinder and crankcase
Ass.4010	Interrupter lever with contact point	14446	Gasket between crank bearing & crankcase, .006" - .009" thick
Ass.4011	Breaker plate, contact point and condenser lead	14447	Gasket between crank bearing & crankcase, .003" - .005" thick
Ass.4014	High tension cable (short)	14448	Intake lock nut
Ass.4015	High tension cable (long)	14449	Gasket between exhaust manifold and cylinder
Ass.4018	Multi-motor packing for twin-cylinder engine, complete	14450	Fuel tank gasket
Ass.4020	Fuel tank with anchor	14451	Oil retainer - flywheel end
Ass.4106	Air cap spring with ferrule	14452	Oil retainer - starter end
Ass.4107	Air cap complete for intake	14454	Stud pin for starter segment
Ass.4393	Fuel tank with drain plug	14455	Snap ring for stud pin
Ass.4394	Multi-motor packing assembly (E2-J2-N2)	14456	Washer on 54110-X
Ass.4414	Parts to change Model 33-X engine to Models E2M & J2M engine	14457	Tension spring for starter
Ass.4415	Parts to change rd. tub twin-cylinder engine to Models E2M and J2M engines	14463	Pulley washer
Ass.4537	Parts to change 33 engine to Model N2M engine	14464	Pipe plug 1/4" - in S-298
Ass.4538	Parts to change rd. tub engine to Model N2M engine	14465	Gasket for fuel tank cap
Ass.4756	Magneto complete	14472	#10-32 x 5/8" fil. hd. mach. screw - in conn. rod
Ass.4790	Connecting rod	14522	Thrust washer for breaker cam
Ass.4833	Twin-cylinder engine complete with packing (Models E2, 92, & B)	14523	Breaker cam
Ass.4834	Twin-cylinder engine complete with packing (Models 31, 33, 33-X)	14524	Flat key for rotor hub and breaker cam
Ass.4835	Twin-cylinder engine complete with packing (Models 11, 16, 26, 109, 111)	14525	Engine hook bolt (3 used)
Ass.4840	Engine complete with packing (Models E2M, J2M, EM, JM)	14530	Spark plug
Ass.4843	Engine complete with packing (Models NM, N2M, RM)	14531	Template used for marking base frame 13856
Ass.4862	Stator assembly complete	14534	Rubber nipple for spark plug cable
Ass.4863	Coil	14538	Clamp for high tension cable
Ass.4864	Flywheel with magnet and pole shoe	14539	Oil wick for breaker lever pin
Ass.4866	Stator plate with screw and lock washer	14540	1/32" plain, washer for 54045-X screw
Ass.4894	Exhaust hose protection sleeve	14541	Washer, split lock, on condenser mounting screw
	<u>Steel Numbered Parts</u>	14542	Washer, split lock, on stator hub clamp screw on 54045-X and 54050-X
6680	Coil spring for S-277 yielding tooth	14543	Cushion gasket for breaker plate Ass.4011
12286	Gasket for exhaust hose connection	14544	Coil spring for breaker lever
12724	3/8" steel ball in starter ratchet	14545	Retaining spring for breaker lever
12786	Exhaust hose only	14546	Rubber grommet for high tension cable
12803	#4 x 1-3/4" taper pin - split end in S-307	14547	Space washer for breaker lever .050"
12843	Ferrule for exhaust hose	14548	Space washer for breaker lever .006"
12891	Washer on bolt - 14911 to base frame	14549	Space washer for breaker lever .015"
12895	Fuel mixer and filler can	14664	Bronze bearing for crankshaft - flywheel end
12976	Screw for S-277 yielding tooth	14665	Bronze bearing for crankshaft - starter end
13592	"Patents" transfer	14875	Screw, cap, hex. hd. self-tapping #14 x 1/2" - S-305 to S-334
13915	Check valve body for strainer	14876	Screw, cap, hex. hd. self-tapping 5/16 x 1-1/8" in S-334
13917	Gasket for strainer body	14879	Belt guard
13918	Valve disc for strainer	14880	Gasket for S-335
14031	Oil measure cup 2 oz. size	14911	Hanger bracket - engine to base frame
14036	Pipe plug 1/8" (for S-306, S-321, S-322)	14936	Caution transfer
14073	"Guarantee" transfer	15086	Bolt, carriage, special, 15/16 x 1" - engine bracket to frame brace
14430	Snap ring for crankshaft		
14431	Wrist pin retainer plug		
14432	Wrist pin		
14433	Governor valve		
14434	Governor spring		
			<u>Miscellaneous Parts</u>
		51157-X	1/4 x 5/8" mach. bolt - hex. hd. S-299 to S-298
		51162-X	1/4 x 3/4" mach. bolt - hex. hd. 14911 to engine
		51330-X	5/16 x 3/4" mach. bolt - hex. hd. 14911 to brace
		51337-X	5/16 x 7/8" mach. bolt - foot pedal to segment

