Operating Instructions

Adjustment and Repair Information
Parts List

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

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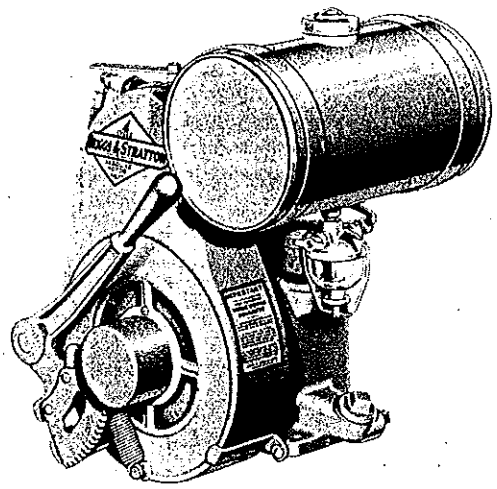
MODELS

"H"—"HM"



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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 2

4 CYCLE
BRIGGS & STRATTON
GASOLINE MOTOR

IMPORTANT SAFETY INFORMATION AND INSTRUCTIONS FOR

ENGINE SELECTION
ENGINE INSTALLATION
ENGINE OPERATION

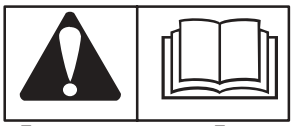
Keep these instructions for future reference.

In the USA and Canada,
our 24 hour hotline is:

18002333723

Briggs & Stratton Corporation
Milwaukee, Wisconsin 53201

www.briggsandstratton.com



Before installing and operating this engine read and observe all warnings, cautions and instructions on both sides of this sheet, on the engine, and in the operating & maintenance instructions.

NOTE: This sheet of instructions and safety information is not meant to cover all possible conditions and situations that may occur. Read entire Operating & Maintenance Instructions for this engine AND the instructions for the equipment this engine powers. Failure to follow instructions and safety information could result in serious injury or death.

The safety alert symbol (⚠) is used to identify safety information about hazards that can result in personal injury.

A signal word (DANGER, WARNING, or CAUTION) is used with the alert symbol to indicate the likelihood and the potential severity of injury. In addition, a hazard symbol may be used to represent the type of hazard.

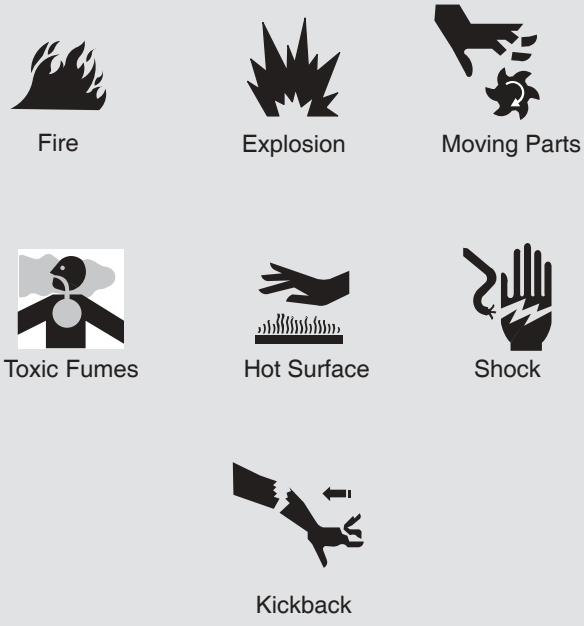
⚠ **DANGER** indicates a hazard which, if not avoided, **will result in death or serious injury.**

⚠ **WARNING** indicates a hazard which, if not avoided, **could result in death or serious injury.**

⚠ **CAUTION** indicates a hazard which, if not avoided, **might result in minor or moderate injury.**

CAUTION, when used **without** the alert symbol, indicates a situation that **could result in damage to the engine.**

HAZARD SYMBOLS AND MEANINGS



(OVER)

FORM MS-6445-01/03

ENGINE SELECTION

WARNING

Failure to select the correct engine could result in fire or explosion.

- Some engines are unique and designed for specific applications or types of equipment. If this engine will be used to build new equipment, contact Briggs & Stratton to ensure that the engine is appropriate for the intended use.

  Note: For all Go-karts use only a model 136200 series engine, which offers improved safety and performance.
- Replacement engines should be the same model as the original engine, or be the Briggs & Stratton designated replacement engine. Refer to the Operation & Maintenance Instructions for engine identification information.

  Note: For all Go-karts use only a model 136200 series engine, which offers improved safety and performance.
- Do not use Briggs & Stratton engines on 3-wheel All-Terrain Vehicles (ATVs), motor bikes, air craft products, or vehicles intended for use in competitive events. Briggs & Stratton does not approve of or authorize such uses.

ENGINE INSTALLATION

[1] Do not attempt to install this engine if you do not have the appropriate tools and knowledge of small engine installation procedures. Use only Briggs & Stratton parts. Contact your Authorized Service Dealer for assistance.

[2] Do not modify the engine in any way without Briggs & Stratton factory approval. Any such modification is at the owner's sole risk.

[3] If the exhaust system on the old engine was supplied by the equipment manufacturer, you must transfer the exhaust system and related components (original muffler and related pipes, brackets, clamps, and shields) to the new engine. All components must be in good condition.

[4] **WARNING**

Install muffler (and muffler deflector if used) so outlet points away from operator, fuel tank, and equipment, and so muffler heat will not damage or deform engine and components.

[5] **WARNING**

Ensure all fuel lines and fittings are properly assembled and do not leak. Replacement parts must be the same model as the original.

[6] **WARNING**

Ensure all wiring, including safety switches and engine shut-off components are completely installed and functioning properly.

[7] Set engine speed to equipment manufacturer's specification. Refer to equipment manufacturer's manual. Do not tamper with governor springs, or other parts that will increase engine speed above specification.

[8] **WARNING**

All engine parts, including fuel cap, spark plug, muffler, air cleaner, and covers and guards for drive components (gears, belts, shafts, couplings, etc.) must be in place before attempting to start engine.

[9] **WARNING**

If engine is installed on walk behind lawn mower, all mower components, including cutting blade, must be correctly installed before attempting to start engine.

[10] **WARNING**

When working on the engine or equipment, remove spark plug wire from spark plug. For electric start, remove negative wire from battery.

[11] **WARNING**

Do not check for spark with spark plug removed. Use Briggs & Stratton spark tester #19368.

ENGINE OPERATION

WARNING

When adding fuel:

Turn engine off and let engine cool at least 2 minutes before removing gas cap.

Fill fuel tank outdoors or in well-ventilated area. Fill tank to about 1 inch below lowest portion of neck to allow for fuel expansion.

Keep gasoline away from sparks, open flames, pilot lights, heat, and other ignition sources.

WARNING

When starting engine:

Remove all external equipment/engine loads.

Wait until spilled fuel is evaporated. Start engine outdoors.

Pull cord slowly until resistance is felt, then pull rapidly.

If engine floods, set choke to OPEN/RUN, place throttle in FAST and crank until engine starts.

WARNING

When operating equipment:

Do not tip engine or equipment at angle which causes gasoline to spill.

Run engine outdoors. Do not run in enclosed area, even if doors or windows are open.

Do not choke carburetor to stop engine.

