

Operating Instructions

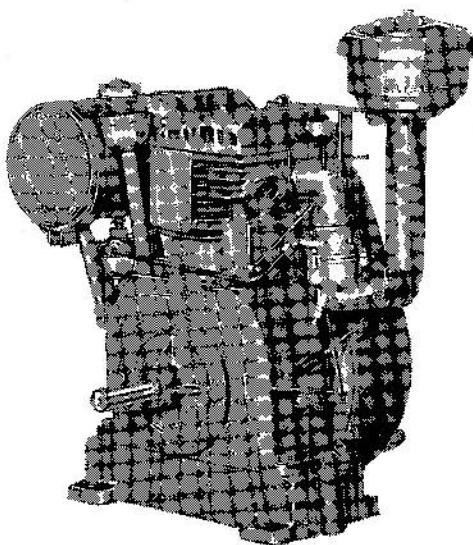
70-519
Adjustment and Repair
Information • Parts List

IMPORTANT
ALWAYS USE
GOOD, CLEAN OIL
S. A. E. No. 20
ADD OIL FREQUENTLY
CHANGE OIL REGULARLY

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MODELS

"K"—"KL"—"KLP"—"KM"—"KP"—"KR"



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Read these instructions carefully before operating this Motor for the first time.

Guessing how to run it may cause you unnecessary inconvenience, aggravation or failure to receive the fine service that is built into it.

There is a right way to operate this Motor. This book tells you how.

Each Motor is carefully tested and adjusted at the factory before packing for shipment and if correctly operated will perform beyond your expectations.

DO NOT START THIS MOTOR UNTIL YOU HAVE READ CAREFULLY THE "STARTING AND OPERATING INSTRUCTIONS" ON PAGE 3





Starting and Operating Instructions

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Before Starting the Motor.....	1	How to Stop.....	4
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1. BEFORE STARTING THE MOTOR. Fill the crankcase with Mobil oil "Arctic" or any other high grade oil not heavier than S.A.E. No. 20. A HEAVIER OIL MUST NOT BE USED. The oil filler plug is painted blue and is located on top of motor base. With the motor level remove filler plug and pour oil in opening until it rises to the level of the filler plug opening. Crankcase holds five pints. Fill air cleaner with light engine oil to the indicated oil level. See paragraph 62. Fill the gas tank with a good clean third grade gasoline. Tank holds five quarts. Do not mix oil and gasoline. See paragraphs 11 to 19.

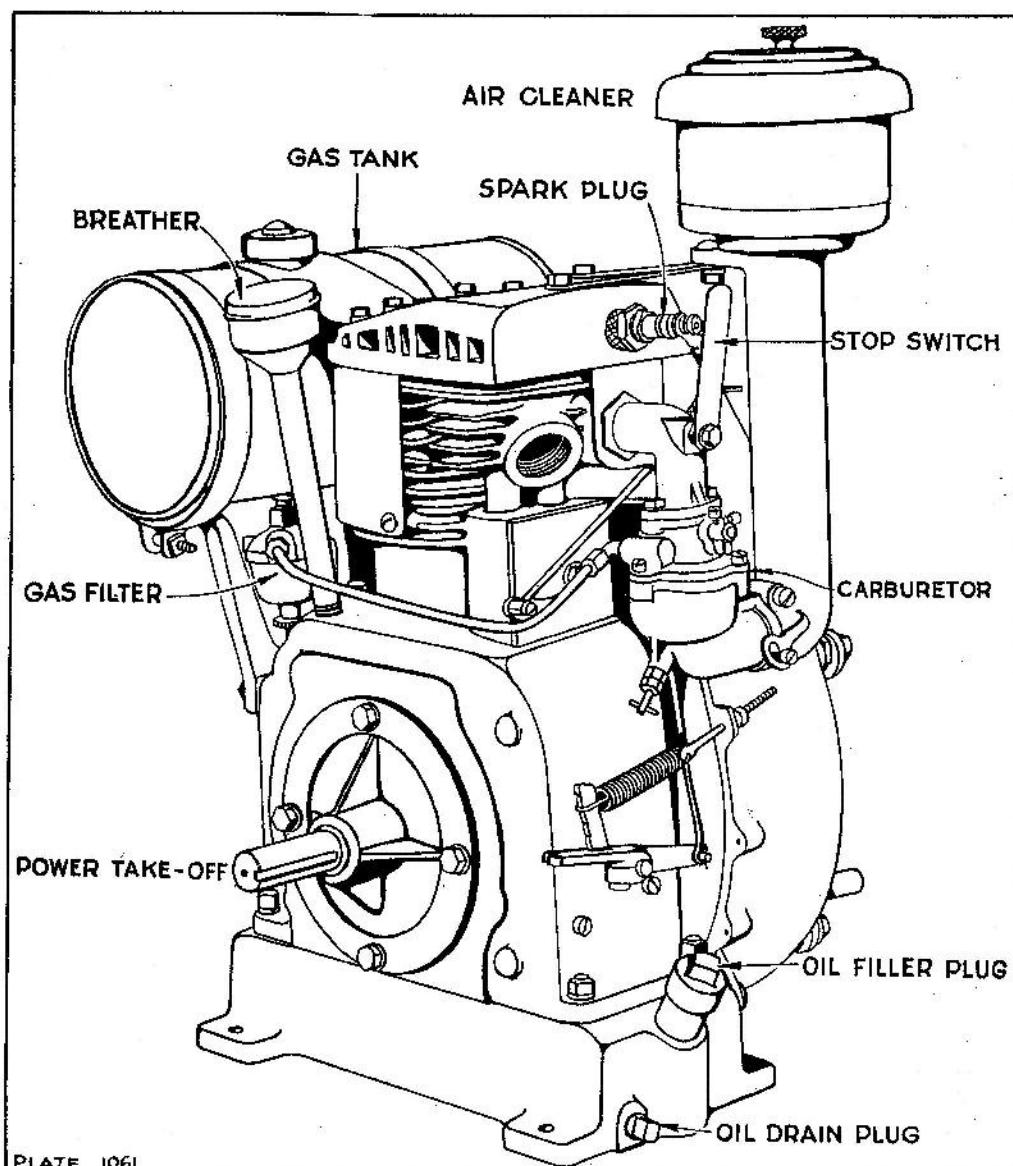
2. HOW TO START. Open gasoline shut-off valve in gas filter.

A. HAND CRANK STARTER TYPE. Pull out the compression release rod as far as it will come. Press the starter shaft in,

to mesh gear with pinion on crankshaft. Crank rapidly, and as soon as enough momentum is gained let go of the compression release rod and pull carburetor choke lever toward you to choke carburetor. After motor starts, gradually open the choke valve until motor runs smoothly with the choke valve wide open. (A warm motor does not require as much choking as a cold motor.)

B. ROPE STARTER TYPE. Pull carburetor choke lever toward you or to the right. Slip the knotted end of the starter rope into the notch of the starter pulley and wind the rope around it. Pull the rope with a quick steady pull to spin and start the motor. Operate choke as explained under 2-A.

Plate No. 1



Servicing Reference Chart

MOTOR FAILS TO START

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Out of Gasoline.....	1-16
Out of Oil	1-13-59-60
Dirt or Gum in Fuel System.....	16 to 19
Incorrect Use of Choke.....	20
Carburetor Out of Adjustment.....	22 to 26
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MOTOR STOPS

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Air Clemer Clogged.....	62
Motor Overloaded	64

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Oil Needs Changing.....	14-15
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Poor Spark	31 to 46
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Muffler Clogged	63
Overloaded	64

MOTOR LACKS POWER

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Motor Not Up to Speed.....	25 to 28
Poor Spark	31 to 46
Poor Compression	47 to 56
Carbon	61
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Muffler Clogged	63
Overloaded	64

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How a 4-Cycle Motor Operates.....	10
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3. FAILURE OF MOTOR TO START. If motor fails to start after a reasonable number of trials do not make any adjustments until you have studied the instructions referred to in the **Servicing Reference Chart**, above.

4. HOW TO STOP. Press the stop switch mounted on the intake elbow against the end of the spark plug. Hold it until motor stops firing. Some motors have a hinged stop switch mounted on the cylinder head. Turn the end of it over so that it rests on the spark plug terminal. Both of these methods will ground the spark.

5. GENERAL DATA. You will find your Briggs & Stratton motor substantially built. It is made of high grade materials by skilled workmen, in a factory fully equipped with the most modern machinery. Before it was shipped, it received many tests and careful inspections.

6. Your motor will give you better service if you do not tinker with it. This does not mean, however, that it does not require a certain amount of attention. Give it the right kind of fuel, oil, and care. Keep it clean both inside and out. You will be well repaid in trouble-free, satisfactory service.

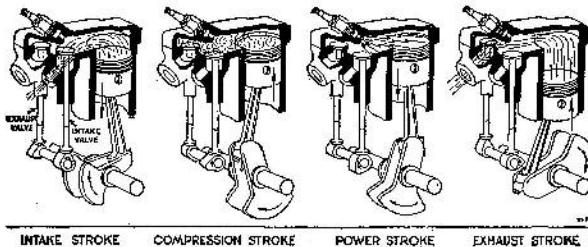
7. If you should experience any difficulty, follow the instructions referred to in the **Servicing Reference Chart** on page 4. If you cannot easily remedy it, consult your dealer, or a nearby Briggs & Stratton Authorized Central Service Distributor. See page 23.

8. OPERATING REQUIREMENTS. A gasoline motor to operate properly must have all parts in correct adjustment to provide good ignition, carburetion, compression and cooling. And of equal importance, the oil and gasoline used must be clean and of recommended grades. The following instructions fully explain the simple adjustments and offer operating recommendations that will assure you of complete satisfaction. We urge you to carefully observe them.

9. The reliability, economy and ease of starting which characterize this motor are due in part to the fact that it is of the 4-stroke cycle design commonly called "4-cycle," the same design used in all automotive motors. As the name indicates, there are four strokes to one complete power cycle.

10. HOW A 4-CYCLE MOTOR OPERATES. On the **intake stroke** the piston goes down, producing a vacuum in the cylinder, thereby drawing fuel up through the carburetor so that the space above the piston becomes filled with combustible gas. During this stroke the intake valve is open. Next the piston comes up on the **compression stroke** with both valves closed. At the top of the compression stroke a spark occurs at the spark plug, firing the highly compressed gas. This produces an explosion above the piston which forces it down on the **power stroke**. Both valves are closed. On the next upstroke of the piston, called the **exhaust stroke**, the exhaust valve is open, and the burned gases driven out. See plate No. 2.

The 4-Stroke Cycle
Plate No. 2



11. KEEP THE MOTOR CLEAN. It will pay you to keep your motor clean both inside and outside. See that no dirt or water enters motor when filling with oil or gasoline. As a precautionary measure always wipe off the gasoline cap and oil filler plug, as well as around them before refilling. Dirt in the motor or gasoline tank will cause trouble and even serious damage.

12. USE THE RIGHT KIND OF OIL. Correct lubrication is important. We recommend the use of MOBIL-OIL "ARCTIC" or other high grade oil with similar characteristics having a low carbon residue and a body not heavier than S.A.E. No. 20. **A heavier oil which might be satisfactory in a tractor or for lubricating farm machinery must NOT be used.** Do not mix oil with the gasoline. This 4-cycle motor is provided with an independent efficient pump lubrication system which forces a stream of oil to all moving parts of the motor. There are no external parts which require separate oiling.

13. ADD OIL REGULARLY. A motor which is run without oil will be ruined within a few minutes. To avoid the possibility of such an occurrence and the resulting expense, always fill the oil reservoir at the blue plug to the top of the filler plug open-

ing after each five hours of motor operation. Capacity of oil reservoir is five pints.

14. CHANGE OIL FREQUENTLY. After every twenty-five hours of motor operation, the oil should be completely drained from the crankcase. Do not remove motor from its mounting base. Remove the yellow oil drain plug, located at either end of motor base, and let the oil flow into a pan or other receptacle you use. We do not recommend flushing out with kerosene. Replace the drain plug, refill with fresh oil and replace the blue filler plug.

15. In the normal running of any motor, small particles of metal from the cylinder walls, pistons and bearings will gradually work into the oil. Dust particles from the air also get into the oil. If the oil is not changed regularly these foreign particles cause increased friction and a grinding action which shortens the life of the motor. Sludge, a gummy mass, forms which clogs up the oil passages. Fresh oil also assists in cooling, for old oil gradually becomes thick and loses its cooling as well as its lubricating qualities.

16. USE CLEAN GASOLINE. A good clean third grade of **fresh** gasoline is recommended. Too high test gasoline may form vapor-lock in gas line when motor gets hot. This interrupts the flow of gasoline and causes motor to stop. Be sure that the small vent hole in the gasoline tank cap is not clogged up, for air must enter the tank to allow the gasoline to flow to the carburetor. Test by blowing through top of cap. See paragraph 18.

17. AVOID GUMMY GASOLINE. If you experience trouble with a gummy, sticky substance with a peculiar sharp obnoxious smell, change to another grade of gasoline. This gum comes from the gasoline and clogs carburetor, gas line, gasoline tank, etc. You can check your gasoline by evaporating a half pint in an open dish. If a quantity of gum remains, try another kind that is clean and fresh.

18. YOU CAN AVOID MOST TROUBLE FROM GUM IF YOU WILL KEEP THE TANK FULL WHEN YOU ARE NOT USING THE MOTOR. If you use it only occasionally, drain tank completely and refill when motor is used again. The reason for this is that evaporation of stale gasoline causes most gum deposits.

19. TO CLEAN THE FUEL LINES. Disconnect the gasoline line at the carburetor and also at the gas filter. Blow through the gas line to clear it. To clean the gas filter, first close the shut-off valve and loosen thumb screw. Remove and clean glass bowl, gasket and screen. Open shut-off valve to see if gasoline flows freely from the tank. **IMPORTANT:** If you find a gummy varnish-like substance, alcohol or acetone will dissolve it. See paragraphs 17 and 18.

20. CORRECT USE OF THE CHOKE. The correct carburetor setting (see paragraph 23) gives the motor the best mixture to run on when it is hot. For starting, it is necessary to choke the carburetor to get a rich mixture, because cold gasoline does not vaporize readily. A warm or hot motor requires very little choking. Until you become familiar with your motor, however, you may make the mistake of not choking the carburetor enough or you may choke it too much. If motor fails to start after cranking three or four times with the choke closed, try cranking two or three times with the choke part-way down and then all the way down, or open. Use motor choke the same as you use an automobile choke.

21. TO PRIME THE MOTOR. The motor may fail to start for the reason that either the carburetor is incorrectly adjusted or dirty, or the fuel line is dirty or clogged, or you are out of gasoline. To determine the cause, prime the motor by removing the spark

plug and pour a half teaspoonful of gasoline into the spark plug opening. Replace the spark plug and crank the motor. If it fires for three or four revolutions and stops, the difficulty is definitely in the fuel system. See paragraphs 19, 22 to 26. If motor will not fire at all, check the ignition system, see paragraphs 31 to 46, also compression, paragraphs 47 to 56.

22. TO ADJUST THE CARBURETOR. The carburetor on this motor is of the gravity type. The gasoline supply is regulated by a needle valve. The throttle is automatically controlled by the governor, see paragraphs 27 to 30.