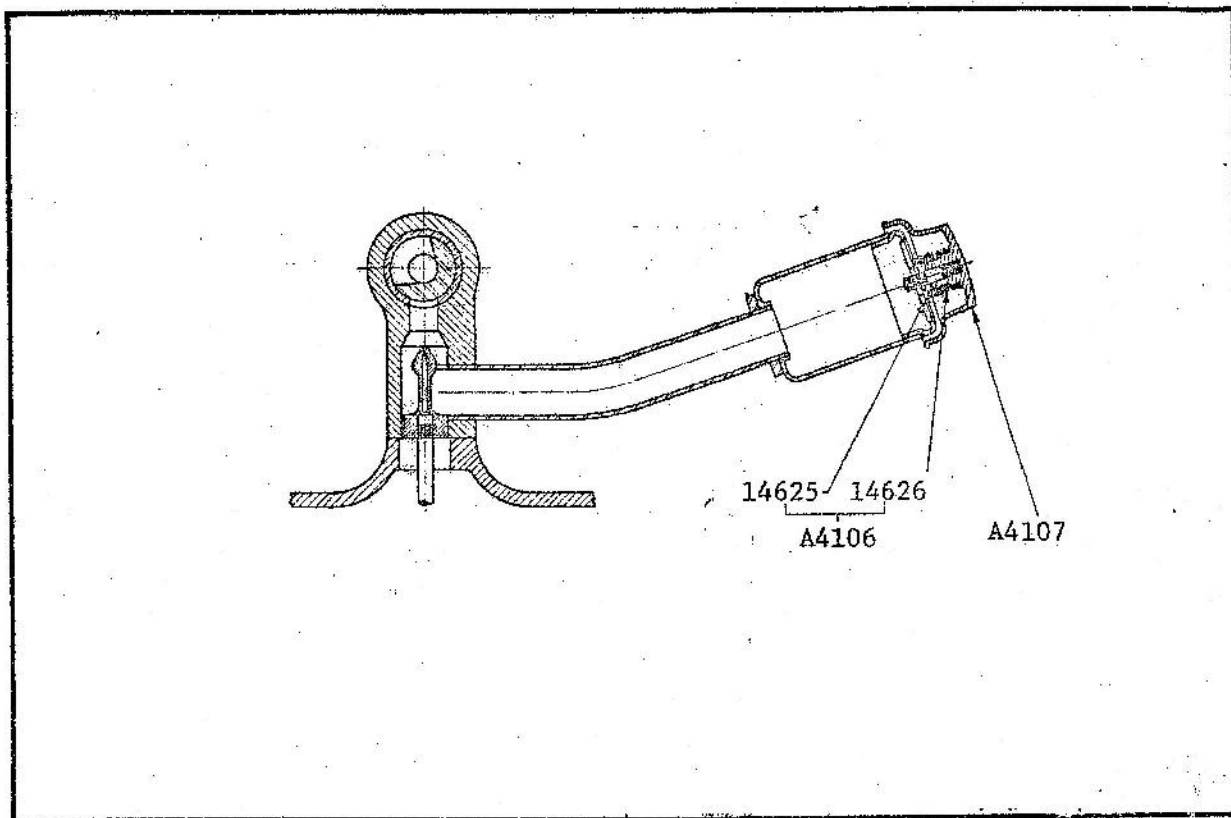
List of Repair Parts for
Maytag Multi-Motor Engine

Twin Cylinder

PART NO.	DESCRIPTION	PART NO.	DESCRIPTION
51343-I	5/16 x 1" mach. bolt - hex. hd. engine bracket 14911 to frame brace		
51531-I	3/8 x 1-1/2" mach. bolt hex. hd. S-305 to S-298		
52275-I	1/16 x 3/8" cotter key - in governor spring		
52345-I	1/8 x 1/2" cotter key in starter tension spring		
52654-I	#8 - 32 hex. nut - on condenser binding post		
52724-I	1/4 x 7/16 x 7/32" hex. nut - on 1/4" bolts		
52729-I	5/16" hex. nut on 51337-I and 51330-I		
52734-I	5/16" hex. nut on 51330-I		
52759-I	1/2" hex. nut on crankshaft		
52779-I	#10-24 sq. nut on 54488-X		
53111-I	1/4 x 1/4" set screw hol. hd. - Ass.3965 and 14437 to S-298		
53116-I	1/4 x 5/16" hol. hd. set screw		
53275-I	1/4 x 3/8" set screw sq. hd. - Ass.3957 to 14454		
53891-I	1/4 x 1-1/8" mach. screw - flat hd. through pole shoe to magneto		
54045-I	#12-24 x 1/2" mach. screw - flat hd. breaker to plate		
54050-I	#12-24 x 1-1/8" mach. screw - fil. hd. coil to mounting plate		
54110-I	1/4 x 5/8" mach. screw - fil. hd. S-304 to S-299		
54340-I	#6-32 x 3/8" brass rd. hd. mach. screw condenser to plate		
54488-I	#10-24 x 1/2" mach. screw rd. hd. in 12892		
54594-I	#10-32 x 3/8" mach. screw rd. hd. in 14538		
54850-I	3/16 x 3/64" split lock washer on 54594-I		
54855-I	1/4 x 1/16" split lock washer on 54110-I		
54856-I	1/4 x 3/32 x 3/64" split lock washer		
54858-I	1/4 x 3/32" split lock washer on 53890-I		
54859-I	1/4 x 1/8 x 1/16" split lock washer on 51162-I		
54863-I	5/16" split lock washer on 51330-I		
54870-I	3/8 x 1/8 x 1/16" split lock washer		
54880-I	1/2 x 11/64 x 1/16" split lock washer on crankshaft		
54920-I	#10 type 12 internal tooth lock washer on 14472		
55712-I	Sealer for carburetor air intake tube		
57205-I	Multi-motor oil, 1 case (24 qts.)		
57221-I	Multi-motor oil, 1 case (6 gals.)		
57962-I	Black crystal enamel, 1/2 pt. can filled		
57963-I	Black crystal enamel, 1 pt. can		
57964-I	Black crystal enamel, 1 qt. can		
57965-I	Black crystal enamel, 1 gal. can		