Starting and Operating Instructions

	Paragraph
Before Starting the Motor	1
How to Start	2
Failure of Motor to Start	3
How to Stop	4
General Data	5

1. BEFORE STARTING THE MOTOR. Fill the crankcase with Mobiloil 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 directly below gas tank. 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 one pint. Fill the gas tank with a good grade of **clean** third grade gasoline. Tank holds one gallon. Do not mix oil and gasoline. See paragraphs 11 to 19.

2. HOW TO START. Open gasoline shut-off valve in gas filter or gasoline tank. Completely close carburetor choke.

A. HAND LEVER OR FOOT STARTER TYPE: Pull on hand lever or step down quickly on starter pedal to prime motor. After motor has been primed, open choke about halfway to start. 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: 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 with choke closed to prime the motor. Operate choke as explained under 2-A.

3. FAILURE OF MOTOR TO START — COLD WEATHER causes the oil in crankcase to become thick and the gasoline less volatile. Should you experience trouble in starting, we suggest that you give your motor a little extra priming. Also be sure that the spark plug points are clean and the gap set at .025". See plate No. 6 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, on page 3.

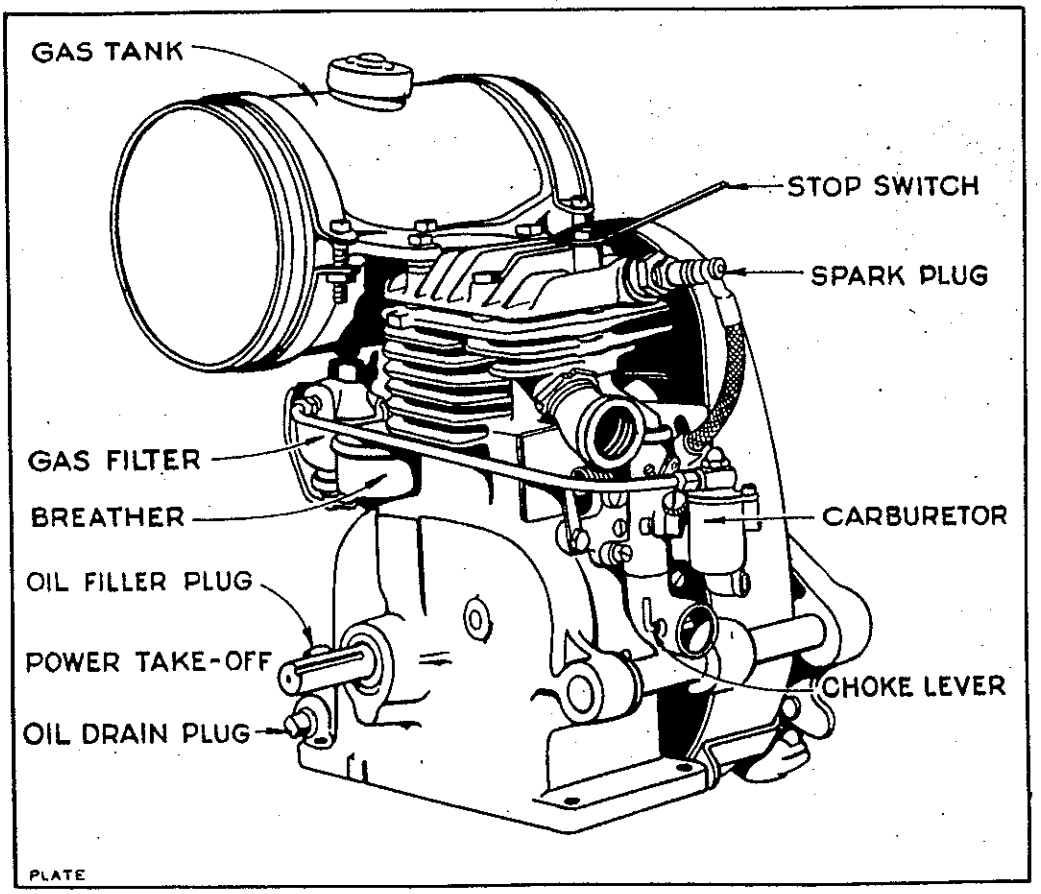
4. HOW TO STOP. Press the stop switch mounted on the cylinder head against the end of the spark plug. Hold it until motor stops. This will ground the spark.

5. GENERAL DATA. You will find your 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 3. If you cannot easily remedy it, consult your dealer, or a nearby Briggs & Stratton Authorized Central Service Distributor. See page 15.

Plate No. 1



Servicing Reference Chart

MOTOR FAILS TO START

	Paragraph
Out of Gasoline	1-16
Out of Oil	1-13-58
Dirt or Gum in Fuel System	16 to 19
Incorrect Use of Choke	20
Carburetor Out of Adjustment	22 to 26
Spark Plug Dirty	31-32
Ignition Cable Grounded	33
Magneto	34 to 46
Poor Compression	46 to 55
Air Cleaner Clogged	60

MOTOR STOPS

Out of Gasoline	1-16
Out of Oil	1-13-58
Dirt or Gum in Fuel System	16 to 19
Motor Overheated	13-58-59-62
Air Cleaner Clogged	60
Motor Overloaded	62

MOTOR OVERHEATS

	Paragraph
Out of Oil	1-13-58
Oil Needs Changing	14-15
Oil Too Heavy	14-15
Carburetor Out of Adjustment	22 to 26
Poor Spark	30-46
Carbon	59
Muffler Clogged	61
Overloaded	62

MOTOR LACKS POWER

Lack of Oil	1-13-58
Add or Change Oil	13 to 15
Carburetor Out of Adjustment	22 to 26
Motor Not Up to Speed	25 to 29
Poor Spark	30 to 33
Poor Compression	46 to 56
Carbon	59
Air Cleaner Clogged	60
Muffler Clogged	61
Overloaded	62

Instructions for Adjustment and Repair

	Paragraph
Operating Requirements	8
How a 4-Cycle Motor Operates	10
Keep the Motor Clean	11
Use the Right Kind of Oil	12
Add Oil Regularly	13
Change Oil Frequently	14
Use Clean Gasoline	16
Avoid Gummy Gasoline	17
To Clean the Fuel Lines	19
Correct Use of the Choke	20
To Prime the Motor	21
To Adjust the Carburetor	22
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To Clean Carburetor	26
Governor—Correct Motor Speed	27
The Ignition System	30
To Check for Spark	31
Spark Plug Adjustment	32
Ignition Cable	33
To Remove and Replace Flywheel	34
To Remove and Replace Magneto Assembly	36
Magneto Timing	37
To Adjust and Clean Contact Points	38
To Replace Condenser	40
To Replace Armature	42
Cylinder Head	46
Compression	47
Valve Adjustment	48
Piston	53
Piston Rings	55
Piston Pin	56
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Oil Leaks	58
Carbon	59
Air Cleaner	60
Muffler	61
Overload	62
Hand Lever or Starter Pedal Assembly	63
Starter Clutch	64
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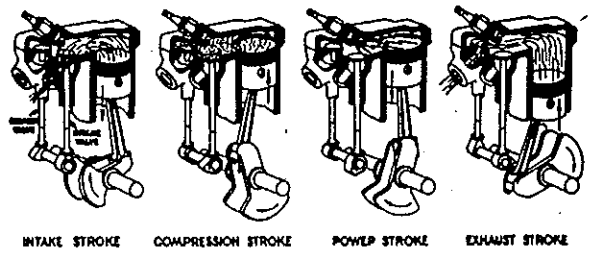
8. OPERATING REQUIREMENTS. A gasoline motor to operate properly must have all parts in correct adjustment to provide good ignition, carburetion, compression and cooling. And of equal importance, the oil and gasoline used must be clean and of recommended grades. The following instructions fully explain 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 MOBILOIL "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 gasoline. This 4-cycle motor is provided with an independent efficent 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 reservior at the blue plug to the top of the filler plug opening after each five hours of motor operation. Capacity of oil reservoir is one pint.