23. To adjust the carburetor, completely close needle valve by turning to right or clockwise as far as possible. Do not screw up too tight or use force when closing needle valve, or needle valve may be damaged. From closed position, open needle valve one to one and one-quarter turns. After the motor has been started and warmed up make final adjustment with the choke wide open by turning the needle valve to the point at which motor operates most smoothly with full load. This setting will also take care of starting with use of the choke. When starting cold motor, if it is necessary to keep choke partially closed several minutes before motor runs smoothly, carburetor setting is too lean and needle valve should be opened a notch or two—turn to left. For governor adjustments see paragraphs 27 to 30. The idle adjustment screw setting is about a half to three quarters of a turn open. Do not force screw against seat or you will damage both.

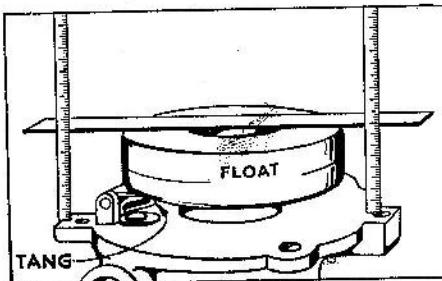
24. The throttle lever adjustment screw is set at the factory to permit an idling speed of about 1200 R.P.M. We do not recommend adjusting the throttle to bring the speed lower. If you want to idle the motor at a higher speed than 1200 R.P.M., turn the throttle lever adjusting screw to the right or in a clockwise direction.

25. TO REMOVE AND REPLACE CARBURETOR. Disconnect gasoline line from carburetor and gasoline shut-off valve. Remove two cap screws and lockwashers from the intake elbow. Then

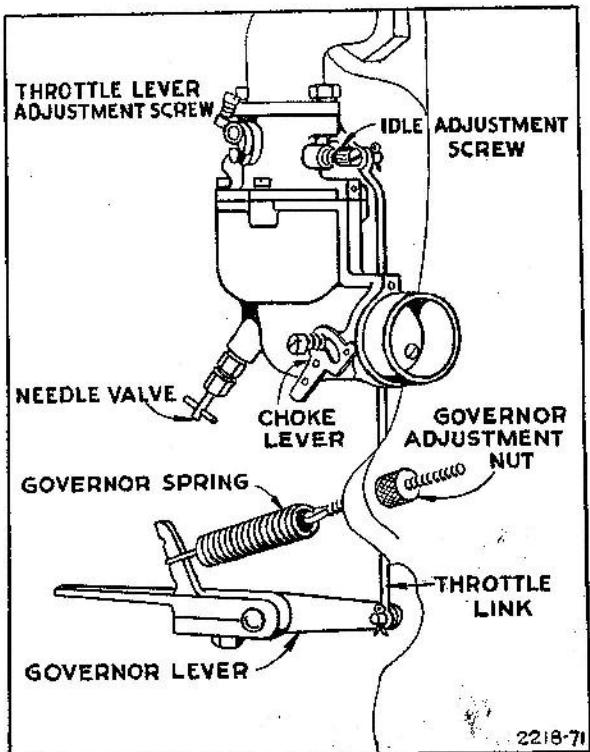
remove the cotter pin from the throttle shaft lever and slip the throttle link off. To replace, reverse the operations as performed above. Use a new cotter pin if necessary.

26. TO CLEAN CARBURETOR. Remove it from the motor as explained in the previous paragraph. Remove gas line connector elbow. To disassemble carburetor, FIRST remove needle valve, stuffing box nut, packing nut gland and nozzle. Then remove screws and lockwashers from the upper carburetor body. CAUTION: The upper and lower bodies are interlocked by the nozzle and failure to disassemble in above order will result in damaged parts. To check inlet valve and seat, pull out brass pin holding carburetor float. A worn or dirty inlet valve and seat or incorrect float level will cause carburetor to leak. In reassembling, float should be in a horizontal position when it closes inlet valve and seat. To check float, invert upper carburetor body and place a scale or a flat, straight piece of steel across carburetor float and see that distance from top of float to carburetor body flange is equal at both sides of float. See plate No. 3A. The float hinge tang can be bent to attain proper position of float. If any parts are gummy, clean them in alcohol or acetone. Blow through all passages and openings. Do not use wire to clean out small holes. Replace worn or damaged parts.

Carburetor Float Position
Plate No. 3A



Carburetor and Governor Hook-Up
Plate No. 3



27. GOVERNOR—CORRECT MOTOR SPEED. The speed of your motor is automatically maintained under varying loads by a centrifugal governor. It is operated from the cam gear.

28. The governor was carefully adjusted at the factory to maintain normal speed under load. Do not re-adjust unless absolutely necessary. It can be changed by reducing or increasing the tension of the governor spring. Turn governor adjustment nut to the right or clockwise to increase motor speed. To left or anti-clockwise to reduce motor speed. Recommended motor speed is 2300 to 2700 R.P.M.

29. RESETTING GOVERNOR LEVER. If the governor lever has been loosened or removed from the governor shaft, it is easily reset. With the carburetor attached to motor and hooked up to governor lever with throttle link, loosen set screw holding governor lever on the shaft. Push the governor lever toward the left as far as it will go. Hold it in this position and turn the governor shaft to the right with pliers until it strikes a stop in the crankcase. Tighten screw that holds governor lever to shaft until the lever is snug. Push governor lever to the right as far as it will go and tighten screw securely.

30. Some motors are equipped with manual or remote carburetor controls as shown in plate Nos. 4, 5, 6, and 7. In plate Nos. 4 and 5 are shown remote idling devices. To idle motors with these devices, move control lever away from boss on control lever base. To operate motor at governed speed, return lever to boss on the control lever base. Device in plate No. 6 is a remote governor control. To increase motor speed, move control lever away from boss on the control lever base. This adds tension to the throttle

spring, allowing carburetor throttle to open wider. To reduce motor speed, return the control lever toward boss on the control lever base. Some models have a hand idling device as shown in plate No. 7. This eliminates changing governor hook-up on motors not equipped with a remote control. To idle motor, lower the idling adjustment lever. Raise the lever to bring motor back to normal running speed.

31. THE IGNITION SYSTEM. The spark is produced by a high tension magneto consisting of armature, condenser, contact points and rotating magnets cast in a flywheel. This is a simple self-contained system which is very reliable. It also does away with batteries. The ignition current is sent into the motor cylinder through the ignition cable and spark plug. The magneto itself as well as the cable and spark plug must all be in proper condition and adjustment to insure a good hot spark.

Manual and Remote Carburetor Controls

Plate No. 4

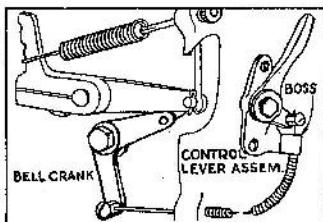


Plate No. 5

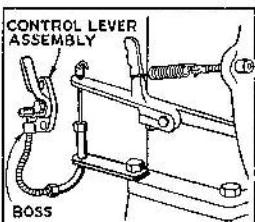


Plate No. 6

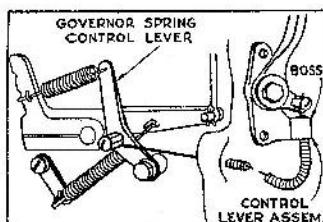
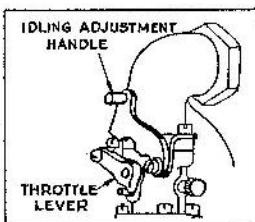


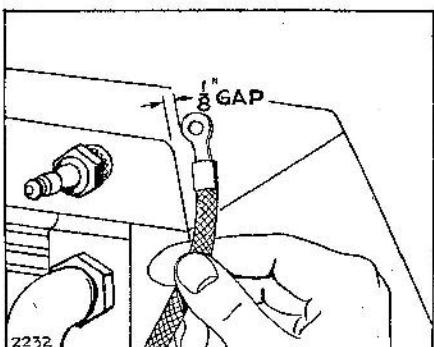
Plate No. 7



32. TO CHECK FOR SPARK. To prove that a satisfactory spark is being delivered by the magneto, remove the ignition cable from the plug. Hold ignition cable terminal about $\frac{1}{8}$ " from any metal part of the cylinder head (keep hand on insulated part of the cable to avoid a shock). Turn motor with starter, and if the spark jumps this gap the entire ignition system, with the exception of the spark plug, is O. K. See plate No. 8. (To check spark plug see paragraph 33.) If no spark, check cable, see paragraph 34, and refer to magneto adjustments paragraphs 35 to 46.

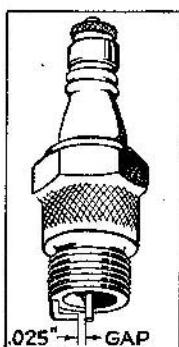
Checking Spark

Plate No. 8



Spark Plug

Plate No. 9



33. SPARK PLUG ADJUSTMENT. Spark plugs should be cleaned and points resurfaced to .025" after each 100 hours of operation. See plate No. 9. Points burn away in service. The porcelain is to

prevent the spark from jumping anywhere except at the gap, and if cracked or broken it will prevent the plug firing. Water on the outside of the spark plug may permit the high voltage current to leak over the surface of the porcelain. Dirt or carbon on it will do the same thing. The spark plug can be cleaned by washing off the carbon with gasoline or kitchen scouring powder. Points should be scraped or sand-papered. See plate No. 9. Always keep a new plug on hand. We recommend the use of Champion No. 6M or its exact equivalent. When reassembling spark plug to cylinder head put a little graphite grease on threads. Do not get grease on points.

34. IGNITION CABLE. Insulation must not be broken, or soaked with oil or water, or grounded in any way where it touches the motor, or it will interfere with good ignition. Spark plug cable should be soldered to the secondary terminal (small brass plate coming out of the coil). Avoid touching coil with hot soldering iron. See plate No. 14.

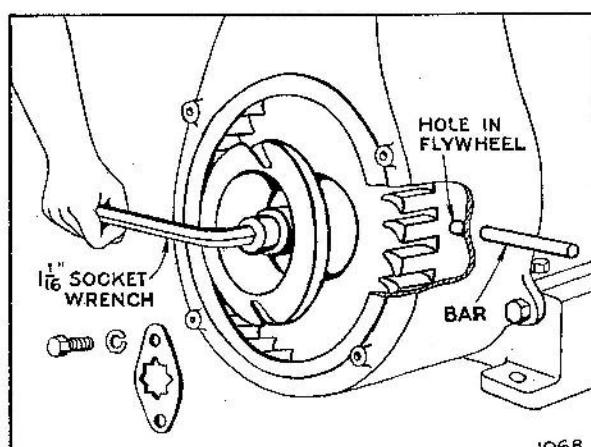
35. TO REMOVE AND REPLACE FLYWHEEL. The flywheel is securely mounted to the crankshaft by means of a taper fit, a soft key, right hand threaded nut, and a nut lock on rope starter motors, or a pinion gear and lock on crank starter motors.

A. ROPE STARTER MOTORS. Remove the two cap screws that hold the nut lock and starter pulley in place. Place a rod or punch into the $\frac{3}{8}$ " hole which is in the blower housing at the gas tank side. Then turn the flywheel slowly until the rod or punch enters the corresponding hole in the flywheel. This will hold the flywheel rigid and prevent its turning as you loosen nut. Use a $1\frac{1}{8}$ " socket wrench with a "T" or "L" handle. To start nut, tap end of wrench handle with hammer. Remove nut and blower housing, loosen flywheel with the flywheel puller No. 29020 furnished with the motor.

B. CRANK STARTER MOTORS. Remove compression release rod, starter gear and bracket, starter pinion lock, and starter pinion. All other operations are the same as in paragraph 35-A.

Removing Flywheel

Plate No. 10



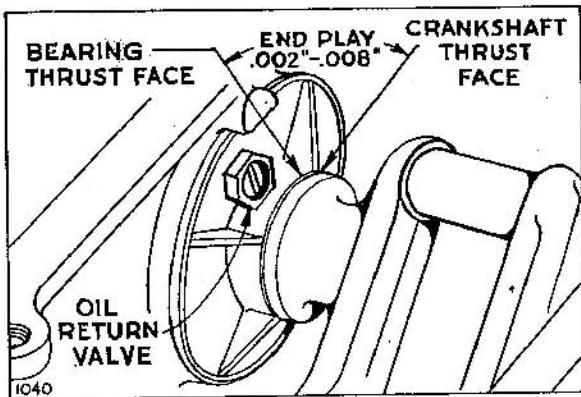
36. TO REASSEMBLE THE FLYWHEEL reverse the operations in preceding paragraphs, put a very thin coat of cup grease on the crankshaft taper and see that flywheel key is in place.

37. TO REMOVE AND REPLACE MAGNETO ASSEMBLY. After removing flywheel as explained in paragraph 35, detach the ignition cable from the spark plug and remove the back plate, flywheel key, contact point dust cover and the four magneto mount-

ing screws. Turn the crankshaft so that the contact plunger holds the contact points open and then remove magneto assembly. To replace, reverse the operations and use the old gasket between the plate and crankcase, or, if damaged, a new gasket. See parts 66457, 66527, or 66537 for proper thickness to get correct end play of .002" to .008" between magneto bearing and crankshaft thrust faces, as shown in plate No. 11. Use lockwashers under mounting screws.

38. MAGNETO TIMING. The magneto assembly is always correctly timed with the motor when the flywheel is assembled to the tapered crankshaft with a key and securely held in place with right hand threaded nut. Do not attempt to change the timing by relocating any parts or filing crankshaft timing flat. Always use soft key part No. 66403. If steel key is used and flywheel becomes loose it will damage the keyway in the crankshaft.

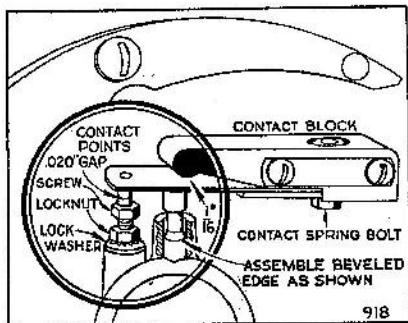
Correct End Play
Plate No. 11



39. TO ADJUST AND CLEAN CONTACT POINTS. While magneto plate is on motor crankcase, turn crankshaft by hand to see if contact points open and close properly. Points must be clean and line up squarely to make good electrical contact. Do not file contact points—use fine sandpaper or fine grit hone to clean points.

40. To line up contact points loosen contact spring bolt. Move contact spring assembly to line up with contact screw point. Tighten contact spring bolt. To adjust contact spring tension, turn crankshaft until points are in open position, then place $\frac{1}{16}$ " gauge between contact spring and round end of contact block, and tighten contact block screws. Turn contact screw to secure .020" gap and tighten locknut against lockwasher. See plate No. 12. If either or both points become badly pitted or burned, replace both points, part Nos. 63238 and 69754.

Magneto Contact Points
Plate No. 12



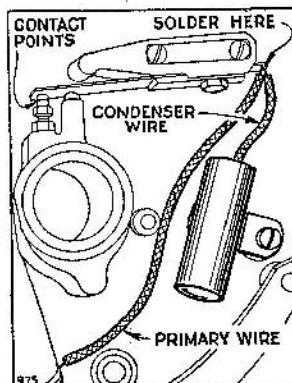
41. TO REPLACE CONDENSER. A leaky or weak condenser may cause the motor to start hard, to sputter, or misfire under

load. If motor misfires after checking gasoline line, carburetor, spark plug, cable and contact points, install a new condenser. Slip the short insulator sleeve over the condenser wire. Solder the end of condenser wire and primary wire to contact spring. (See plate No. 13.)