S277	Yielding tooth for starter segment	S320	Piston ring, upper, (2 used)
S299	Cylinder	S322	Fuel tank (Models 82, 92 and B)
S301	Crankshaft	S323	Starter pedal (Models E, J, E2, J2)
S303	Piston	S333	Engine pulley
S304	Exhaust manifold		
S305	Cover for fuel tank		
S306	Fuel tank (Models 31, 33, & 33-X)	<u>ASSEMBLIES</u>	
S307	Starter ratchet wheel	A3198	Exhaust hose with muffler
S309	Muffler for exhaust hose	A3715	Strainer for feed tube complete
S310	Ratchet pinion	A3764	Check valve seat with strainer
S313	Piston ring, lower (1 used)	A3962	Governor
S315	Feed tube only for A3966	A3965	Air intake with tube and cap
S317	Starter segment		

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Twin Cylinder

PART NO.	DESCRIPTION	PART NO.	DESCRIPTION
A3966	Feed tube and strainer complete	14447	Gasket between crank bearing & crankcase .003" - .005" thick
A3967	Crank bearing with bushing		
A3971	Starter segment with S277	14449	Gasket between exhaust manifold and cylinder
A3980	Cylinder, piston, connection rod and ring assembly (Use components)	14450	Fuel tank gasket
A4009	Condenser	14451	Oil retainer - flywheel end
A4010	Interrupter lever w/contact point	14452	Oil retainer - starter end
A4011	Breaker plate, contact point and condenser lead	14454	Stud pin for starter segment
		14455	Snap ring for stud pin
		14457	Tension spring for starter
A4015	High tension cable (long)	14464	Pipe plug - 1/2"
A4106	Air cap spring with ferrule		
A4107	Air cap complete for intake	14472	Machine screw - in connecting rod (#10-32 x 5/8")
A4790	Connecting rod - twin		
A5465	Coil only	14523	Breaker cam
		14524	Flat key for rotor hub and breaker cam
		14530	Spark plug
		14534	Rubber nipple for spark plug cable
		14543	Cushion gasket for breaker plate
		14875	Screw, cap, hex head, self-tapping (#14 x 1/2")
		14876	Screw, cap, hex head, self-tapping (5/16 x 1-1/8")
<u>STEEL NUMBERED PARTS</u>			
12286	Gasket for exhaust hose connection		
12720	Bushing		
12724	3/8" steel ball in starter ratchet		
12752	Bushing		
12786	Exhaust hose only		
12803	Taper pin - split end in S307, #4 x 1-3/4"		
12891	Washer on bolt - 14911 to base frame		
13915	Check valve body for strainer	51178	1/4 x 1" machine bolt - hex head
13917	Gasket for strainer body	52345	1/8 x 1/2" cotter key in starter tension spring
13918	Valve disc for strainer		
14031	Oil measure cup 2 oz. size	53111	1/4 x 1/4" set screw hollow head
14036	Pipe plug 1/8" (for S306, S321, S322)	54855	1/4 x 1/16" splitlock washer
		54858	1/4 x 3/32" splitlock washer
14430	Snap ring for crankshaft	54859	1/4 x 1/8 x 1/16" splitlock washer on S1178
14431	Wrist pin retainer plug		
14432	Wrist pin	54866	5/16" splitlock washer
14433	Governor valve	54870	Splitlock washer (3/8 x 1/8 x 1/16")
14434	Governor spring	54920	#10 type 12 internal tooth lock washer on 14472 (7/16")
14436	Governor screw		
14437	Carburetor jet	2-10708	1/16" x 3/8" cotter key in governor spring
14445	Gasket between cylinder and crankcase		
14446	Gasket between crank bearing & crankcase, .006" - .009" thick		
		<u>MISCELLANEOUS PARTS</u>	

Maytag Engine Serial Numbers

219717 Sept. 1-1927
 224079 Oct. 1-1927
 248523 Jan. 1-1928
 266617 Apr. 1-1928
 288024 July 1-1928
 313381 Oct. 1-1928
 326801 Jan. 1-1929
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 Twin Cylinder
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