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 in oil filler boss, 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 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 grade of **clean, fresh,** third grade 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.

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.

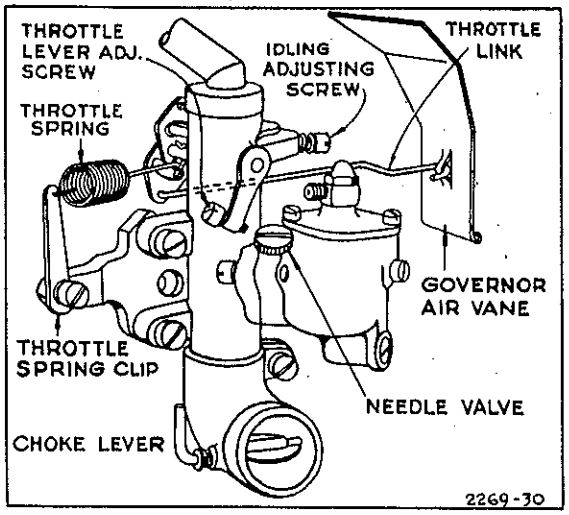
21. TO PRIME THE MOTOR. The motor may fail to start for the reason that either the carburetor is incorrectly adjusted or dirty, or the fuel line is dirty or clogged, or you are out of gasoline. To determine the cause, prime the motor by removing the spark plug and pour a half teaspoonful of gasoline 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 27. If motor will not fire at all, check the ignition system, see paragraphs 30 to 45, also compression, paragraphs 46 to 55.

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 29.

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 paragraph 28. 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.

Carburetor and Governor Hook-Up
Plate No. 3



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.

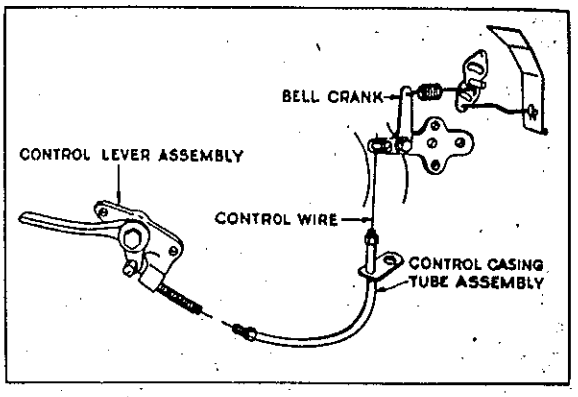
25. TO REMOVE AND REPLACE CARBURETOR. Disconnect gasoline line from the carburetor and gasoline filter. Unhook the throttle spring from the throttle spring clip. Remove the two screws and lockwashers holding the carburetor to the carburetor mounting bracket. Loosen the carburetor from the intake pipe by working from side to side. With the carburetor in your left hand, hold governor air vane down or to the left with the right hand. Then turn the carburetor to the left or toward crankcase to permit the throttle link to slip out of the hole in the throttle plate of the carburetor barrel. To replace, reverse the operations as performed above. See plate No. 3.

26. TO CLEAN CARBURETOR. To clean the carburetor, remove it from the motor as explained in the previous paragraph. Unscrew the carburetor cover nut. Remove cover from the bowl and blow through the small holes in the inlet stem. Remove the float from the bowl. Remove the bowl from the carburetor barrel by unscrewing the two small screws. Remove the needle valve. Wash all parts in gasoline and blow through all openings. Do not use wire to clean openings. If inlet valve or seat is worn, both should be replaced or carburetor will leak. Assemble the carburetor by reversing the operations as performed above. If necessary, use a new gasket between carburetor bowl and barrel. IMPORTANT: Care must be used not to damage the sharp or tapered end of float stem. Replace it in the same manner as removed, with the tapered end at the top. This acts as inlet valve and inlet valve seat when the cover is replaced.

27. GOVERNOR—CORRECT MOTOR SPEED. The speed of your motor is automatically maintained under varying loads by a pneumatic governor.

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 moving throttle spring clip. To increase motor speed move spring clip away from carburetor. To decrease motor speed move toward carburetor. Recommended speed is 1800 R. P. M.

Manual Carburetor Control
Plate No. 4



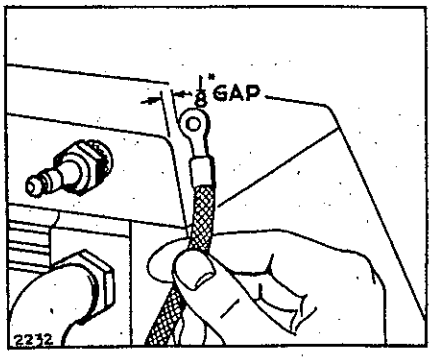
29. Some motors are equipped with manual or remote carburetor control as shown in plate No. 4. To increase motor speed, move control lever away from boss on the control lever base. This adds more tension to the throttle spring allowing carburetor throttle to open wider. To decrease motor speed, move the control lever toward the boss on the control lever base.

30. THE IGNITION SYSTEM. The spark is produced by a high tension magneto consisting of armature, condenser, contact points and rotating magnets cast in the 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.

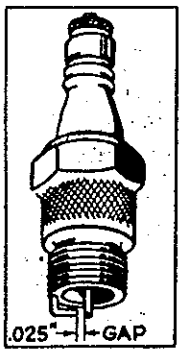
31. TO CHECK FOR SPARK. To prove that a satisfactory spark is being delivered by the magneto, remove the ignition cable from the plug. Hold ignition cable terminal about ⅛" from any metal part of the cylinder head (keep hand on insulated part of the cable to avoid a shock). Turn motor with starter, and if the spark jumps this gap the entire ignition system, with the exception of the spark plug, is O. K. See plate No. 5. (To check spark plug see paragraph 32.) If no spark, check cable, see paragraph 33, and refer to magneto adjustments paragraphs 34 to 45.

32. SPARK PLUG ADJUSTMENT. Spark plugs should be cleaned and points reset to .025" after each 100 hours of operation. See plate No. 6. Points burn away in service. The porcelain is to prevent the spark from jumping anywhere except at the gap, and

Checking Spark
Plate No. 5



Spark Plug
Plate No. 6

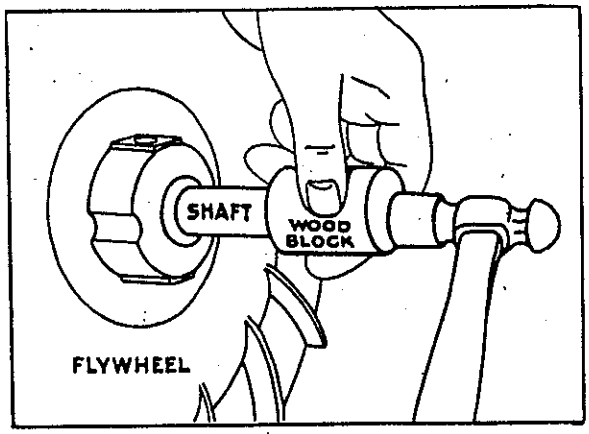


if cracked or broken it will prevent the plug firing. Water on the outside of the spark plug may permit the high voltage current to leak over the surface of the porcelain. Dirt or carbon on it will do the same thing. The spark plug can be cleaned by washing off the carbon with gasoline or kitchen scouring powder. Points should be scraped or sand-papered. See plate No. 6. 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.