42. If after new condenser has been installed the ignition system still does not deliver a satisfactory spark, we recommend sending the complete magneto unit including the flywheel to the nearest Briggs & Stratton Central Service Distributor listed on page 23 for proper adjustment.

43. TO REPLACE ARMATURE. Remove armature lead wire from contact spring, and high tension ignition cable from secondary terminal loop in the armature. Both wires are soldered. Save as much of the hydrolene as possible so that you can insulate high tension terminal when you assemble new armature. Do not use battery compound or tar as it will melt and run over the entire

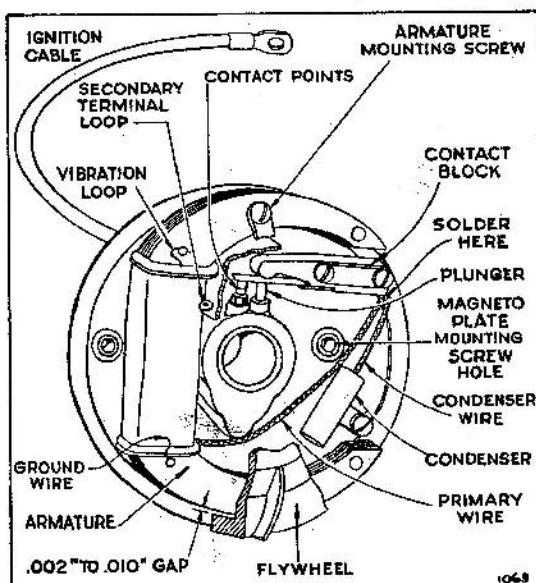
Condenser Installation
Plate No. 13



magneto assembly. Unscrew two armature mounting screws and pry armature loose with screw driver.

44. To install armature, place dust cover clip under upper mounting screw, tighten lower mounting screw. Then solder ignition cable to the terminal and fill pocket, formed with flap, with

Complete Magneto Assembly
Plate No. 14



hydrolene. Solder armature lead wire to contact spring. Replace dust cover and the clip holding cover in place, tighten upper armature mounting screw. See plate No. 14.

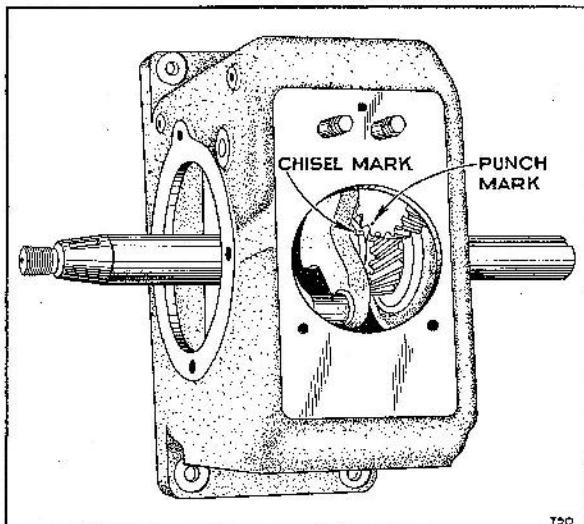
45. Air gap of .002" to .010" must be maintained between armature shoes and flywheel poles. Gap must only be sufficient to prevent rubbing but not over .010" or poor ignition will result.

46. To check armature shoes for rub, chalk edges and mount flywheel in place. Remove spark plug to release compression. Turn flywheel several revolutions by hand. Remove flywheel and examine edges of armature shoes. High spots will have the chalk rubbed off. File high spots carefully with a fine file until flywheel no longer rubs, but do not remove too much metal.

47. **CYLINDER HEAD.** The cylinder head is held on with seven cap screws. When the cylinder head has been removed for the purpose of cleaning carbon or grinding valves, care should be used in replacing it. Use a new gasket if possible. Otherwise, clean the old one and coat both sides with cup grease. We do not recommend the use of shellac on cylinder head gaskets. Tighten each cap screw a little at a time so that the cylinder head is pulled down evenly. Screws need be only moderately tight.

48. **COMPRESSION.** Proper compression is obtained when valves seat properly, gaskets do not leak, and piston and rings are properly fitted. When tuning up a motor, it is always well to check compression. This is done by turning the motor over quickly by hand. If turned slowly sticky valves may not be detected. If a point of resistance is offered every other revolution, compression should be satisfactory. If motor turns over without compression resistance for a full cycle, it is possible that a worn piston or piston rings, leaky valves or leaky gaskets are present. See that spark plug has a gasket under it and is drawn up tight. Also check cylinder head gasket and tighten cylinder head bolts.

Valve Timing — Plate No. 15



49. **VALVE ADJUSTMENT.** To check valve clearance, remove carburetor, paragraph No. 25, and valve cover plate on cylinder back of carburetor. The correct clearance on the exhaust is .014", and on the intake valve .006" when motor is cold. Tappet clearance is adjusted by loosening tappet locknut and turning tappet screw to desired position. Securely tighten the tappet locknut after adjusting valve clearance.

50. To remove valves, remove cylinder head, and if not dismantled, drain oil from crankcase. Invert cylinder. Compress the spring with valve spring compressor No. 69189-T3, and with the

end of a screw driver push out the split collars, and release spring compressor. Tilt cylinder back far enough to allow valve to drop, permitting its stem to clear the spring. Pry spring out with end of screw driver.

51. To replace valves and valve springs, compress spring in valve spring compressor. Turn tool to inverted position with collar retainer washer on top. Drop split collar in place in retainer washer one at a time. When first half of split collar is placed in retainer washer, push it around to the back of valve stem to allow easy placing of second half. Special valve spring compressor tool part No. 69189-T3 is available at the factory at \$1.25 net.

52. To reseat valves, grind in the same manner as automobile valves. If valves stick they may be coated with gum or carbon. To remove gum use alcohol or acetone. Clean valve stems thoroughly with wire brush or emery cloth. Also scrape all carbon from valve ports.

53. The timing of the valves is taken care of by the meshing of the cam shaft gear with the gear on the crankshaft. These gears are properly meshed when the mark on the cam shaft gear is in line with the mark on the crankshaft collar. See plate No. 15.

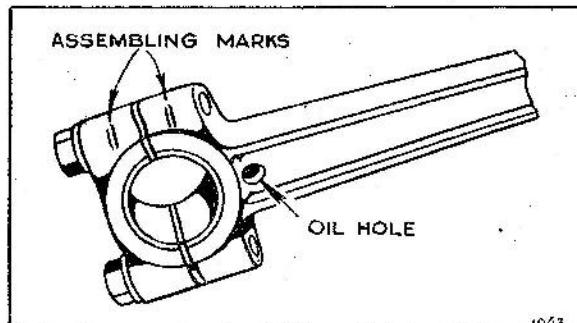
54. **PISTON.** The piston in this motor is made of a special aluminum alloy which is very light in weight. The standard clearance between the piston skirt and cylinder wall is .0055" to .007". This clearance is to compensate for the considerable expansion of aluminum when hot. The top and second lands of the piston are smaller than the skirt to allow for greater expansion at the piston head. When piston is removed be sure to thoroughly clean carbon from head of piston and ring grooves. If piston is out of round or scored it should be replaced.

55. When fitting a new piston in the motor, assemble it with the free side pin hole with an "X" on boss, toward the magneto side. If an oversize piston is necessary, we recommend that reboring of cylinder be done by an Authorized Central Service Distributor or the factory.

56. **PISTON RINGS.** The piston rings when fitted in the cylinder should have a gap of .007" to .015". The rings should be fitted in the cylinder below the piston ring travel. Before assembling new rings to piston be sure that piston ring grooves are thoroughly cleaned and rings move in grooves freely.

57. **PISTON PIN.** The piston pin is a free fit in one side of the piston and a tight fit in the other. To remove this pin without special equipment, it is advisable to heat the piston in boiling water which causes the aluminum alloy to expand. Cut a wooden pin a little smaller than the size of the piston pin and use this and a hammer to drive the pin out. Drive the pin out through the free fit hole. This hole is toward the magneto side and is indicated with an "X" on the pin hole boss. You should, of course, drive the pin out while the piston is still hot. To easily replace the pin the piston should be heated.

Connecting Rod — Plate No. 16

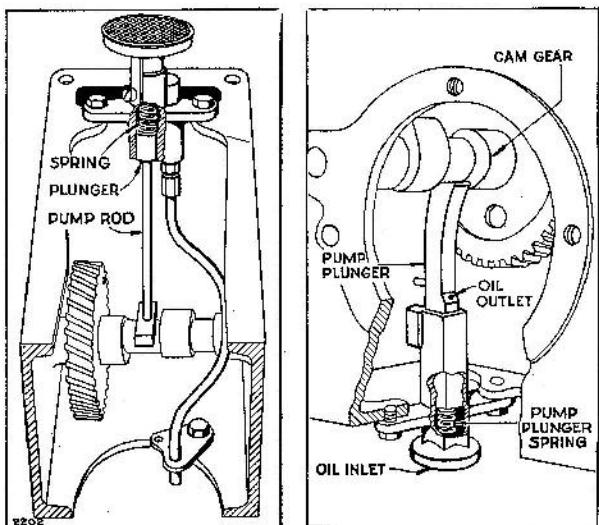


58. CONNECTING ROD. The connecting rod is also made of a special aluminum alloy which combines strength with light weight. When assembling connecting rod to crankshaft, the oil hole in the lower bearing must be toward the magneto side. See plate No. 16. The assembly marks on cap and rod must be on the same side.

59. OIL PUMP. The oil pump is assembled to the crankcase with two bolts and lockwashers and is operated from an eccentric on the cam gear. An inoperative pump will result in insufficient lubrication which may score cylinder and piston assembly. To check oil pump, remove base and the two bolts that hold pump in place. Place the pump in a pan of oil about $\frac{1}{2}$ " deep. Work plunger up and down. A stream of oil will be forced out of the hole in the oil tube or out of the pump plunger, if the pump is in good operating condition. If clogged, remove plunger and plunger-spring and submerge the parts in gasoline or kerosene for three or four hours to loosen accumulated sludge or gum. If the pump is still inoperative, it should be replaced. In assembling, be sure that spring and plunger are in place as shown in plate No. 17.

60. OIL LEAKS. If oil leaks from either end of crankshaft bearings, remove base from motor. Oil return valves are screwed into crankcase and magneto back plate below main bearings. Remove oil return valve and clean or flush with gasoline and blow out any dirt lodged under the small disc. Replace if necessary. See plate No. 11.

Oil Pump — Plate No. 17



61. CARBON. Excessive carbon is caused by improper grade of oil — too much oil usually the result of piston rings not seating properly or sticking — carburetor set too rich — or long service. An unusual amount of carbon is noticeable by motor knocking or loss of power. Occasionally remove carbon from valves, valve ports, piston head, piston rings and ring grooves, cylinder head and top of cylinder bore.

62. AIR CLEANER. The air cleaner is to protect the motor from dust and dirt. No motor can stand up under the grinding action that takes place when dust and dirt particles are drawn into the motor through the carburetor. Clean the air cleaner occasionally

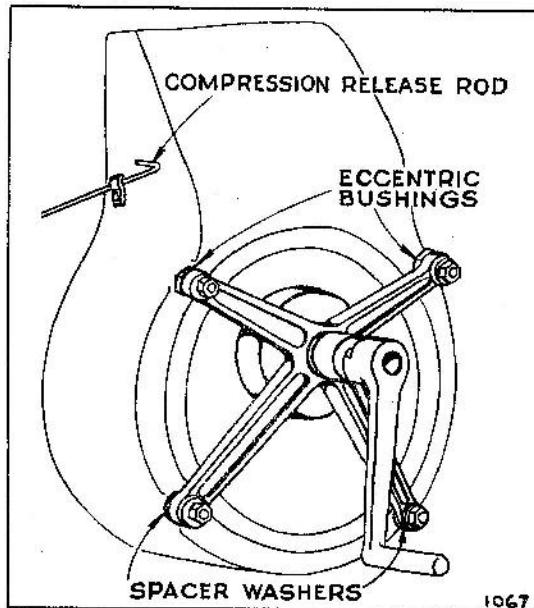
by removing it and washing in kerosene. Test it to see if it is clogged by blowing through it or noting if motor performs better with it off. If clogged it should be replaced. Keep the oil level up to the beading. See instructions on air cleaner label. Some motors are equipped with a felt filter type air cleaner. The felt should be removed regularly and accumulated dust and dirt brushed out and felt washed thoroughly with gasoline. Make sure felt is dry before replacing.

63. MUFFLER. After long periods of service it is possible that the muffler will become clogged to the point where it will affect the motor's power. To check the muffler unscrew it from the motor and run water into the open end of the muffler. If full streams of water come out of the small holes at the end of the muffler, you will know that it is not clogged up. If the water runs through very slowly, however, the muffler is probably clogged and should be replaced.

64. OVERLOAD. Always be sure that the machine the motor is operating is well lubricated and running freely. If it is not, it may cause the motor to become overloaded resulting in it overheating, losing power, or even stopping entirely.

65. CRANK STARTER ASSEMBLY. The crank starter assembly shown in plate No. 18 is mounted on the blower housing on four studs and held in place by plain washers, lockwashers, and nuts. To mount starter assembly place two eccentric bushings on upper studs, and two plain washers on lower studs. Then place starter bracket gear and shaft assembly and four plain washers, lockwashers and nuts on studs. Press starter shaft toward motor and turn the two eccentric bushings until gears mesh with as little back lash as possible and without binding. Tighten nuts securely. Oil the crankgear shaft, through the oil cup, and grease the pinion gear teeth occasionally to reduce wear.

Plate No. 18



66. PARTS. All parts should be ordered from your dealer or the nearest Briggs & Stratton Service Distributor, listed on page 23.

Repair Parts

	Paragraph
Always Give Type, Model and Serial Number	68
How to Make Out Parts Orders.....	70
Prices	74

67. To assure continued satisfactory performance, do not attempt to use substitute repair parts when overhauling or repairing the Briggs & Stratton Motor. Insist that all repair parts be original Briggs & Stratton parts.

68. ALWAYS GIVE TYPE, MODEL AND SERIAL NUMBERS. Briggs & Stratton motors are identified by a type number model letter and a serial number. This information is stamped on a metal plate attached to the blower housing.

69. When writing to the factory or to a Central Service Distributor for service information, or when ordering new parts, be sure to specify the type number, the model, and the serial number of the motor to be serviced. This will assure prompt and efficient service without unnecessary correspondence.

70. HOW TO MAKE OUT PARTS ORDERS. Print your name and address plainly and correctly. Do not abbreviate name of town or state. Specify on the order how shipment to you is to be made. This will assist in giving prompt and efficient service.

	Page
How to Find Correct Part Number.....	12
Parts List	12-20
Parts Illustrations	21-22

71. Give part number and name of parts wanted. (Do not use number cast on parts.) You will find the part numbers, names and prices on pages 12 to 20, and parts illustrations on pages 21 and 22.

72. After you have made out order, check back to see that you have followed all instructions and have accurately listed what you want.

73. Shipments will be made C.O.D. or send remittance with order to cover parts and add what you think will be sufficient for postage. Send postal or express money order, bank draft or certified check for this amount. Do not send currency in a letter. It is not safe.

74. PRICES. All prices in this book are subject to change without notice. In case of change in prices, orders will be filled at current prices. All prices shown are F.O.B. Factory at Milwaukee, Wis., or nearest Authorized Central Service Distributor. Prices outside U. S. A. subject to local import duties, taxes, etc.

THE GUARANTEE—For Ninety Days from purchase date, Briggs & Stratton Corporation will replace for the original purchaser, FREE OF CHARGE, any part or parts found, upon examination at our factory at Milwaukee, Wisconsin, or at any Authorized Central Service Distributor's place of business, to be defective under normal use and service, on account of defects in material or workmanship.

All transportation charges on part or parts submitted for replacement under the guarantee must be borne by purchaser.

WHAT THIS GUARANTEE DOES NOT INCLUDE—This guarantee does not cover the free replacement of parts inoperative because of wear occasioned by use. It does not cover the labor cost of replacing parts, neither is it effective if the motor has been the subject of misuse, negligence, or accident, nor if it has been repaired or altered outside of our Milwaukee Factory or any Authorized Central Service Distributor in any way which, in our judgment, affects its condition or operation.

TO FIND THE CORRECT NUMBER OF THE PART YOU NEED

1. Make a note of your motor TYPE NUMBER (Not the Serial Number) that appears on the metal nameplate attached to motor blower housing.
 2. Refer to pages illustrating parts and locate the Master Part Number by comparing your old part with the illustrations. Assemblies include all part numbers bracketed in illustrations. All parts shown in assembly brackets on which part numbers are given can be purchased separately.
 3. After the Master Part Number has been identified, refer to the following Parts Lists where these Master Part Numbers are listed in numerical order.
- The Master Part is used on all types of motors except those types listed under "Note."**
4. If a "Note" appears below the Master Part Number, this means that this part is made different from the Master Part for certain types and if your model is listed under "Note," order the part referred to.
 5. If two or more parts are bracketed (—) under "Note," they are used to replace the Master Part on the type type numbers shown.
 6. If your Motor Type Number does not appear after any part number listed under "Note," order the Master Part Number.
 7. When ordering parts—or writing for service information—always specify the MODEL LETTER — TYPE NUMBER — and SERIAL NUMBER of your motor.

Parts List

PART NUMBER	NAME	MODELS "K"—"KL"—"KLP"—"KM"—"KP"—"KR"		PART NUMBER	NAME	SHIPPING WEIGHT Lbs. Oz.	SELLING PRICE EACH
		SHIPPING WEIGHT Lbs. Oz.	SELLING PRICE EACH				
19002	Inlet Valve and Sect.....	2	.50	23228	Idler Valve	1	.25
19004	Carburetor Nozzle	1	.40	23402	Contact Screw Locknut.....	1	.10
19015	Roller Bearing Cone.....	6	.65	23571	Control Lever Swivel.....	1	.20
19025	Gear Case Assembly.....	6	12.50	23580	Control Lever Bushing.....	1	.10
19026	Gear Case Cover.....	4	.50	23581	Ignition Cable Clamp.....	1	.05
19027	Drive Shaft	3	10.00	Note: No. 22304 Cable Clamp.....		1	.15
21152	Throttle Lever	2	.20	Used on type Nos. 20386, 20425, 25388, 60341, 302069, 302086, 302094, 302108, 302124.			
21440	Control Lever	3	.50	No. 64539 Cable Clamp.....		1	.50
22001	Hand Control Throttle Lever.....	2	.50	Used on type Nos. 25313, 95281, 302058, 302107.			
22246	Connecting Rod Shim.....	1	.05	23631	Exhaust Valve	6	2.00
Note: Used on earlier models. Do not order unless your present rod shows one.				23699	Shut-off Lever Nut.....	1	.15
22368	Control Lever Spring Washer.....	1	.10	Used with $\frac{3}{8}$ " dia. Shut-off Lever.			
22372	Control Casing Clamp.....	1	.05	Note: No. 23346 Shut-off Lever Nut.. Used with $\frac{1}{2}$ " dia. Shut-off Lever.		1	.15
Note: No. 62786 Casing Clamp..... Used on type Nos. 20437, 302084.				23736	Air Cleaner Pipe Stud.....	2	.35
22485	Air Cleaner Pipe Strap.....	1	.15	26050	Control Wire — 76 $\frac{1}{4}$ " long.....	8	.30
22547	Gas Filter Screen—Rectangular hole	1	.15	Note: No. 26248 Control Wire..... Stainless Steel — 79" long. Used on type No. 302114.		8	.50
Note: For Screen with round hole or- der No. 62876.....				For all other types if longer wire is needed, specify length in inches; if shorter wire is needed, order No. 26050 and cut to required length.			
No. 62477 Filter Screen..... Used on earlier model motors equipped with Tillotson Gas Filter.				26061	Clutch Spring	1	.30
22622	Air Cleaner Pipe Strap.....	1	.15	26063	Throttle Adjusting Stop Spring.....	1	.15
22623	Air Cleaner Pipe Clamp.....	2	.15	26069	Idle Valve Spring	1	.15
22714	Throttle Link	1	.50	26106	Choke Lever Spring.....	1	.25
Note: No. 67416 Throttle Link..... Used on motors equipped with Kingston or Schebler Car- buretors.				26155	Choke Lever Spring	1	.05
23027	Carburetor Venturi	1	1.60	26157	Idler and Throttle Valve Spring.....	1	.05
23050	Bearing Sleeve	2	.60	26308	Valve Tappet	3	.75
23051	Bearing Sleeve Locknut.....	2	.10	26413	Oil Pump Spring	1	.10
23108	Throttle Shaft Bushing.....	1	.10	27034	Carburetor Body Gasket.....	1	.10
23114	Float Hinge Pin.....	1	.10	27090	Spark Plug Gasket.....	1	.05
23117	Needle Valve Retainer.....	1	.25	27145	Shut-off Lever Packing.....	1	.10
23118	Needle Valve Packing Nut.....	1	.20	Used with $\frac{3}{8}$ " dia. Shut-off Lever.			
23123	Choke Lever Screw.....	1	.05	Note: No. 27019 Shut-off Lever Pkg.. Used with $\frac{1}{2}$ " dia. Shut-off Lever.		1	.05
23125	Throttle Lever Pin.....	1	.05				
23132	Oil Pump Plunger.....	6	.15				
23136	Cylinder Mounting Stud.....	1	.15				
23168	Throttle Lever Screw.....	1	.20				

• U. S. A. Prices. Prices outside of U. S. A. subject to local import duties, taxes, etc.

PART NUMBER	NAME	SHIPPING WEIGHT Lbs. Oz.	SELLING PRICE EACH	PART NUMBER	NAME	SHIPPING WEIGHT Lbs. Oz.	SELLING PRICE EACH
29000	Magneto Flywheel	15 ..	12.50				
	Note: No. 69808 Magneto Flywheel.. 28	..	15.00		60562, 60752, 302090, 302114.		
	Used on type Nos. 95281, 302085, 302086, 302107.				No. 99071 Governor Lever ..	4 ..	1.25
29003	Carburetor Assembly				Used on type Nos. 20437, 302084.		
	Replaced by No. 89914.			29440	Control Casing Tube.....	2 ..	.50
	Note: No. 29038 Carburetor Assembly				Note: No. 29207 Control Tube.....	2 ..	.50
	Used on type No. 60222.				Used on type No. 302130.		
	Replaced by No. 89914.			29251	Control Tube.....	2 ..	.50
	No. 29483 Carburetor Assembly				Used on type No. 60405.		
	Used on Rope Starter Motors			29398	Control Tube.....	2 ..	.50
	equipped with Kingston Car- buretors.				Used on type Nos. 60552, 302096.		
	Replaced by No. 89914.			29447	Air Cleaner Assembly.....	3 ..	5.50
29020	Flywheel Puller	1 ..	.45	29571	Lower Carburetor Body.....	1 8	6.50
29036	Automatic Pulley Clutch Assembly..	7 ..	20.00		Note: No. 29526 Lower Carburetor Body	1 8	6.50
	Note: No. 29110 Pulley Clutch Assy..	7 ..	25.00		Used on type No. 60331.		
	Used on type No. 60331.			29559	Pulley Clutch Assy..	7 ..	25.00
	No. 29559 Pulley Clutch Assy..	7 ..	25.00		Used on type Nos. 60699, 302132.		
29037	Crankcase Bearing with Oil Ring....	4 ..	.85		No. 69739 Ball Bearing	1 ..	5.00
	Note: No. 69739 Ball Bearing	1 ..	5.50		Used on early model motors		
	No. 69740 Oil Seal	3 ..	1.50		equipped with high speed		
	Used on type Nos. 95099, 95109, 95110, 95281, 95295, 302085, 302086, 302088, 302089, 302107, 302119, 302120, 302135.				nozzle and flange in one		
29089	Crank Starter Assembly	10 ..	11.50	29574	Upper Carburetor Body.....	10 ..	3.00
	Note: No. 29261 Crank Starter Assembly	10 ..	11.50		Note: No. 29231 Upper Carburetor Body Assembly	1 ..	6.00
	Used on type Nos. 60411, 302090.				Order this carburetor body		
	No. 29551 Crank Starter Assembly	10 ..	11.50		when replacing upper body		
	Used on type No. 60562.			29604	"V" Pulley — 3" diam.....	1 ..	.75
	No. 29622 Crank Starter Assembly	10 ..	11.50		Note: No. 64939 3—"V" Pulley --		
	Used on type No. 60752.				3 3/4" diam.	1 ..	2.50
	No. 99036 Crank Starter Assembly	10 ..	11.50		Used on type No. 60222.		
	Used on type Nos. 20926, 60405.			29656	Armature	3 ..	4.00
	No. 99240 Crank Starter Assy. 10	..	10.00	29679	Air Cleaner Cover.....	.. 8	.65
	Used on type Nos. 25398, 25399, 302067, 302068, 302112.			29680	Air Cleaner Filter	1 ..	3.50
	No. 99631 Crank Starter Assy. 10	..	11.50	29681	Air Cleaner Bowl .....	.. 8	2.00
	Used on type Nos. 20084, 60824, 60831, 95099.			29881	Condenser .....	.. 2	.45
29092	Clutch Spring Stud	1 ..	.15	29887	Drive Shaft	3 ..	10.00
29131	Spark Plug Shield	6 ..	1.25	29918	Ball Bearing .....	.. 4	3.00
29154	Clutch Pulley and Bearing.....	4 ..	10.50	29929	Carburetor Assembly		
	Note: No. 29567 Clutch Pulley and Bearing	4 ..	15.50		Note: Replaced by No. 89914.		
	Used on type No. 60331.			29932	Oil Pump Assembly	1 ..	2.00
	No. 29578 Clutch Pulley and Bearing	4 ..	15.50		Note: No. 99009 Oil Pump Assembly. I		
	Used on type Nos. 60699, 302132.				Used on type Nos. 60411, 60562,		
29230	Carburetor Nozzle	1 ..	1.00	29933	Oil Pump Body	7 ..	.75
	Note: No. 69909 Nozzle and Tube Assembly	1 ..	1.00		Note: No. 29338 Pump Body	7 ..	1.25
	Used on early model motors				Used on type Nos. 60411, 60562,		
	equipped with nozzle and				60752, 302090.		
	flange in one piece.			29934	Oil Pump Plunger	6 ..	1.25
29380	Carburetor Throttle Shaft.....	2 ..	1.00	29997	Throttle Shaft Assembly	6 ..	2.80
	Note: No. 69910 Throttle Shaft.....	2 ..	1.00	29998	Choke Shaft Assembly	2 ..	2.00
	Used on early model motors			29999	Carburetor Float	2 ..	2.00
	without throttle shaft bush- ings in upper body.			39246	Casing Clamp Rivet	1 ..	.05
29403	Clutch Plate	3 ..	5.75	46133	Spark Plug Shield Spring	1 ..	.10
29429	Governor Lever.....	4 ..	1.25	46277	Blower Screen Rivet	1 ..	.05
	Note: No. 69872 Governor Lever ..	4 ..	1.25	53029	Gas Filter Connector	1 ..	.20
	Used on type Nos. 60411, 60548,			61029	Flat Bolt Pulley — 3 1/2" diam.....	3 ..	4.50

(See next page)