33. 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. 11.

34. TO REMOVE AND REPLACE FLYWHEEL. The flywheel is mounted to the crankshaft with a bolt and nut. Remove the starter lever, pedal, or pulley and blower housing. Loosen flywheel nut and bolt enough so that you can remove starter clutch assembly. Mark flywheel and crankshaft on the bolt head side. Remove nut and bolt. The flywheel will then come off by tapping on the end of the crankshaft with a hammer and pulling on the flywheel. Protect the end of the crankshaft with a wooden block. A special tool No. 29593 is designed to remove flywheel easily and is available from the factory at 35 cents net each.

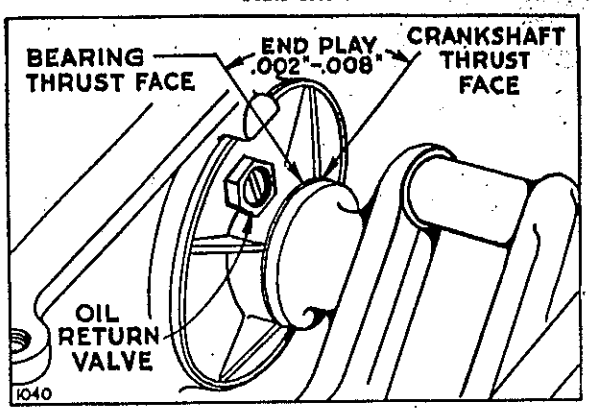
Removing Flywheel
Plate No. 7



35. To reassemble, locate marks you have made on flywheel and crankshaft, line up holes in flywheel with that in crankshaft and assemble bolt and one clutch retainer clip with the bolt head on the marked side of the flywheel. Replace starter clutch, then bolt securely in place.

36. TO REMOVE AND REPLACE MAGNETO ASSEMBLY. After removing flywheel as explained in paragraph 34, detach the ignition cable from the spark plug and remove the four magneto mounting 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, 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. 8. Use lockwashers under mounting screws.

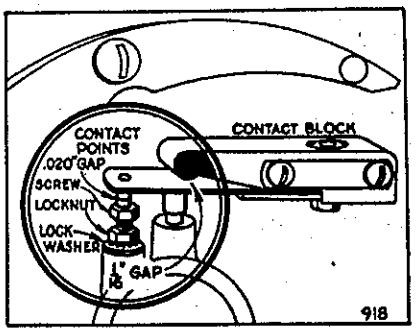
Correct End Play
Plate No. 8



37. MAGNETO TIMING. The magneto assembly is always correctly timed with the motor when the flywheel is assembled to the crankshaft and securely held in place with a bolt and nut. Do not attempt to change the timing by relocating any parts or filing crankshaft timing flat.

38. 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.

Magneto Contact Points
Plate No. 9

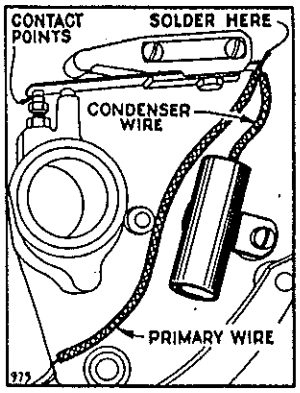


39. To line up contact points loosen contact spring bolt. Move contact spring assembly to line up with contact screw point. Tighten contact spring bolt. To adjust contact spring tension place 1/16" gauge between contact spring and round end of contact block, then tighten contact block screws. Turn contact screw to secure .020" gap and tighten locknut against lockwasher. See plate No. 9. If either or both points become badly pitted or burned, replace both points, part Nos. 63238 and 69754.

40. 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. 10.)

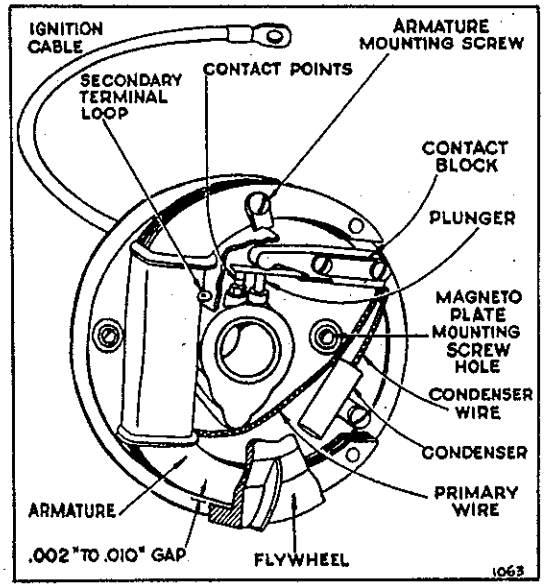
41. If after new condenser has been installed the ignition system still does not deliver a satisfactory spark, we recommend sending the complete magneto unit including the flywheel to the nearest Briggs & Stratton Central Service Distributor listed on page 15 for proper adjustment.

Condenser Installation
Plate No. 10



42. TO REPLACE ARMATURE. Remove armature lead wire from contact spring, and high tension ignition cables 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 magneto assembly. Unscrew two armature mounting screws and pry armature loose with screw driver.

Complete Magneto Assembly
Plate No. 11



43. 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 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. 11.

44. 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.

45. 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 spot 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.

46. CYLINDER HEAD. The cylinder head is held on with six 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.

47. 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.

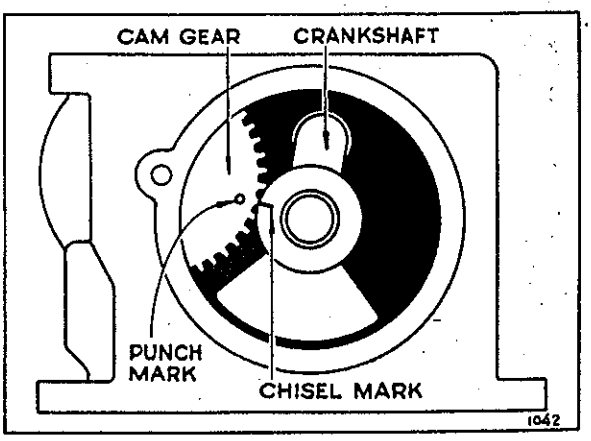
48. VALVE ADJUSTMENT. To check valve clearance remove valve cover plate. The correct clearance on the exhaust valve is .020", and on the intake valve .010" when motor is cold. Tappet clearance is adjusted by grinding required amount from end of valve stem. End of stem must be square with stem proper.

49. 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.

50. 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 is placed 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.

51. 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.

Valve Timing — Plate No. 12



52. 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. 12.

53. 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 .005" 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.