U. S. A. Prices. Prices outside of U. S. A. subject to local import duties, taxes, etc.

Before ordering parts, read instructions top page 12

PART NUMBER	NAME	SHIPPING WEIGHT Lbs. Oz.	SELLING PRICE EACH	PART NUMBER	NAME	SHIPPING WEIGHT Lbs. Oz.	SELLING PRICE EACH
No. 61543	Base (Cast Iron).... 14	..	7.00	62397	Screen (Crank Starter).....	6	.50
	Used on type Nos. 20427, 25394, 60312, 60347, 302073.			Note: No. 62179 Screen.....	6	.35	
No. 61654	Base (Cast Iron).... 14	..	7.00		Full Screen used on motors without starters on blower housing side.		
	Used on type No. 20437.			No. 62348 Screen.....	6	.50	
No. 61785	Base (Aluminum).... 8	..	12.00		Used on rope starter motors.		
	Used on type Nos. 302097, 302126.			62412	Control Lever Mounting Plate	3	.30
No. 61931	Base (Cast Iron).... 14	..	8.00	62413	Casing Clip	1	.10
	Used on type Nos. 302065, 302066, 302115, 302122, 302123, 302131.			62428	Throttle Butterfly	1	.40
No. 89491	Base (Aluminum).... 8	..	12.00	62465	Air Cleaner Bowl.....	6	.75
	Used on type Nos. 20010, 20029, 20795, 60418, 60419, 60422, 60447, 60587, 60612, 60861, 60920, 302057, 302058, 302074, 302094, 302119, 302120, 302121, 302135.			62466	Air Cleaner Clamp.....	1	.15
	Includes: No. 23136 Mounting Studs... 1	.15		62741	Choke Butterfly	1	.55
61327	Rope Starter Pulley.....	3	3.25	62742	Carburetor Bowl	4	1.35
	Note: No. 61714 Rope Starter Pulley. 3	..	3.25	62743	Throttle Buttofly	1	.65
	Used on type Nos. 60284, 60806, 302070, 302071.			62763	Choke Valve Washer.....	1	.10
61331	Air Cleaner Elbow	6	2.50	62872	Carburetor Choke Valve.....	1	.35
61361	Throttle Shaft Lever.....	1	1.00	62886	Washer	1	.05
61371	Air Cleaner Elbow	8	2.00	62899	Choke Lever Washer	1	.05
61380	Gas Tank Bracket.....	2	2.25	62924	Cylinder Shield	8	.45
	Note: No. 61486 Gas Tank Bracket. 2	8	2.00		Note: No. 62185 Cylinder Shield.....	8	.45
	Used on type Nos. 20957, 302091.				Used on motors with 5-digit type numbers.		
61405	Cylinder Head	3	6.00	62926	Blower Housing Back Plate.....	2	.80
61447	Intake Elbow	1	1.75		Note: No. 62201 Back Plate.....	2	.85
	Note: No. 21059 Intake Elbow..... 1	..	1.75		Used on motors with 5-digit type numbers.		
	Used on type Nos. 302065, 302066, 302115, 302122, 302123, 302131.			62928	Carburetor Throttle Valve	1	.10
	No. 61470 Intake Elbow..... 1	..	1.95	62932	Choke Butterfly Valve	1	.10
	Used on type No. 60396.			62938	Air Cleaner Mounting Strap.....	1	.15
61454	Cam Gear	3	4.50		Note: No. 62449 Air Cleaner Strap..	1	.15
61975	Air Cleaner Tube.				Used on motors equipped with Kingston Carburetors.		
	Replaced by No. 290175.			62767	Air Cleaner Strap..	1	.15
	Note: No. 61666 Air Cleaner Tube... 2	..	3.00		Used on motors equipped with Schebler Carburetors.		
	Used on motors with Kingston or Schebler Carburetors.			62939	Air Cleaner Mounting Strap.....	1	.15
62041	Air Cleaner Shell.....	6	2.00		Note: No. 62450 Air Cleaner Strap..	1	.15
62042	Air Cleaner Washer.....	1	.05		Used on motors equipped with Kingston Carburetors.		
62081	Oil Tube Retainer	1	.25	62768	Air Cleaner Strap..	1	.15
62100	Contact Spring Stop	1	.15		Used on motors equipped with Schebler Carburetors.		
62167	Flywheel Nut Lock	2	.35	62998	Throttle Bracket	6	1.00
62177	Blower Housing Bracket.....	1	.25	63199	Starter Shaft Pin.....	1	.15
62178	Contact Block Plate.....	1	.05	63202	Oil Tube Connector.....	1	.50
62196	Stop Switch	1	.10	63217	Oil Tube Connector Nut.....	1	.10
	Note: No. 62396 Stop Switch..... 1	..	.10	63238	Contact Point Screw	1	.40
	Used on type Nos. 302065, 302066, 302115, 302122, 302123, 302131.			63269	Washer	1	.15
62199	Bell Crank Washer.....	1	.05	63294	Clutch Lining Pin.....	1	.05
	Note: No. 68143 Bell Crank Spacer.. 1	..	.10	63334	Governor Spring Rod	1	.50
	Used on type No. 60449.			63335	Governor Plunger	1	.35
62222	Valve Spring Cup.....	1	.05	63336	Cylinder Head Spacer (Long).....	1	.30
62244	Carburetor Bowl	6	1.50	63337	Cylinder Head Spacer (Short).....	1	.25
62246	Choke Butterfly	1	.40	63341	Governor Crank Bushing.....	2	.25
62249	Thrust Shim — .005".	..	.10	63343	Governor Gear Shaft	1	.35
	Note: No. 22010 Shim — .015".	..	.10	63355	Bell Crank Bushing.....	1	.15
	No. 62309 Shim — .003".	..	.10		Note: No. 63067 Bell Crank Bushing..	1	.05
62252	Valve Tappet Washer	1	.05		Used on type No. 60449.		
62254	Starter Spring Cover.....	2	.20	63474	Bell Crank Bushing..	1	.10
62319	Control Casing Clip.....	1	.30		Used on type No. 60372.		
62342	Clutch Cover	6	.50	63369	Contact Block Screw	1	.05
62363	Starter Pinion Lock	2	.45	63374	Control Lever Bushing	1	.15
				63377	Carburetor Connector Elbow	1	.35
				63382	Roller Bearing Cup.....	6	.45
				63383	Roller Bearing Cup.....	6	.80
				63403	Needle Valve	1	.80
				63404	Idle Adjusting Valve	1	.65
				63405	Carburetor Box Nut	1	.15
				63406	Throttle Lever Pin	1	.10
				63408	Idling Valve Spring Cup	1	.10
				63409	Carburetor Inlet Valve	1	.65
				63410	Inlet Valve Seat	1	.60
				63411	Float Lever Pin	1	.05
				63426	Control Casing Locknut	1	.05

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PART NUMBER	NAME	SHIPPING WEIGHT Lbs. Oz.	SELLING PRICE EACH	PART NUMBER	NAME	SHIPPING WEIGHT Lbs. Oz.	SELLING PRICE EACH
63456	Starter Bracket Stud.....	1	.15	No. 99853 Crankcase Cover (Cast Iron)	5	"	6.50
	Note: No. 91592 Screw..... Used to mount casing clip on type No. 60502.	1	.05	Used on type Nos. 20041, 95109, 95110, 95281, 95295, 302085, 302086, 302088, 302089, 302107, 302119, 302120.			
63457	Starter Pinion.....	4	2.50	Includes: No. 69740 Oil Seal..	3		1.50
63458	Starter Bracket Bushing.....	1	.10	65078 Contact Block.....	1		.40
63460	Starter Bracket Spacer.....	1	.10	65084 Valve Cover Washer.....	1		.05
63488	Carburetor Venturi.....	1	1.25	65098 Clutch Lining.....	4		1.50
63508	Piston Pin—.005" Oversize.....	3	.60	65126 Throttle Spring.....	1		.15
63520	Governor Spring Adjusting Nut.....	1	.05	65198 Magneto Point Dust Cover.....	1		.25
63523	Pulley Clutch Bearing.....	1	.40	65237 Valve Cover Gasket.....	1		.10
	Note: No. 63713 Clutch Bearing..... Used on type Nos. 60699, 302132.	1	.40	65247 Base Gasket.....	1		.35
63524	Clutch Adjusting Screw.....	1	.05	65414 Magneto Point Plunger.....	1		.30
63585	Carburetor Nozzle Flange.....	1	.50	65431 Control Lever Base.....	6		.45
63605	Starter Shaft Bushing.....	2	.30	Note: No. 21441 Control Lever Base..	6		1.00
63609	Compression Release Rod.....	2	.30	Used on type Nos. 60332, 60405, 60695, 302072.			
63654	Pulley Key.....	1	.05	No. 65631 Control Lever Base..	6		.45
63657	Control Wire Collar.....	1	.05	Used on type Nos. 20996, 60222, 60267, 60372, 302098, 302139.			
63676	Throttle Shaft Bushing.....	1	.30	65434 Oil Filler Cap Gasket.....	1		.05
63733	Air Cleaner Stem Screw.....	2	.25	65469 Control Lever Assembly.....	1		1.35
63864	Bearing Spacer.....	1	.30	Note: No. 29035 Control Lever Assy..	1		1.50
63865	Bearing Retainer Pin.....	1	.05	Used on type Nos. 20996, 60222, 60267, 60372, 302098, 302139.			
63882	Idle Adjusting Needle.....	1	.80	No. 89583 Control Lever Assy..	1		4.30
63884	Throttle Lever Pin.....	1	.10	Used on type Nos. 60332, 60405, 60695, 302072.			
63885	Packing Nut.....	1	.35	Includes: No. 92282 Lever Screw ..	1		.05
63887	Float Lever Shaft.....	1	.15	No. 92289 Clamp Screw (2) ..	1		.05
63888	Screw—8—32x $\frac{1}{2}$ "	1	.10	65616 Control Wire Casing—72" long....	8		.55
63889	Choke Lever Stop Screw.....	1	.25	Note: No. 26244 Control Casing.....	8		1.80
63899	Roller Bearing Cup.....	6	.85	Stainless Steel—72" long. Used on type No. 302114.			
64589	Gasoline Tank.....	4	4.00	For all other types if longer cas- ing is needed, specify length in inches; if shorter casing is needed, order No. 65616 and cut to required length.			
	Note: No. 29578 Gasoline Tank..... (Two Gallon) Used on type Nos. 20795, 25255, 25258, 25284, 60306, 60704, 60999, 302079, 302094, 302101, 302102, 302136, 302140.	4	5.50	65647 Intake Elbow Gasket.....	1		.10
	No. 69912 Combination Gas and Kerosene Tank.....	4	9.00	65725 Armature Lead Insulator.....	1		.05
	Used on type Nos. 25313, 60365, 60477, 60612, 60715, 60773, 60805, 60806, 60816, 60850, 95204, 302070, 302133.			65776 Piston Pin Lock.....	1	2 for	.05
	No. 69943 Gasoline Tank.....	4	4.00	65384 Inlet Valve Seat Gasket.....	1		.10
	One Gallon—Center Filler and Outlet.			65894 Carburetor Bowl Gasket.....	1		.10
	Used on type Nos. 20427, 25394, 302073.			65904 Needle Valve Gasket.....	1		.10
64998	Crankcase Cover (Cast Iron).....	5	4.50	65906 Valve Spring.....	2		.15
	Note: For Ball Bearing Crankcase Cover see No. 99589 Cover Assembly.			65914 Nozzle Gasket.....	1		.10
	No. 29249 Crankcase Cover (Aluminum)	2	5.75	65924 Carburetor Bowl Gasket.....	1		.10
	Used on type Nos. 20010, 20029, 20795, 60418, 60419, 60422, 60447, 60587, 60612, 60861, 60920, 302057, 302058, 302074, 302094, 302121, 302126, 302136.			65932 Cam Shaft Plug.....	1		.05
	No. 29473 Crankcase Cover (Cast Iron)	5	5.00	65934 Carburetor Bowl Gasket.....	1		.10
	Used on type Nos. 60570, 60571, 302112.			65942 Valve Cover Plate.....	6		.25
	No. 99936 Crankcase Cover (Cast Iron)	5	6.00	65976 Hand Control Spring.....	1		.15
	Used on type No. 302135.			66203 Cam Gear Shaft.....	5		.50
	Includes: No. 69740 Oil Seal..	3	1.50	66403 Flywheel Key	1		.05
	No. 99944 Crankcase Cover (Cast Iron)	5	6.00	66457 Magneto Plate Gasket—.015" thick..	1		.05
	Used on type No. 95099.			66477 Cylinder Mounting Gasket.....	1		.10
	Includes: No. 69740 Oil Seal..	3	1.50	66527 Magnetic Plate Gasket—.005" thick..	1		.05
				66537 Magneto Plate Gasket—.009" thick..	1		.05
				66637 Gear Case Cover Gasket.....	1		.25
				66647 Needle Valve Packing.....	1		.10
				66657 Carburetor Bowl Gasket.....	1		.15
				66667 Nozzle Gasket	1		.10
				66677 Carburetor Body Gasket.....	1		.15
				66687 Inlet Valve Seat Gasket.....	1		.10
				66717 Crankcase Cover Gasket.....	1		.25
				66727 Crankcase Cover Gasket.....	1		.25
				66739 Oil Pump Rod.....	4		.40
				67197 Carburetor Nozzle Gasket.....	1		.05
				67216 Clutch Spring	1		.30
				67247 Air Cleaner Gasket.....	1		.10

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PART NUMBER	NAME	SHIPPING WEIGHT Lbs. Oz.	SELLING PRICE EACH	PART NUMBER	NAME	SHIPPING WEIGHT Lbs. Oz.	SELLING PRICE EACH
67316	Governor Spring .....	.. 1	.20				
	Note: No. 26086 Spring .....	.. 1	.15				
	Used on type Nos. 20437, 302084.						
67502	Connecting Rod Washer .....	.. 1	.05	68487	Gas Filter Bowl.....	.. 2	.15
67546	Governor Spring .....	.. 1	.15	68487	Gas Filter Bowl.....	.. 2	.15
67616	Idling Valve Spring.....	.. 1	.15				
67632	Stop Switch Washer .....	.. 1	.05				
67668	Compression Release Spring.....	.. 1	.25				
67897	Air Cleaner Cover Gasket.....	.. 1	.10				
67976	Crankshaft	10 ..	10.50				
	Note: No. 26007 Crankshaft.....	10 ..	10.50	68559	Throttle Lever .....	.. 1	1.00
	Used on type Nos. 20084, 20087, 60255, 60381, 60436, 60680, 302093, 302095, 302100, 302137, 302141.			68563	Intake Valve .....	.. 6	.75
	No. 26010 Crankshaft.....	10 ..	10.50	68652	Spark Plug Wrench.....	.. 5	.20
	Used on type Nos. 60699, 302132.			68667	Inlet Valve Seat Gasket.....	.. 1	.05
	No. 26059 Crankshaft.....	10 ..	10.50	68677	Needle Valve Packing .....	.. 1	.05
	Used on type Nos. 20820, 25315, 60633, 60636, 60624, 60831, 95279, 302111.			68876	Dust Cover Clip.....	.. 1	.10
	No. 26145 Crankshaft.....	10 ..	12.00	69134	Muffler	3 8	2.50
	Used on type Nos. 302065, 302066, 302115, 302122, 302123, 302131.			69298	Gas Tank Strap.....	.. 6	.35
	No. 26151 Crankshaft.....	10 ..	14.00	69314	Breather Tube .....	.. 8	.80
	Used on type Nos. 95281, 302085, 302086.			69446	Air Cleaner Wing Nut and Stud.....	.. 1	.50
	No. 26202 Crankshaft.....	10 ..	12.00	69447	Air Cleaner Filter .....	.. 8	2.50
	Used on type No. 302107.			69628	Piston Assembly—Standard	1 ..	4.65
	No. 26278 Crankshaft.....	10 ..	12.00	69642	Connecting Rod	1 ..	6.00
	Used on type Nos. 95295, 302118, 302135.			69660	Piston Assembly—.010" Oversize.....	1 ..	5.40
	No. 26284 Crankshaft.....	10 ..	12.00	69661	Piston Assembly—.020" Oversize.....	1 ..	5.40
	Used on type Nos. 95109, 95110, 302088, 302089, 302119, 302120.			69662	Piston Assembly—.030" Oversize.....	1 ..	5.40
	No. 26285 Crankshaft.....	.. ..	14.00	69689	Oil Filler Cap.....	.. 4	.40
	Used on type No. 95089.			69691	Pulley Clutch Assembly (Ball Bearing) ..	7 ..	28.50
	No. 26320 Crankshaft.....	10 ..	15.00	69696	Clutch Pulley and Bearing.....	4 ..	18.00
	Used on type Nos. 20017, 20390, 20401, 20407, 20427, 20482, 20996, 25255, 25258, 25313, 25394, 25398, 25399, 60347, 60386, 60407, 60673, 60793, 60919, 60945, 60946, 60951, 60967, 95115, 95277, 302059, 302060, 302061, 302062, 302067, 302068, 302073, 302079, 302082, 302098, 302139.			69737	Cylinder Head Gasket .....	.. 1	.25
	No. 68516 Crankshaft.....	10 ..	14.00	69739	Ball Bearing .....	.. 1	5.50
	Used on type No. 20041.			69754	Contact Spring and Point.....	.. 1	.30
68023	Piston Pin—Standard .....	.. 3	.50	69758	Piston—Standard .....	.. 1	3.25
68141	Compression Ring—Standard .....	.. 1	.40	69780	Contact Point Block Assembly .....	.. 2	.65
68156	Starter Crank Spring.....	.. 1	.10	69798	Bell Crank .....	.. 2	.85
68182	Governor Spring Clip .....	.. 1	.05				
68217	Needle Valve Packing.....	.. 1	.10				
68247	Gear Cover Gasket .....	.. 1	.25				
68283	Valve Spring Collar .....	.. 1	.10				
68293	Valve Spring Retainer .....	.. 1	.10				
68331	Compression Ring—.010" Oversize.....	.. 1	.40				
68341	Compression Ring—.020" Oversize.....	.. 1	.40				
68346	Choke Lever Spring .....	.. 1	.15	69836	Gas Shut-off Valve .....	.. 1	1.00
	[No. 90877] Screw .....	.. 1	.05	69839	Governor Gear .....	.. 1	4.50
	Note: No. 22358 Spring Washer .....	.. 1	.05	69851	Air Cleaner Assembly .....	.. 1	6.50
	No. 67626 Choke Spring .....	.. 1	.15	69854	Ignition Cable .....	.. 2	.35
	Used on Kingston Carburetors with friction choke.						
68351	Compression Ring—.030" Oversize.....	.. 1	.40				
68477	Gas Filter Gasket .....	.. 1	.05				
	Note: No. 67267 Filter Gasket .....	.. 1	.05				
	Used on earlier model motors			69856	Governor Control Lever 1	.40
				69858	Oil Seal 4	1.25
				69859	Gear Case Cover 4	5.50
				69866	Bearing Cone 6	1.65