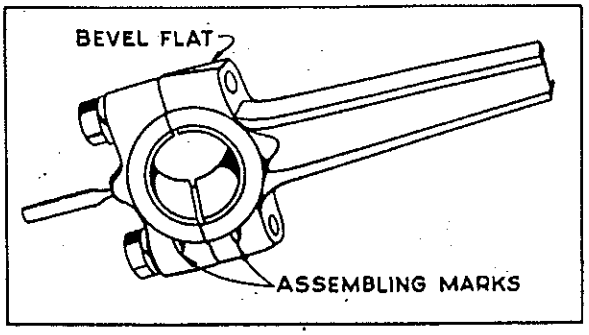
54. When fitting a new piston in the motor, assemble it with the free side pin hole with an "X" on boss, toward the magneto side. If an oversize piston is necessary, we recommend that reboring of cylinder be done by an Authorized Central Service Distributor or the factory.

55. 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.

56. 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.

57. 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 bevel flat must be toward the cam gear. The assembly marks on cap and rod must be on same side. See plate No. 13.

Connecting Rod — Plate No. 13



58. 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. 8.

59. 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.

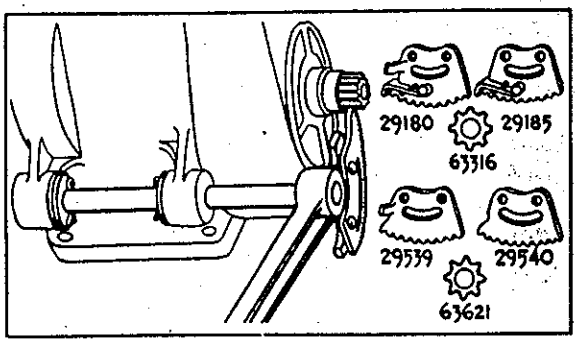
60. AIR CLEANER. The air cleaner is to protect the motor from dust and dirt. No motor can stand up under the grinding action that takes place when dust and dirt particles are drawn into the motor through the carburetor. The felt should be removed regularly and accumulated dust and dirt brushed out and felt washed thoroughly with gasoline. Make sure felt is dry before replacing.

61. 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.

62. 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.

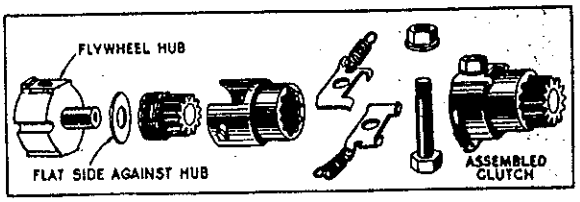
63. HAND LEVER OR STARTER PEDAL ASSEMBLY. The gear sector on the starter pedal of this type motor should align squarely with the starter pinion on the crankshaft. Use the three washers on the pedal shaft by changing them to different positions between starter shaft lugs until gear sector lines up with the center of starter pinion gear. Be sure that the sector does not bind in any position. To replace the sector it is necessary to remove only two rivets and rivet new one in place.

Starter Assembly — Plate No. 14



64. STARTER CLUTCH. The pinion gear No. 63316 of the starter clutch assembly, on the first model "H" motors had blunt gear teeth. This pinion gear was used with sector assembly Nos. 29180 and 29185 which are equipped with a spring tooth assembly as shown in plate No. 14. Do not use this pinion gear with new type sector assemblies 29539 and 29540 which are not equipped with a spring tooth.

Starter Clutch — Plate No. 15



65. PARTS. All parts should be ordered from your dealer or the nearest Briggs & Stratton Service Distributor, listed on page 15.

Repair Parts

	Paragraph
Always Give Type, Model and Serial Number	67
How to Make Out Parts Orders	69
Prices	73

	Page
Parts List	10-13
Parts Illustrations	14

66. 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.

67. 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.

68. 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 unit to be serviced. This will assure prompt and efficient service wthout unnecessary correspondence.

69. 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.

70. 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 10 to 13, and parts illustrations on page 14.

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

72. 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.

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.
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 no special "Note" appears below the Master Part Number, order the Master Number.
5. If a "Note" appears below the Master Part Number, this means that this part is made differently for certain Motor Type Numbers.
6. If your Motor Type Number does appear after any part number listed under "Note," order the Part Number referred to as used on your particular Motor Type Number; otherwise, 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

MODELS "H" — "HM"

MASTER PART NUMBER	NAME	SHIPPING WEIGHT Lbs.	Oz.
22012	Cover — Valve	..	4
22013	Lever — Throttle	..	4
22021	Bracket — Throttle Spring	..	1
22352	Washer — Cylinder Plug	..	1
22353	Washer — Valve Cover	..	1
22368	Washer — Control Lever	..	1
22371	Shim — Connecting Rod	..	1
	Used on earlier model engines.		
22372	Clamp — Control Wire Casing	..	1
22547	Screen — Filter — With Rectangular Hole	..	1
	Note: For screen with round hole order **No. 62876**.	..	1
	Use **No. 62477** screen on earlier model engines with Tillotson Fuel Filter	..	1
22725	Washer — Control Lever	..	1
22834	Washer — Spacer	..	1
22944	Lock — Connecting Rod Screw	..	1
	Note: **No. 90832** Lockwasher — ¼ x $\frac{21}{32}$ x $\frac{5}{64}$"	..	1
	Used on connecting rods with dipper cast on cap.		
23164	Screw — Idle Adjusting	..	1
23168	Screw — Throttle Lever	..	1
23180	Spacer — Throttle Lever	..	1
23208	Spacer — Throttle Lever	..	1
23402	Locknut — Contact Screw	..	1
23571	Swivel — Control Lever	..	1
23580	Bushing — Control Lever	..	1
23699	Nut — Fuel Shut-off Lever	..	1
	Used with ⅜" Dia. Shut-off Lever		
	Note: **No. 23346** Nut — Fuel Shut-off Lever	..	1
	Used with $\frac{3}{16}$" Dia. Shut-off Lever		
23933	Valve — Fuel Shut-off ⅜" Dia.	..	2
	Note: **No. 23347** Valve — Fuel Shut-off $\frac{3}{16}$" Dia. "L" shaped	..	2
	No. 29536 Valve — Fuel Shut-off	..	4
	Used on earlier model engines with Tillotson Fuel Filters		
26185	Spring — Idle Adjusting Screw	..	1
26195	Link — Throttle	..	1
27090	Gasket — Spark Plug	..	1
27145	Packing — Fuel Shut-off Lever	..	1
	Used with ⅜" Dia. Shut-off Lever		
	Note: **No. 27019** Packing — Fuel Shut-off Lever	..	1
	Used with $\frac{3}{16}$" Dia. Shut-off Lever		
29034	Tank — Fuel	2	8
	Note: **No. 29640** Tank — Fuel	2	8
	Used on type Nos. 20785, 60493, 60781.		
	No. 69963 Tank — Combination Fuel	4	..
	Used on type Nos. 60987, 60995.		
29131	Shield — Spark Plug	..	6
29270	Wire — Choke Control (33½")	..	2
	Note: If longer wire is needed, specify length in inches; if shorter wire is needed, order No. 29270 and cut to required length.		
29288	Horn — Carburetor Air	..	5
	Note: **No. 29078** Horn — Carburetor Air	..	5
	Used on type Nos. 60231, 60263, 60454, 60455, 60854, 60901, 60916.		
	No. 69121 Horn — Carburetor Air	..	5
	Used on types Nos. 60458, 60648, 60677, 60712, and on earlier models without Fuel Filter.		
29346	Cable — Ignition	..	2
	Note: **No. 29552** Cable — Ignition	..	2
	Used on type Nos. 25859, 60521, 60708.		
29476	Pipe — Fuel — 13⅝" lg.	..	8
	Note: For other lengths of ¼" dia. Fuel Pipes specify:		
	No. 29464 Pipe — Fuel — 11½" lg.		
	No. 29653 Pipe — Fuel — 10" lg.	..	8
	Earlier model engines equipped with fuel shut-off valve No. 89615 used $\frac{3}{16}$" dia. fuel pipes in various lengths as listed below:		
	No. 29083 Pipe — Fuel — 19" lg.	..	8
	No. 29258 Pipe — Fuel — 16" lg.	..	8
	No. 69017 Pipe — Fuel — 30" lg.	..	8
	No. 69355 Pipe — Fuel — 10" lg.	..	8
	No. 69419 Pipe — Fuel — 13¼" lg.	..	8
	The following fuel pipes and connections used with No. 69963 combination fuel tank:		
	No. 29201 Pipe — Fuel — 17" lg.	..	1
	No. 63416 Nut — Check	..	1
	No. 65604 Plug — Check Valve	..	1
	No. 69836 Valve — Shut-off (2)	..	3
	No. 69914 Pipe — Fuel (2) — 1⅛" lg.	..	2
	No. 69915 Tee (2)	..	1
	No. 99008 Pipe — Fuel — 3⅞" lg.	..	1
29480	Carburetor Assembly	1	..
	Note: **No. 64849** Carburetor Assembly	1	..
	Used on all earlier model engines equipped with $\frac{3}{16}$" gas line and 89615 shut-off valve. Includes: No. 68152 Screen—Inlet Connector	..	1
29539	Sector — Starter	1	..
29540	Sector — Starter	1	..
29593	Puller — Flywheel (Optional Accessory)	1	..
29632	Cover Assembly — Carburetor	..	4
29656	Armature Assembly	3	..
29861	Condenser	..	2
29915	Cover and Seat — Carburetor	..	4
	Note: **No. 69239** Cover and Seat — Carburetor	..	4
	Used on earlier models without Fuel Filter.		
38882	Washer — Bumper Mounting	..	1
42007	Washer — Starter Shaft	..	1
46133	Spring — Spark Plug Shield	..	1
46277	Rivet — Tubular — ⅛ x $\frac{5}{16}$"	..	1
53029	Connector — Fuel Filter	..	1
61010	Ring — Piston, Compression, Top and Center — .010" O.S.	..	1
61012	Ring — Piston, Compression, Top and Center — .020" O.S.	..	1
61013	Ring — Piston, Compression, Top and Center — .030" O.S.	..	1
61157	Elbow — Air Cleaner	..	3
61222	Head — Cylinder	2	8
61311	Gear — Cam	2	..

MASTER PART NUMBER	NAME	SHIPPING WEIGHT Lbs.	Oz.
61410	Bracket — Fuel Tank	2	8
61415	Pulley — Rope Starter	1	..
	Note: **No. 290424** Pulley — Rope Starter	1	..
	Used on type No. 60218.		
61416	Bracket — Carburetor Mounting	..	10
61418	Leg — Engine Mounting	2	..
61505	Ring — Piston, Oil — Std.	..	1
61541	Bracket — Fuel Tank	2	8
	Note: **No. 61596** Bracket — Fuel Tank	2	8
	Used on type No. 60473.		
	No. 61727 Bracket — Fuel Tank	2	8
	Used on type Nos. 20785, 60493, 60781.		
61747	Ring — Piston, Oil — .010" O.S.	..	1
61748	Ring — Piston, Oil — .020" O.S.	..	1
61749	Ring — Piston, Oil — .030" O.S.	..	1
62034	Strap — Fuel Tank	..	2
62039	Shell — Air Cleaner	..	3
62100	Stop — Contact Spring	..	1
62142	Ring — Oil Retainer (Cylinder Bushing)	..	1
	Note: **No. 62157** Ring — Oil Retainer	..	1
	Used on type Nos. 60582, 60730.		
62143	Ring — Oil Retainer (Magneto Plate Bushing)	..	1
62148	Cup — Clutch Spring	..	4
62151	Retainer — Cup and Spring	..	1
62152	Washer — Starter Clutch Spring	..	1
62154	Cover — Valve	..	4
62170	Vane — Governor Air	..	2
62176	Plate — Engine Base	1	8
	Note: **No. 29233** Plate — Engine Base	1	8
	Used on type Nos. 60252, 60424, 60565.		
	No. 91083 Plug — Filler	..	2
	Used with No. 29233 Base Plate		
	No. 29468 Plate — Engine Base	1	8
	Used on type Nos. 60564, 60688.		
	No. 291051 Base — Engine	10	..
	Used on type No. 60413.		
	No. 90878 Plug — Pipe — ¼"	..	2
	No. 90886 Plug — Pipe — ½"	..	2
	Used with No. 291051 Base.		
62178	Plate — Contact Block	..	1
62187	Retainer — Cup and Spring	..	1
62199	Washer — Bell Crank	..	1
62208	Washer — Pulley	..	1
62213	Guard — Starter Clutch	..	6
	Note: **No. 62468** Guard — Starter Clutch	..	6
	Used on type Nos. 25805, 60414, 60610, 60883.		
62266	Washer — Blower Housing Bracket		1
62304	Switch — Stop	..	1
	Note: No. 62338 Switch — Stop	..	1
	Used on type Nos. 60231, 60263, 60454, 60455, 60854, 60901, 60916.		
	No. 62998 Switch — Stop	..	1
	Used on type Nos. 25368, 25369, 25370, 25371, 25802, 25803, 25806, 25807, 25811, 25864.		
62454	Bar — Spacer	..	2
63092	Spacer — Engine Mounting	..	1
63157	Screw — Carburetor Air Bleed	..	1
63159	Key — Pulley	..	1
63165	Plug — Carburetor Drain	..	1
63238	Screw — Contact Point	..	1
63327	Pin — Governor Vane Pivot	..	1
63361	Bolt — Pulley Mounting	..	1
	Note: **No. 63444** Bolt — Pulley Mounting	..	1
	Used on type No. 60981		
	No. 63521 Bolt — Pulley Mounting	..	1
	Used on type No. 60231.		
63377	Connector — Fuel Pipe	..	1
63423	Spacer — Cylinder Head	..	1
63426	Locknut — Control Wire Casing	..	1
63462	Pipe — Carburetor Intake	..	1
63474	Bushing — Bell Crank	..	1
63621	Pinion — Starter Clutch	..	4
63720	Extension — Crankshaft	..	2
63745	Connector — Fuel Pipe	..	1
	Note: **No. 68891** Connector — Fuel Pipe	..	1
	Used on earlier model engines without fuel filter.		
64539	Clamp — Ignition Cable Ground	..	1
64819	Crank — Bell	..	1
64829	Tube — Control Casing	..	2
	Note: **No. 29060** Tube — Control Casing	..	2
	Used on type Nos. 60271, 60629.		
	No. 29162 Tube — Control Casing	..	2
	Used on type Nos. 60252, 60424.		
	No. 29467 Tube — Control Casing	..	2
	Used on type Nos. 20455, 60564, 60688.		
	No. 29520 Tube — Control Casing	..	2
	Used on type No. 60610.		
	No. 64799 Tube — Control Casing	..	2
	Used on type No. 60218.		
	No. 69411 Tube — Control Casing	..	2
	Used on type No. 60338.		
	No. 99582 Tube — Control Casing	..	2
	Used on type Nos. 25368, 25369, 25802, 25806, 25864.		
	No. 291269 Bracket — Control Wire Casing	..	3
	Used on type Nos. 60300, 60493, 60627, 60780, 60781.		
60859	Barrel — Carburetor	..	8
	Note: **No. 29512** Barrel — Carburetor	..	8
	Used on type Nos. 20383, 25368, 25369, 25370, 25371, 25802, 25803, 25806, 25807, 25811, 25864, 60493, 60780, 60781, 60844, 60883, 60966, 60981.		
65078	Block — Contact Spring	..	1
65158	Bumper — Starter Pedal	..	1
65414	Plunger — Magneto Point	..	1
65451	Ring, Piston, Compression, Top and Center — Std.	..	1
65499	Cap — Fuel Tank	..	2
65522	Bracket — Blower Housing	..	1
	Note: **No. 62395** Spacer — Blower Housing	..	1
	Used on type Nos. 60252, 60424, 60565.		
	No. 62825 Bracket — Blower Housing, L.H.	..	1
	No. 62826 Bracket — Blower Housing, R.H.	..	1
	Used on type No. 20785.		
65534	Gasket — Oil Filler Cap	..	1
65616	Casing — Control Wire — 72" long	..	2
	Note: **No. 26189** Casing — Control Wire (Brass) — 80" long	..	8
	Used on type Nos. 25802, 25806, 25864.		
	No. 26194 Casing — Control Wire (Brass) — 72" long	..	8
	Used on type Nos. 25368, 25369.		
	For all other types, if longer casing is needed, specify length in inches; if shorter casing is needed, order No. 65616 and cut to required length.		
65617	Gasket — Valve Cover	..	1
65667	Gasket — Carburetor Barrel	..	1
65687	Gasket — Base Plate	..	2
	Note: **No. 66987** Gasket — Base Plate	..	2
	Used on type No. 60413.		
	No. 67087 Gasket — Base Plate	..	2
	Used on type Nos. 60252, 60424, 60565.		
65724	Gasket — Carburetor Connector	..	1
	Note: **No. 65244** Gasket — Carburetor Connector	..	1
	Used on earlier models without fuel filter.		
65725	Insulator — Armature Lead	..	1
65734	Gasket — Carburetor Connector	..	1
	Note: **No. 65124** Gasket — Carburetor Connector	..	1
	Used on earlier models without Fuel Filter.		
65735	Insulator — Condenser Lead	..	1
65906	Spring — Valve	..	2
65976	Spring — Throttle Lever	..	1
66246	Lock — Piston Pin	..	1
66457	Gasket — Magneto Plate .015"	..	1
66527	Gasket — Magneto Plate .005"	..	1
66537	Gasket — Magneto Plate .009"	..	1
66916	Tappet — Valve	..	2
66979	Rope — Starter	..	4
67266	Wire — Control 79" long	..	2
	Note: **No. 26188** Wire—Control—Bronze 84" long	..	2
	Used on type Nos. 25802, 25806, 25864.		
	No. 26193 Wire—Control—Bronze 76" long	..	2
	Used on type Nos. 25368, 25369.		
	For all other types if longer wire is needed, specify length in inches; if shorter wire is needed, order No. 67266 and cut to required length.		
67316	Spring — Throttle Return	..	1
67376	Spring — Starter Clutch Return	..	3
67456	Spring — Starter Return	..	3
	Note: **No. 67586** Spring — Starter Return	..	3
	Used on type Nos. 20812, 60250, 60256, 60259, 60362, 60473, 60515, 60656, 60671, 95282.		