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69887	Bearing Cone6	1.65	90029	Screw—4—36x $\frac{1}{4}$ " Rd. Hd.....	1	.05
69905	Carburetor Screen	1	1.00	90077	Screw—10—32x $\frac{1}{4}$ " Rd. Hd.....	1	.05
69906	Carburetor Float	2	1.35	90100	Screw—6—32x $\frac{1}{8}$ " Rd. Hd.....	1	.05
69908	Carburetor Choke Shaft.....	1	1.20		Kingston Throttle Lever,		
	Note: No. 29527 Choke Shaft.....	1	1.20		Control Casing Clip.		
	Used on Rope Starter Motors equipped with Kingston Carburetors.			90202	Screw—10—32x $\frac{1}{2}$ " Fill. Hd.....	1	.05
69911	Magneto Plate Bearing and Retainer..	4	.70	90217	Screw—10—32x $\frac{1}{2}$ " Fill. Hd.....	1	.05
69926	Governor Crank	2	1.25	90290	Nut—10—32 Hex. (Casing Clip).....	1	.05
	Note: No. 29963 Governor Crank.....	1	1.25	90313	Nut—8—32 Hex.	1	.05
	Used on motors equipped with No. 29932 or No. 99009 oil pump assembly.				Contact Block and Throttle Control.		
69932	Starter Rope	6	.60	90319	Nut—10—32 Hex. (Throttle Control) ..	1	.05
69942	Gear Case Assembly.....	26	12.50	90354	Lockwasher— $\frac{3}{8} \times \frac{1}{8} \times \frac{1}{16}$ "	1	4 for .05
69947	Air Cleaner Assembly	2	7.00	90366	Lockwasher— $\frac{1}{8} \times \frac{1}{8} \times \frac{1}{16}$ "	1	4 for .05
69948	Air Cleaner Body.....	1	5.00		Connecting Rod, Oil Pump, Blower, Gear Cover, Air Cleaner Pipe Mounting.		
69949	Starter Gear and Shaft.....	3	3.50	90369	Lockwasher— $\frac{1}{8} \times \frac{1}{8} \times \frac{1}{16}$ "	1	4 for .05
	Note: No. 29624 Starter Gear and Shaft	3	3.00		Throttle and Choke.		
	Used on type No. 60752.			90597	Screw—10—32x $\frac{1}{2}$ " Rd. Hd.....	1	2 for .05
69950	Compression Release Assembly.....	8	2.00		Cable Clamp.		
	Note: No. 29532 Compression Release Assembly	8	2.75		Note: No. 91494 Screw—10—32x $\frac{3}{8}$ " Fill. Hd.	1	2 for .05
	Used on type Nos. 60548, 302114.			No. 92290 Lockwasher (2)	1	3 for .05	
69951	Compression Release Cover.....	6	1.10		Used to mount casing clamp on type Nos. 20437, 60548, 302084, 302114.		
69952	Compression Release Shaft.....	1	.90	90683	Lockwasher— $\frac{1}{2}$ " (Tank Bracket Mtg.) ..	1	2 for .05
	Note: No. 29533 Release Shaft.....	1	1.00	90686	Screw— $\frac{3}{8}—24x1\frac{1}{2}$ " Hex. Hd.*.....	1	.05
	Used on type Nos. 60548, 302114.				Rope Starter Pulley.		
69953	Crank Gear Bracket.....	3	4.00	90689	Screw— $\frac{3}{8}—24x1\frac{1}{4}$ " Hex. Hd.*.....	1	.10
69961	Gas Tank Cap.....	2	.35	90699	Lockwasher— $\frac{1}{4} \times \frac{1}{4} \times \frac{1}{16}$ "	1	3 for .05
70162	Brass Washer (Hand Throttle).....	1	.05	90700	Starter Pinion Bracket, Starter Pinion Bracket, Carburetor Mounting.		
89080	Gasoline Line — 12 $\frac{1}{2}$ " long.....	4	.45	90746	Screw—10—32x $\frac{3}{8}$ " Fill. Hd.	1	.05
	Note: No. 29025 Gasoline Line — 18" long	4	.55		Carburetor Body Mounting.		
	Used on type No. 60222.			90832	Lockwasher— $\frac{1}{4}$ " Standard Heavy....	1	.05
	No. 69844 Gasoline Line — 14 $\frac{1}{2}$ " long	4	.45		Cylinder Shield, Oil Tube Retainer, Governor Gear, Back Plate, Blower Strap, Clutch, Stop Switch, Carburetor Mounting.		
	Used on motors without gas filter.			90847	Nut— $\frac{1}{4}—28$ Hex.	1	.05
	The following gasoline lines and connections used with No. 69912 Gas and Kerosene Tank on type Nos. 60365, 60477, 60612, 60715, 60773, 60805, 60806, 60816, 60850, 95204, 302070, 302133:				Valve Tappet and Air Cleaner Pipe.		
	No. 29201 Gas Line—17" long ..	4	.50	90887	Screw— $\frac{3}{8}—16x1\frac{1}{4}$ " Hex. Hd.* (Base) ..	1	.05
	No. 63416 Check Nut.....	1	.15		Note: No. 23136 Studs	1	.15
	No. 65604 Check Valve Plug ..	1	.05		No. 92292 Nut— $\frac{3}{8}—24$ Hex.	1	2 for .05
	No. 69836 Shut-off Valve (2). ..	1	1.00		Used on motors with Aluminum Bases.		
	No. 69914 Gas Line (2).....	4	.30	90890	Valve Tappet Screw*.....	1	.05
	No. 69915 Tee Elbow (2)....	1	.50	90891	Screw— $\frac{1}{4}—20x\frac{1}{2}$ " Hex. Hd.*.....	1	.05
	No. 99008 Gas Line.....	4	.30		Oil Tube Retainer, Governor Gear, Stop Switch.		
89307	Oil Return Valve.....	1	.15		Note: No. 91439 Screw— $\frac{1}{4}—20x\frac{3}{8}$ " Hex. Hd.*	1	.05
89531	Choke Shaft Assembly.....	1	.60		Used to plug stop switch screw hole on type No. 302094.		
89572	Spark Plug with Gasket.....	8	.65	90916	Screw— $\frac{1}{4}—20x\frac{1}{2}$ " Rd. Hd.....	1	.05
	Note: No. 99496 Spark Plug.....	8	.65		Cylinder Shield, Blower Strap Mounting.		
	Used on type Nos. 302065, 302066, 302115, 302122, 302123, 302131.			90950	Screw— $\frac{1}{4}—24x\frac{3}{8}$ " Hex. Hd.*.....	1	.05
89914	Carburetor Assembly	2	10.00		Oil Pump, Air Cleaner Pipe Mounting.		
89915	Lower Carburetor Body Assembly... 1		4.25	91028	Screw— $\frac{3}{8}—24x\frac{3}{8}$ " Hex. Hd.*.....	1	.05
90004	Screw—4—36x $\frac{1}{4}$ " Rd. Hd.....	1	.10		Crankcase Cover, Clutch Mtg.		
	Throttle Valve.				Note: No. 23290 Screw.....	1	.35
90010	Screw—10—32x $\frac{1}{8}$ " Rd. Hd.....	1	.05		Assembled in upper right hand screw hole on type No. 302135.		
	Compression Release, Governor Control.						
90028	Screw—4—36x $\frac{1}{8}$ " Rd. Hd.....	1	.10				
	Schebler Choke.						

*Denotes heat-treated screws.

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91059	Lockwasher—No. 12 (Oil Pump Body)	1 4 for	.05
91062	Screw— $\frac{1}{4}$ —20x $\frac{1}{4}$ " Hex. Hd.* Governor Control, Bell Crank. Note: No. 90700 Screw— $\frac{1}{4}$ —20x $\frac{3}{4}$ " Hex. Hd.*	1	.05
	Used to mount bell crank on type No. 60449.	1	.05
No. 90802	Screw— $\frac{1}{4}$ —20x $\frac{1}{2}$ " Hex. Hd.*	1	.05
	Used to mount governor control lever on type Nos. 60548, 60752, 302114.	1	.05
No. 90891	Screw— $\frac{1}{4}$ —20x $\frac{1}{2}$ " Hex. Hd.*	1	.05
	Used to mount bell crank on type No. 60372.	1	.05
91084	Oil Drain Plug	2	.10
	Note: No. 91116 Pipe Plug— $\frac{3}{8}$ " csk. Used on type Nos. 60552, 302096.	2	.15
No. 91488	Pipe Plug— $\frac{1}{8}$ " sq.	2	.10
	Used on type Nos. 302065, 302066, 302115, 302122, 302123, 302131.	1	.10
91137	Screw— $\frac{1}{8}$ —32x $\frac{1}{8}$ " Fill. Hd. Throttle Lever.	1	.05
91162	Cylinder Head and Connecting Rod Screw	1	.05
91195	Screw— $\frac{1}{4}$ —20x $\frac{3}{8}$ " Rd. Hd.	1 2 for	.05
	Flywheel and Clutch Assy.	1	.05
91208	Nut— $\frac{1}{4}$ —24 Hex. (Air Cleaner Pipe).	1	.05
91229	Screw— $\frac{1}{2}$ —20x $\frac{1}{4}$ " Hex. Hd.*	1	.10
	Tank Bracket Mounting.	1	.10
91253	Swivel Screw— $\frac{1}{8}$ —32x $\frac{1}{8}$ " Fill. Hd.	1 2 for	.05
91255	Screw— $\frac{1}{4}$ —20x $\frac{1}{2}$ " Fill. Hd.	1	.05
	Governor Control.	1	.05
91256	Screw— $\frac{1}{4}$ —20x $\frac{1}{2}$ " Fill. Hd. Air Cleaner Elbow.	1	.05
91285	Lockwasher—No. 10 Connector Plate, Condenser Mtg.	1 2 for	.05
91310	Muffler Exhaust Locknut	1	.10
91324	Cylinder Head Washer— $\frac{3}{4}$ " plain	1 2 for	.05
91359	Screw— $\frac{1}{8}$ —32x $\frac{3}{4}$ " Fill. Hd.	1 2 for	.05
	Throttle Control.	1	.05
91366	Screw— $\frac{1}{8}$ —32x $\frac{3}{8}$ " Rd. Hd.	1	.10
	Contact Connector Plate.	1	.10
91379	Screw— $\frac{1}{8}$ —32x $\frac{1}{2}$ " Rd. Hd.	1	.05
	Kingston Throttle Lever.	1	.05
91385	Magnetic Plate Mounting Screw	1	.05
91386	Cylinder Head and Valve Cover Screw	1	.10
91387	Cylinder Head Screw	1	.10
91388	Lockwasher— $\frac{1}{8}$ x $\frac{3}{8}$ x $\frac{3}{8}$ "	1 2 for	.05
	Magnetic Mounting.	1	.05
91396	Intake Elbow Locknut	1	.25
91400	Nut—Flywheel Mounting	1	.20
91415	Exhaust Elbow—45°	2	.45
	Note: No. 91296 Elbow—90°	2	.45
	Used on type Nos. 60349, 60905, 302078, 302084, 302092, 302096.	1	.45
91416	Exhaust Nipple	1	.20
91427	Lockwasher—No. 10 Carburetor Body.	1 2 for	.05
91439	Screw— $\frac{1}{4}$ —20x $\frac{3}{8}$ " Hex. Hd.*	1	.05
	Back Plate, Starter Bracket.	1	.05
91442	Compression Release Cover Screw	1	.10
91443	Screw— $\frac{1}{4}$ —36x $\frac{1}{4}$ " Rd. Hd.	1	.05
	Throttle and Choke.	1	.05
91444	Carburetor Venturi Screw	1	.05
91458	Air Cleaner Elbow Screw	1	.05
91468	Screw— $\frac{1}{4}$ —20x $\frac{3}{4}$ " Hex. Hd.*	1	.05
91478	Pulley Clutch Key	1	.05

*Denotes heat-treated screws.

U. S. A. Prices. Prices outside of U. S. A. subject to local import duties, taxes, etc.

Before ordering parts, read instructions top page 12.