MASTER PART NUMBER	NAME	SHIPPING WEIGHT Lbs.	Oz.
67506	Spring with Washer — Starter Clutch	..	2
67906	Link — Throttle	..	1
67956	Spring — Throttle Return	..	1
67992	Clip — Throttle Spring	..	1
68022	Bracket — Blower Housing	..	1
68122	Plug — Camshaft	..	1
68246	Crankshaft	5	..
	Note: **No. 67486** Crankshaft	5	..
	Used on type Nos. 60582, 60730.		
	No. 68046 Crankshaft	5	..
	Used on type Nos. 60231, 60707, 60981.		
68283	Collar — Valve Spring	..	1
68293	Washer — Valve Spring Retainer	..	1
68333	Shaft — Cam Gear	..	4
68449	Muffler	1	..
68466	Casing — Choke Wire — 31" long	..	6
	Note: If longer casing is needed, specify length in inches if shorter casing is needed, order No. 68466 and cut to required length.		
68477	Gasket — Fuel Filter	..	1
	Note: **No. 67267** Gasket — Fuel Filter	..	1
	Used on earlier model engines with Tillotson Fuel Filter.		
68487	Bowl — Fuel Filter	..	2
	Note: **No. 67257** Bowl — Fuel Filter	..	3
	Used on earlier model engines with Tillotson Fuel Filter.		
68652	Wrench — Spark Plug	..	6
68923	Valve — Intake and Exhaust	..	4
69004	Gasket — Cylinder Head	..	2
69149	Float — Carburetor	..	3
69177	Tank — Fuel	2	..
69245	Pulley — Drive — V-Belt — 3" dia.	1	..
	Note: **No. 29636** Pulley — Drive, V-Belt — 3" dia.	1	..
	Used on type Nos. 20474, 20841, 60624, 60823, 95147.		
	No. 61145 Pulley — Drive, Flat Belt — 2¼" dia.	3	..
	Used on type Nos 60770, 60990.		
	No. 63137 Pulley—Drive, V-Belt—2 5/16" dia.	1	..
	Used on type Nos. 60256, 60656.		
	No. 69238 Pulley—Drive, V-Belt—4⅜" dia.	1	..
	Used on type Nos. 60336, 60473.		
69298	Strap — Fuel Tank	..	6
	Note: **No. 29641** Strap — Fuel Tank	..	6
	Used on type Nos. 20785, 60493, 60781.		
69423	Cleaner Assembly — Air	..	12
69445	Filter — Air Cleaner	..	2
69446	Stud and Wing Nut	..	2
69460	Valve — Needle	..	1
69751	Breather	..	8
69752	Cylinder	20	..
	Note: **No. 29253** Cylinder		
	Used on type No. 60424.		
	No. 69814 Cylinder		
	Used on type Nos. 60582, 60730.		
69754	Point and Spring — Contact	..	1
69755	Housing — Blower	2	8
	Note: **No. 29139** Housing — Blower	2	8
	Used on type Nos. 60457, 60834.		
	No. 29219 Housing — Blower	2	8
	Used on type Nos. 60256, 60259, 60473, 60656, 60671, 95282.		
	No. 29521 Housing — Blower	2	8
	Used on type Nos. 20049, 20380, 20449, 20474, 20789, 20822, 20832, 25805, 25812, 60204, 60218, 60229, 60280, 60414, 60458, 60564, 60610, 60624, 60658, 60712, 60740, 60743, 60883, 95068, 95094.		
	No. 64469 Housing — Blower	2	8
	Used on type Nos. 20812, 60250, 60362, 60515.		
	No. 99041 Housing — Blower	2	8
	Used on type No. 20455.		
	No. 99533 Housing — Blower	2	8
	Used on type Nos. 25369, 25371, 25803, 25806, 25811, 25864.		
	No. 99536 Housing — Blower	2	8
	Used on type Nos. 25368, 25370, 25802, 25807.		
69756	Rod Assembly — Connecting	..	8
69780	Block Assembly — Contact	..	8
69781	Magneto Assembly	7	..
	Note: No. 29256 Magneto Assembly	7	..
	Used on type Nos. 20455, 25368, 25369, 25370, 25371, 25802, 25803, 25806, 25807, 25811, 25864, 60252, 60564, 60565, 60688.		
	No. 29371 Magneto Assembly	7	..
	Used on type No. 60285.		
	Includes: **No. 64009** Wire — Ground	..	1
	No. 29385 Magneto Assembly	7	..
	Used on type Nos. 60521, 60708.		
	Includes: **No. 65335** Wire — Ground	..	1
	No. 69993 Magneto Assembly	7	..
	Used on type Nos. 20380, 20474, 20812, 60250, 60259, 60362, 60363, 60364, 60402, 60452, 60454, 60455, 60515, 60576, 60623, 60653, 60671, 60677, 60679, 60696, 60712, 60796, 60853, 60854, 60901, 60916, 95094, 95282.		
	Includes **No. 65335** Wire — Ground	..	1
	No. 290850 Magneto Assembly	7	..
	Used on type No. 25859.		
69782	Plate — Back	1	..
69818	Bushing — Cylinder	..	2
	Includes: **No. 62142** Ring — Oil Retainer	..	1
	Note: **No. 69825** Bushing — Cylinder	..	2
	Includes: **No. 62157** Ring — Oil Retainer	..	1
	Used on type Nos. 60582, 60730.		
69819	Bushing — Magneto Plate	..	2
	Includes **No. 62143** Ring — Oil Retainer	..	1
69821	Plate — Magneto	2	..
69836	Valve — Fuel Shut-Off	..	2
	Note: **No. 89615** Valve — Fuel Shut-Off	..	2
	Used on earlier model engines without fuel filter and using 1/8" fuel pipe.		
69848	Pulley — Drive, V-Belt — 3" dia.	1	..
69852	Starter Assembly — Foot	4	..
	Note: **No. 29192** Starter Assembly — Foot	4	..
	Used on type Nos. 60362, 60515.		
	No. 69816 Starter Assembly — Foot	4	..
	Used on type No. 60637.		
	No. 69957 Starter Assembly — Foot	4	..
	Used on type Nos. 20812, 60250, 60256, 60259, 60473, 60656, 60671.		
	No. 69991 Starter Assembly — Foot	4	..
	Used on type No. 60336.		
	For all other types refer to Part No. 69869.		
69869	Starter Assembly — Hand	4	..
	Note: **No. 29209** Starter Assembly — Hand	4	..
	With Hand Lever offset to clear No. 29034 Fuel Tank.		
	No. 29513 Starter Assembly — Hand	4	..
	Used on type Nos. 60493, 60780, 60781.		
	No. 29598 Starter Assembly — Hand	4	..
	Used on type No. 60730.		
	For all other types, refer to Part No. 69852.		
69902	Clutch Assembly — Starter	..	8
69961	Cap — Fuel Tank	..	2
70162	Washer — Throttle Control	..	1
89307	Valve — Oil Return	..	1
89567	Muffler	1	..
90056	Screw — Machine, Rd. Hd. — 6-32 x 5/8"	..	1
90080	Screw — Machine, Rd. Hd. — 10-32 x 7/8"	..	1
90083	Screw — Machine, Rd. Hd. — 10-32 x 5/8"	..	1
90202	Screw — Machine, Fill. Hd. — 10-32 x ½"	..	1
90310	Nut — Hex. — 6-32	..	1
90313	Nut — Hex. — 8-32	..	1
90355	Nut — Hex. — 10-32	..	1
90367	Lockwasher — No. 8 x 5/16 x 3/32	..	1
90558	Screw — Machine, Fill. Hd. — 6-32 x ½"	..	1
90576	Nut — Hex. — 8-32	..	1
90597	Screw — Machine, Rd. Hd. — 10-32 x ½"	..	1
90689	Screw — Cap, Hex. Hd. — ⅜-24 x 1¾"	..	1
	Note: **No. 91255** Screw — Machine, Fill. Hd. — ¼-20 x ½"	..	1
	Used on type Nos. 60252, 60424, 60565.		
90781	Screw — Machine, Fill. Hd. — 8-32 x 7/8"	..	1
90832	Lockwasher — ¼ x 3/32 x 1/16"	..	1
90891	Screw — Cap, Hex. Hd. — ¼-20 x ½"	..	1
90895	Screw — Cap, Hex. Hd. — ⅜-16 x 1"	..	1
90916	Screw — Machine, Rd. Hd. — ¼-20 x ½"	..	1
	Note: No. 91698 Screw — Machine, Rd. Hd. — ¼-20 x ⅜"	..	1
	Used on type Nos. 60252, 60424, 60565.		
91084	Plug — Pipe — ⅜"	..	1