PART NUMBER	NAME	SHIPPING WEIGHT Lbs. Oz.	SELLING PRICE EACH
91540	Key— $\frac{1}{4}$ x $\frac{1}{2}$ " long (St. Pulley)	1	.10
	Note: No. 63055 Key— $\frac{1}{4}$ x $\frac{3}{8}$ " long	1	.15
	Used on type Nos. 60773, 60905, 302078.	1	.15
91560	Bolt and Nut (Control Lever)	2	.05
	No. 90013 Screw	1 2 for	.05
	Note: No. 90290 Nut	1	.05
No. 67072	Washer (2)	1	.05
No. 92290	Lockwasher	1 3 for	.05
	Used on type Nos. 60552, 302096.	1	.05
91604	Screw— $\frac{1}{8}$ —32x $\frac{1}{8}$ " Rd. Hd. Carburetor Body.	1	.05
91635	Gas Filter Nipple	1	.15
91648	Screw— $\frac{1}{8}$ —24x $\frac{1}{2}$ " Hex. Hd. Marine Cover.	1	.05
91674	Air Cleaner Wing Nut	1	.05
91777	Screw— $\frac{1}{8}$ —32x $\frac{3}{4}$ " Fill. Hd. Throttle Valve	1	.10
91778	Screw— $\frac{1}{4}$ —36x $\frac{1}{8}$ " Fr. Hd. Venuri Mounting	1	.10
91787	Screw— $\frac{1}{4}$ —28x $\frac{1}{2}$ " Hex. Hd. Air Cleaner Pipe.	1	.05
	Note: No. 91256 Screw— $\frac{1}{4}$ —20x $\frac{1}{2}$ " Fill. Hd.	1	.05
	Used on air cleaner pipes with tapped hole in mounting lug.	1	.05
91865	Ball Bearing Lockwasher	1	.05
	Marine Cover.	1	.05
91920	Screw— $\frac{1}{8}$ —32x $\frac{3}{8}$ " Fili. Hd. Throttle Adjusting	1	.05
91921	Screw— $\frac{1}{2}$ —24x $\frac{1}{8}$ " Fili. Hd. Oil Pump Screen Mounting	1	.05
91984	Cotter pin— $\frac{1}{8}$ x $\frac{1}{2}$ " long	1 2 for	.05
	Governor Crank	1	.05
92129	Air Cleaner Stem Nut	1	.05
92151	Lockwasher— $\frac{1}{4}$ x $\frac{3}{8}$ x $\frac{3}{8}$ "	1 2 for	.05
	Armature Mounting	1	.05
92179	Screw— $\frac{1}{8}$ —32x $\frac{1}{4}$ " Fill. Hd.	1	.10
	Condenser Mounting	1	.10
92181	Lockwasher—Shakeproof Contact Screw	1	.05
92182	Screw— $\frac{1}{4}$ —20x $\frac{1}{2}$ " Rd. Hd.	1	.10
	Armature Mounting	1	.10
92187	Lockwasher— $\frac{1}{4}$ x $\frac{3}{8}$ x $\frac{3}{8}$ "	1	.05
	Contact Block	1	.05
92260	Set Screw— $\frac{1}{8}$ —18x $\frac{3}{8}$ " Sq. Hd.	1	.05
	Starter Pulley	1	.05
92263	Lockwasher— $\frac{3}{8}$ x $\frac{1}{4}$ x $\frac{3}{8}$ "	1 4 for	.05
	Crankcase Cover, Base, Crank Starter	1	.05
92272	Screw— $\frac{1}{8}$ —18x $\frac{3}{8}$ " Hex. Hd.	1	.05
	Blower Mounting	1	.05
92279	Screw— $\frac{1}{8}$ —24x $\frac{1}{2}$ " Hex. Hd.	1	.05
	Gear Case Cover	1	.05
92285	Cotter Pin—No. 18x $\frac{1}{4}$ " long	1 4 for	.05
	Bolt Crank, Control Lever	1	.05
	Note: No. 91253 Swivel Screw	1 2 for	.05
	Used on type No. 60449	1	.05
92287	Screw— $\frac{1}{8}$ —32x $\frac{1}{4}$ " Rd. Hd.	1 2 for	.05
	Bell Crank, Control Lever	1	.05
	Note: No. 91253 Swivel Screw	1 2 for	.05
	Used on type No. 60449	1	.05
92288	Cotter Pin— $\frac{1}{8}$ x $\frac{1}{2}$ " long	1 4 for	.05
	Compression Release, Clutch Pulley	1	.05
92290	Lockwasher— $\frac{1}{8}$ x $\frac{3}{8}$ x $\frac{3}{8}$ "	1 3 for	.05
	Cable Clamp	1	.05
	Note: No. 67072 Washer	1	.05
No. 92290	Lockwasher	1 3 for	.05
	Used to mount control lever on type Nos. 60552, 302096	1	.05

PART NUMBER	NAME	SHIPPING WEIGHT Lbs. Oz.	SELLING PRICE EACH	PART NUMBER	NAME	SHIPPING WEIGHT Lbs. Oz.	SELLING PRICE EACH
92292	Nut— $\frac{3}{8}$ —24 Hex, Starter and Crankcase Mtg.	1	.05	No. 29097	Blower Housing... 14	..	7.50
92294	Lockwasher— $\frac{1}{4}$ " plain	1	.05	Cast Iron—No screen—With cylinder shield stop — For rope starter motors.			
92305	Washer (Cont. Lever, Governor Gear)	1	.05	No. 29267	Blower Housing... 14	..	7.50
92306	Screw— $\frac{1}{4}$ —28x $\frac{3}{8}$ " Hex. Hd.* Control Lever.	1	.05	Cast Iron—Screened—With cylinder shield stop—For crank starter motors.			
Note:	[No. 92278] Nut	1	.05	No. 29284	Blower Housing... 6	..	11.25
	[No. 90699] Lockwasher	1	.05	Aluminum — Screened — With cylinder shield stop — For crank starter motors.			
	[No. 91498] Screw— $\frac{1}{4}$ —20x $\frac{1}{4}$ " Hex. Hd.*	1	.05	No. 28484	Blower Housing ... 14	..	7.50
	Used on type Nos. 20996, 60222, 60267, 60372, 302098, 302139.			Cast Iron — Full screen — With cylinder shield stop — For motors without starters on blower housing side.			
92322	Clutch Pulley Set Screw.....	1	.05	No. 29900	Blower Housing ... 14	..	7.50
92412	Screw— $\frac{1}{4}$ —20x $\frac{3}{8}$ " Hex. Hd.* Governor Lever, Air Cleaner Pipe.	1	.10	Cast Iron — Full screen — With cylinder shield stop and one hole drilled and tapped for casing clamp mounting—For motors without starters on blower housing side.			
92413	Cotter Pin— $\frac{1}{8}$ x $\frac{3}{8}$ " long Throttle Link.	1	.05	No. 61450	Blower Housing ... 14	..	10.75
92424	Screw— $\frac{1}{4}$ —20x $\frac{1}{2}$ " Fill. Hd. Gas Tank Strap.	1	.10	Cast Iron — No screen — For crank starter motors.			
92425	Nut— $\frac{1}{4}$ —20 Sq. Tank Strap, Air Cleaner Pipe.	1	.05	No. 61480	Blower Housing ... 14	..	10.75
92469	Oil Filler Pipe Nipple— $1\frac{3}{4}$ " long...	2	.20	Cast Iron — No screen — For rope starter motors.			
Note: No. 91371	Pipe Nipple - 2 "long	2	.20	No. 69865	Blower Housing ... 6	..	10.25
				Aluminum — No screen — With cylinder shield stop — For crank starter motors.			
92507	Lockwasher—Shockproof	1	.05	No. 99070	Blower Housing ... 14	..	7.50
	Air Cleanner Pipe Stud.			Cast Iron—Screened—With cylinder shield stop and two holes drilled for casing clamp mounting—For rope starter motors.			
99024	Starter Crank	2	1.50	No. 99363	Blower Housing ... 14	..	7.50
Note: No. 29519	Starter Crank.....	2	1.50	Cast Iron—Screened—For rope starter motors.			
	Used on type Nos. 60411, 302090.			No. 99465	Blower Housing ... 6	..	11.25
No. 61519	Starter Crank	2	1.50	Aluminum — Screened — For crank starter motors.			
	Used on type No. 60752.			No. 99490	Blower Housing ... 6	..	11.25
No. 61560	Starter Crank	2	1.50	Aluminum — Screened — For rope starter motors.			
	Used on type No. 60562.			No. 99514	Blower Housing ... 14	..	7.50
No. 99027	Starter Crank	2	1.50	Cast Iron—Screened—With two holes drilled and tapped for casing clamp mounting—For rope starter motors.			
	Used on type Nos. 20926, 60405.			No. 99533	Blower Housing ... 14	..	7.50
99142	Needle Adjustment Assembly.....	1	1.45	Cast Iron — Full screen — For motors without starters on blower housing side.			
99188	Replaced by No. 89914.			99386	Cylinder	13	16.50
99225	Oil Seal.....	4	1.75	99393	Carburetor Baffle Plate	6	.50
99230	Flame Arrestor	1	2.50	Note: No. 29555	Baffle Plate	6	.35
99333	Carburetor Float	2	.50	Used on motors with 5-digit type numbers.			
99341	Upper Carburetor Body.....	1	2.80	99458	Idling Device	3	1.75
99342	Upper Carburetor Body Assembly....	1	4.50	Note: No. 69968	Idling Device	3	1.75
99343	Inlet Valve and Seat.....	1	.80	Used with Kingston Carburetor on type Nos. 60824, 60831.			
99345	Carburetor Nozzle	2	.60	No. 99031	Idling Device	3	1.25
99346	Needle Valve	2	.60	Used with Schebler Carburetor on type Nos. 20084, 60824, 60831.			
99347	Choke Shaft and Lever.....	1	.60	99502	Hand Throttle Control Assembly.....	6	1.75
99360	Oil Pump Assembly.....	1	1.50				
Note: No. 29096	Oil Pump Assembly. Used on type Nos. 60448, 60449.	1	2.25				
	No. 69547 Oil Pump Assembly. Used on type Nos. 20427, 25394, 60312, 60347, 302073.	1	2.50				
99361	Oil Pump Screen.....	3	.75				
99362	Oil Pump Tube	2	.65				
99378	Blower Housing..... 14	1	7.50				
	Cast Iron—Screened—For crank starter motors.						
Note: No. 21393	Blower Housing... 14	1	7.00				
	Cast Iron—Screened, Painted Marine Green—For Rope Starter Motors.						
No. 21394	Blower Housing... 14	1	7.00				
	Cast Iron—Screened, Painted Marine Green—For Crank Starter Motors.						
No. 29001	Blower Housing... 14	1	6.50				
	Cast Iron—No screen — With cylinder shield stop — For crank starter motors.						

*Denotes heat-treated screws.

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Before ordering parts, read instructions top page 12.

PART NUMBER	NAME	SHIPPING WEIGHT Lbs. Oz.	SELLING PRICE EACH	PART NUMBER	NAME	SHIPPING WEIGHT Lbs. Oz.	SELLING PRICE EACH
99524	Throttle Shaft Assembly.....	.. 1	.65				
99589	Crankcase Cover Assembly.....	5 ..	10.75				
99592	Needle Valve .....	.. 1	1.05				
99595	Remote Control Assembly.....	.. 12	2.75				
99665	Gas Filter Yoke Assembly.....	.. 2	.50				
	Note: No. 89743 Filter Yoke.....	.. 2	.30				
	Used on earlier model motors equipped with Tillotson Gas Filter.						
99862	Piston—.010" Oversize .....	.. 12	4.00				
99863	Piston—.020" Oversize .....	.. 12	4.00				
99864	Piston—.030" Oversize .....	.. 12	4.00				
99909	Gas Filter Cover Assembly.....	.. 3	1.25				
99910	Gas Filter Assembly.....	.. 10	1.75				
99951	Crankcase Assembly (Cast Iron)....	21 ..	12.25				
	Note: No. 89133 Crankcase (Assembly (Aluminum))....	11 ..	25.00				
	Used on type Nos. 20010, 20029, 20795, 60418, 60419, 60422, 60447, 60587, 60612, 60861, 60920, 302057, 302058, 302074, 302094, 302097, 302119, 302120, 302121, 302126, 302136.						
No. 89140	Crankcase Assembly (Cast Iron)....	21 ..	18.50				
	Used on type Nos. 20017, 20390, 20401, 20407, 20482, 25255, 25258, 25313, 25398, 60386,						
290059	Shut-off Lever—%" dia., "T" shaped ..	.. 1	.50				
	Note: No. 23347 Shut-off Lever— %" dia., "L" shaped.....	.. 1	.25				
No. 29536	Shut-off Lever.....	.. 4	.25				
	Used on earlier model motors equipped with Tillotson Gas Filter.						
290175	Air Cleaner Pipe Assembly.....	.. 3	3.00				

U. S. A. Prices. Prices outside of U. S. A. subject to local import duties, taxes, etc.

Before ordering parts, read instructions top page 12.

Briggs & Stratton Gasoline Motors are precision built and require original Briggs & Stratton replacement parts in order to obtain satisfactory results. Service that is not reliable or continuous becomes expensive at any price.

Users will find that the prices paid for original repair parts are well worth the investment when the service delivered is compared with that afforded by substitute parts. Original Briggs & Stratton repair parts can be obtained through all Authorized Central Service Distributors listed on page 23.

Plate No. 19

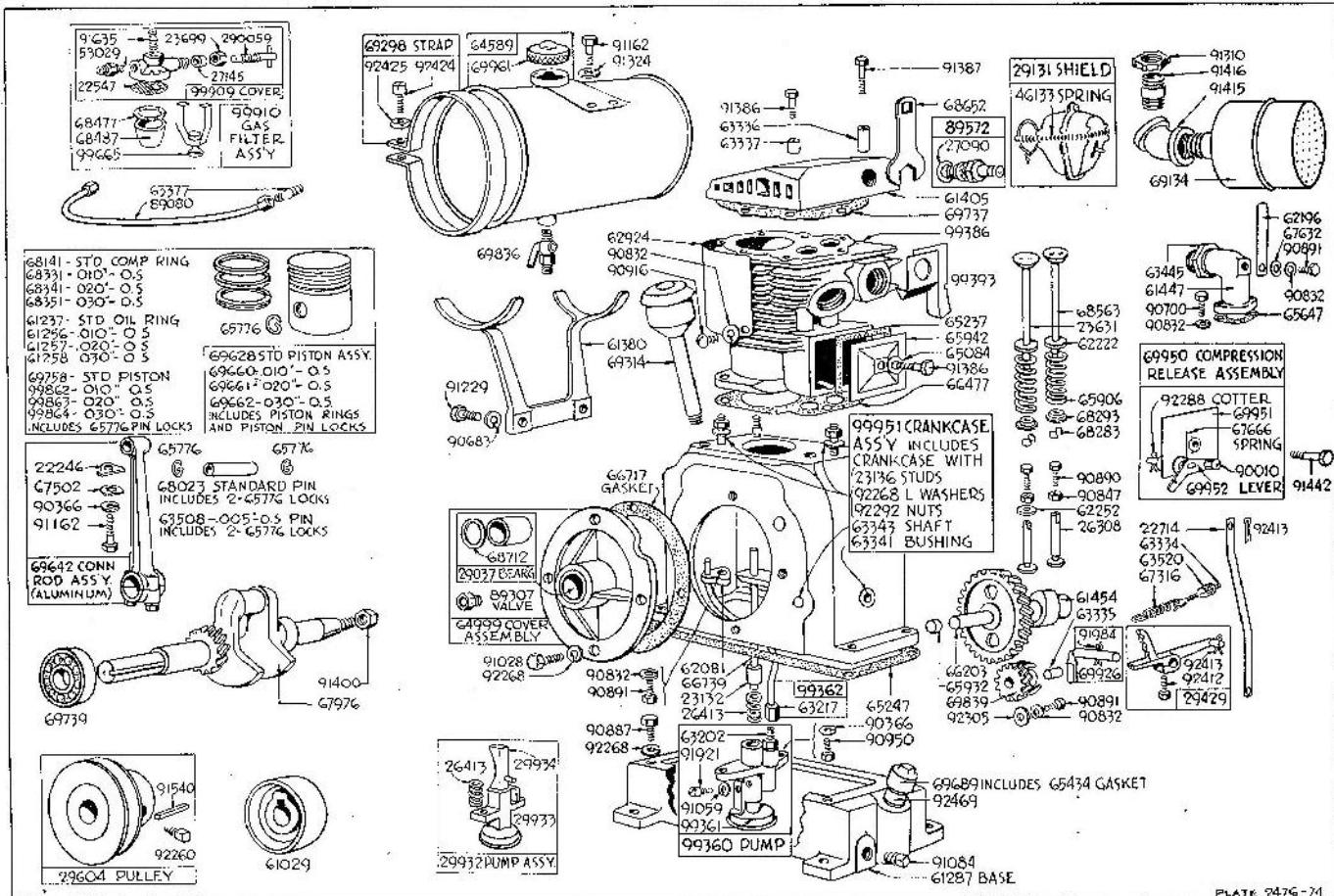
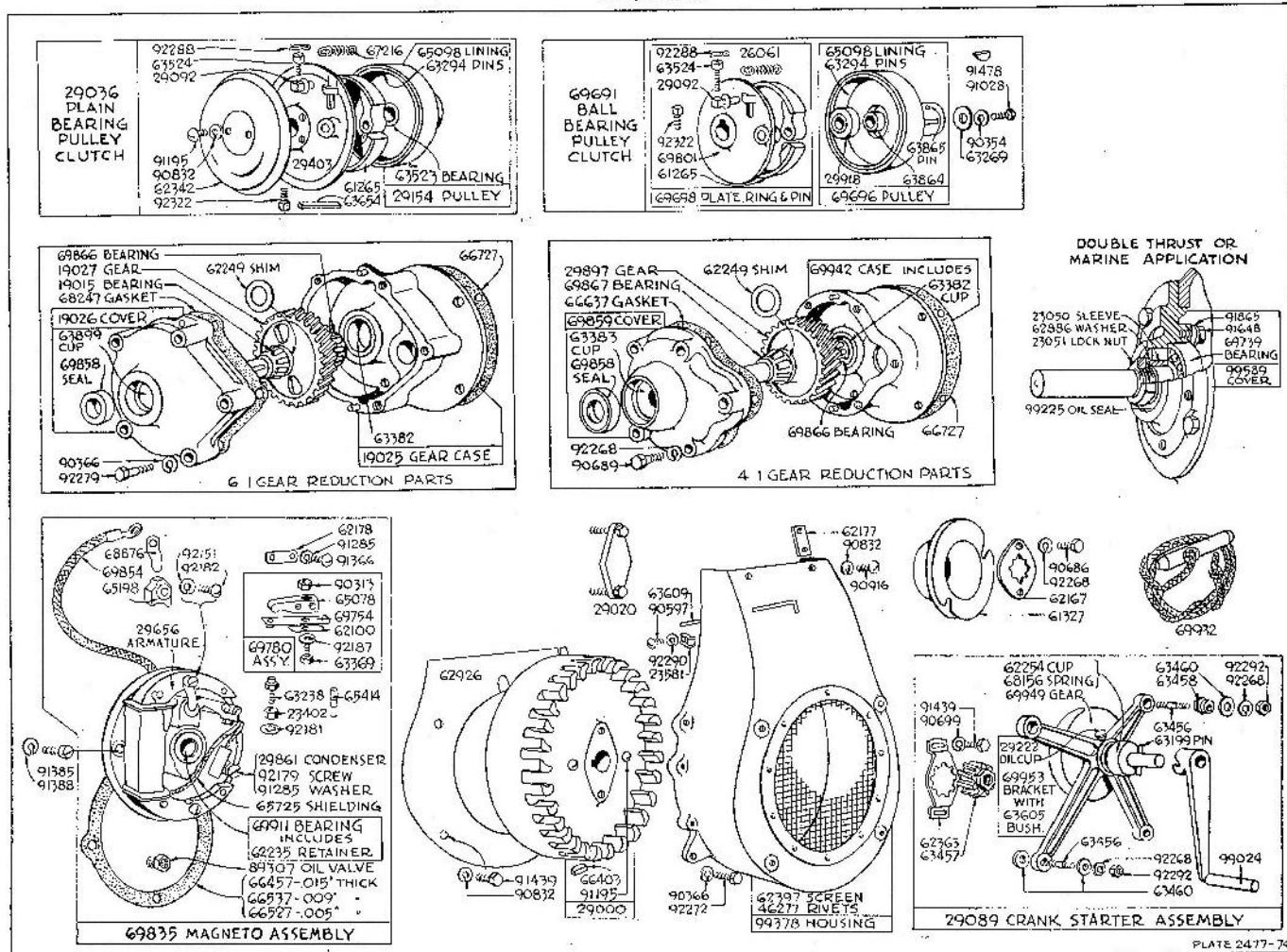
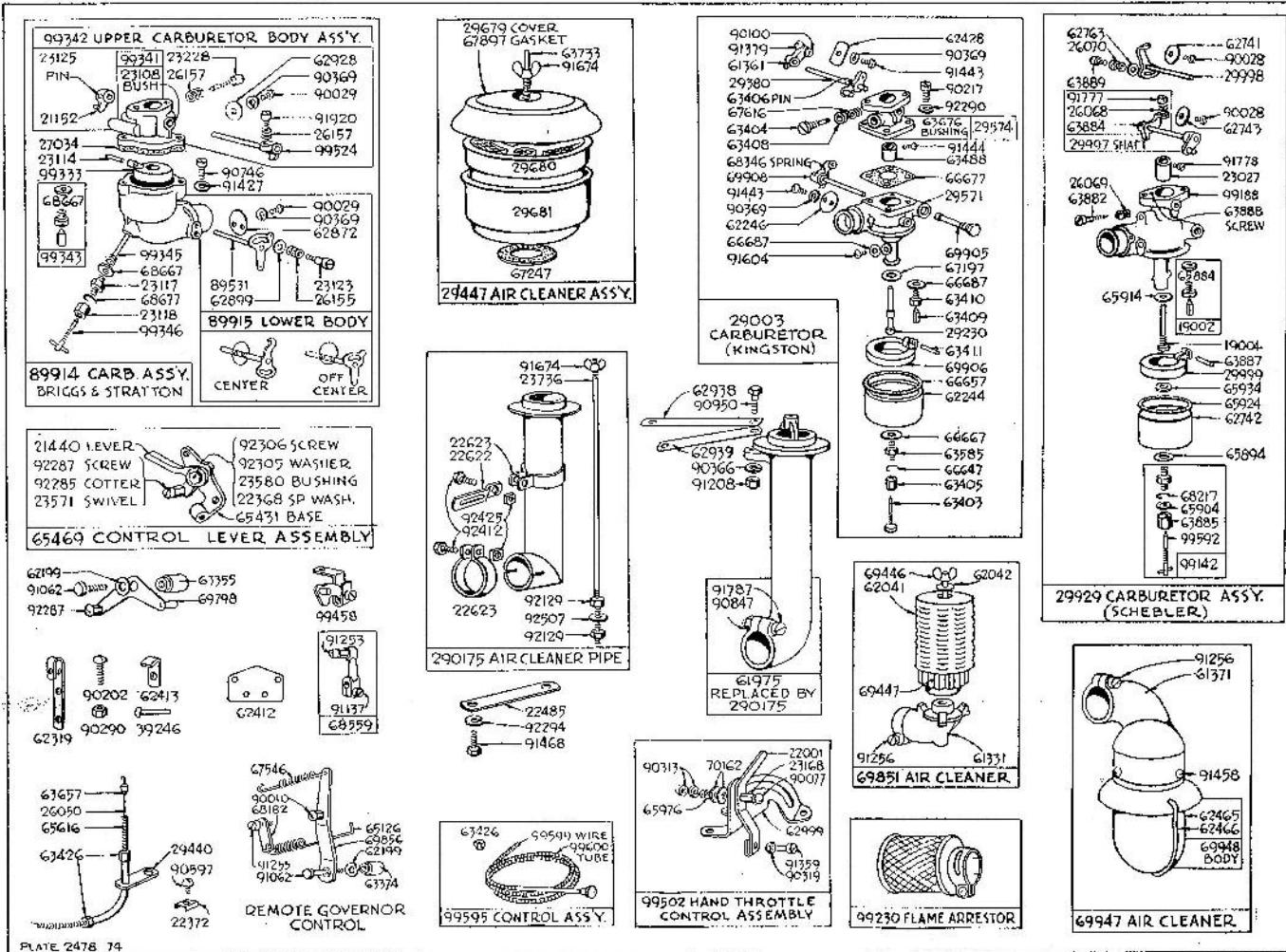


Plate No. 20



ASSEMBLIES INCLUDE ALL PARTS SHOWN IN BRACKETS



ASSEMBLIES INCLUDE ALL PARTS SHOWN IN BRACKETS

NATION-WIDE SERVICE ORGANIZATION

To provide prompt and efficient service on Briggs & Stratton motors, Authorized Central Service Distributors and Motor Service Stations are located in the principal cities of the United States and Canada.

Each Authorized Service Organization carries a complete stock of original Briggs & Stratton repair parts. Each is equipped with special factory service tools and factory-trained mechanics, assuring expert repair service on all Briggs & Stratton motors.

All Authorized Service Organizations are instructed by the factory to replace free of charge all parts found to be defective in either material or workmanship, according to the conditions of the Briggs & Stratton Guarantee.

All gratis work done under the guarantee is the responsibility of the Authorized Service Organization until all the material involved and supporting facts are submitted to and approved by the factory.

In a difference of opinion regarding a Service Organization's decision, their terms should be accepted and, either through them or direct, have all materials and supporting facts submitted to the factory for review.

Genuine Briggs & Stratton service will assure continuous motor satisfaction. Our long experience in motor maintenance prompts us to urge that all service work be done by an Authorized Service Organization or at our factory. Mechanics unfamiliar with Briggs & Stratton products, or without proper tools, should not be permitted to make major repairs.

Parts and repair work are F. O. B. Factory or any Authorized Briggs & Stratton Central Service Distributor, or Motor Service Station. The Central Service Distributor nearest you (see list below) will be glad to give you the name of our Motor Service Station in your locality. Space does not permit listing here.

Authorized Central Service Distributors

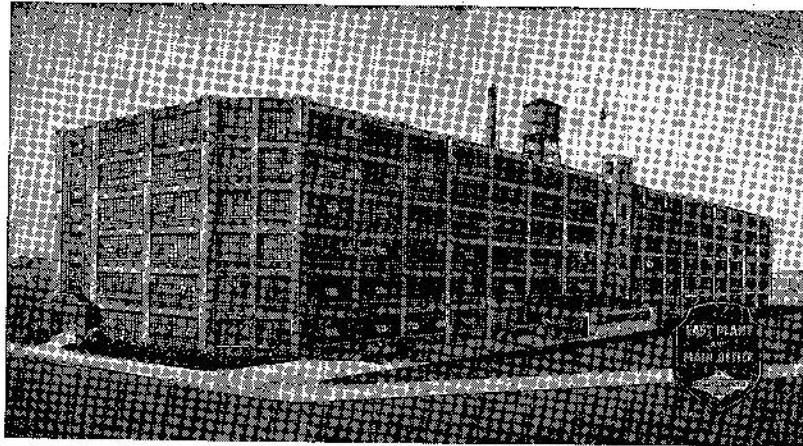
STATE	CITY	NAME	LOCATION
Alabama	Birmingham 3	Birmingham Electric Battery Co.	Ave. B. at 23rd St.
Arizona	Phoenix	Motor Supply Co.	315 N. Central Ave.
California	Los Angeles 15	Electric Equipment Co.	1611 S. Hope St.
California	San Francisco 9	Automotive Service Co.	1414 Van Ness Ave.
Colorado	Denver 1	Spiizer Electrical Company	43 W. 9th Ave.
Florida	Jacksonville 1	Spencer Electric, Inc.	40 W. Beaver St.
Florida	Miami 32	Electrical Equipment Co.	42-58 N. W. 4th St.
Georgia	Tampa 1	Spencer Auto Electric, Inc.	607-11 E. Cass St.
Illinois	Atlanta 3	Auto Electric & Magneto Co.	477 Spring St. N. W.
Indiana	Chicago 16	Mid-States Auto Electric Co.	1905 S. Michigan Ave.
Iowa	Indianapolis 1	Gulling Auto Electric Co.	450 N. Capitol Ave.
Kansas	Des Moines 9	Magneto Carburetor & Electric Co., Inc.	1808 Grand Ave.
Kentucky	Wichita 2	The E. S. Cowie Electric Co.	230 S. Topeka Ave.
Louisiana	Lexington 34	Kentucky Ignition Co., Incorporated	Rose and Vine Sts.
Louisiana	New Orleans 1	A. C. Suhren Company	1319 St. Charles Ave.
Massachusetts	Shreveport 80	Chain Battery & Automotive Supply, Inc.	Marshall at Cotton St.
Michigan	Boston 15	Wm. H. Flaherty Co.	48-52 Cummingson St.
Minnesota	Detroit 1	Auto Electric & Service Corporation	90 Selden Ave.
Missouri	Minneapolis 2	Reinhard Brothers Co., Inc.	11 S. Ninth St.
Missouri	Kansas City 8	The E. S. Cowie Electric Co.	1819 Wyandotte St.
Missouri	St. Louis 3	Medart Auto Electric Co., Inc.	3134 Washington Blvd.
Montana	Billings	Pasley & Spiizer Co.	20 N. 33rd St.
Nebraska	Lincoln	Carl A. Anderson, Inc.	1637 P Street
Nebraska	Omaha 2	Carl A. Anderson, Inc.	16th and Jones Sts.
New York	Buffalo 14	The Battery & Starter Co., Inc.	2505 Main St.
New York	New York 23	The Durham Co., Inc.	17 W. 60th St.
New York	Syracuse 4	The Durham Co., Inc.	601 W. Genesee St.
North Carolina	Charlotte 1	Carolina Rim & Wheel Co.	312 N. Graham St.
North Dakota	Fargo	Reinhard Brothers, Inc.	109 Roberts St.
Ohio	Toledo 2	The Electric Power Maintenance Co.	26-30 Seventeenth St.
Oklahoma	Oklahoma City 2	American Electric Ignition Co.	725 N. Broadway
Oregon	Portland 9	Tracey & Co., Inc.	N.W. 10th and Glisan
Pennsylvania	Philadelphia 30	Auto Equipment & Service Co., Inc.	1522-24 Fairmount Ave.
Pennsylvania	Pittsburgh 24	Pitt Auto Electric Company	5135 Baum Blvd.
South Dakota	Aberdeen	Reinhard Brothers Co., Inc.	317 S. Lincoln St.
Tennessee	Knoxville 7	R. T. Clapp Company	401-7 N. Broadway
Tennessee	Memphis 4	Automotive Electric Service Co.	1095 Union Ave.
Texas	Amarillo	The E. S. Cowie Electric Co.	700 Van Buren St.
Texas	Dallas 1	Beard & Stone Electric Co., Inc.	2101 Bryan St.
Texas	El Paso	Motor Supply Co.	308 Chihuahua St.
Texas	Houston 1	Beard & Stone Electric Company, Inc.	Milam at Polk Ave.
Texas	San Antonio 6	S. X. Callahan	425 N. Flores St.
Utah	Salt Lake 13	Motor Equipment Company	605-609 So. State St.
Washington	Seattle 14	Sunset Electric Co.	300 Westlake North
Wisconsin	Milwaukee 2	Wisconsin Magneto Co.	918 N. Broadway
DOMINION OF CANADA			
Manitoba	Winnipeg	Beattie Auto Electric Limited	176 Fort St.
Ontario	Toronto-5	Auto Electric Service Company Limited	1009-27 Bay St.

Only Authorized Service Organizations
Display this Sign —



Your Assurance of Efficient
Briggs & Stratton Service

BRIGGS & STRATTON CORP., • MILWAUKEE, WIS. U. S. A.



WHERE BRIGGS AND STRATTON MOTORS ARE MADE

THESE large and modern factory buildings, located in Milwaukee, Wisconsin, are complete with all modern equipment and machinery for precision construction, economical production, rigid inspection and thorough testing of Briggs & Stratton 4-cycle gasoline motors.

Briggs & Stratton Corp. produces more small 4-cycle air-cooled gasoline motors than any other manufacturer in the world.