(See following page)

MASTER PART NUMBER	NAME	SHIPPING WEIGHT Lbs.	Oz.
	Note: **No. 65324** Gasket — Drain Screw	..	1
	No. 91300 Screw — Oil Drain	..	1
	Used on type Nos. 60252, 60424, 60564, 60565, 60688.		
91122	Lockwasher — Shakeproof No. 1206	..	1
91162	Screw — Cylinder Head	..	1
91196	Screw — Machine Fill. Hd. — ¼-20 x ⅜"	..	1
91203	Screw — Cylinder Head	..	1
	Note: **No. 91162** Screw — Cylinder Head	..	1
	Used on type Nos. 60414, 60415.		
	No. 91386 Screw — Cylinder Head	..	1
	Used on type No. 20455.		
	No. 91442 Screw — Cylinder Head	..	1
	Used on type No. 60564.		
91219	Elbow — Exhaust — 45°	..	2
	Note: **No. 91464** Elbow — Exhaust — 90°	..	2
91223	Screw — Set, Sq. Hd. — ⅜-16 x ½"	..	1
	Note: **No. 90680** Screw—Set, Sq. Hd.—$\frac{5}{16}$-18 x ½"	..	1
	Used on type Nos. 20474, 20841, 60624, 60823, 95147.		
	No. 91279 Screw — Set, Headless — ⅜-16 x ½"	..	1
	Used on type No. 60770.		
91237	Lockwasher — ¼ x $\frac{3}{32}$ x $\frac{3}{64}$"	..	1
91239	Screw — Parker Kalon — No. 10 x ¾"	..	1
91242	Locknut — Exhaust Elbow	..	1
91245	Nipple — Exhaust	..	1
91246	Elbow — Exhaust	..	2
91256	Screw — Machine, Fill Hd. — ¼-20 x 1"	..	1
91270	Screw — Machine, Rd. Hd. — ¼-20 x 1"	..	1
91282	Screw — Machine, Fill. Hd. — 10-32 x ⅝"	..	1
91284	Screw — Machine, Fill Hd. — 10-32 x ¼"	..	1
91363	Screw — Set, Sq Hd. — ⅜-16 x ⅝"	..	1
91370	Bolt — Flywheel Mounting	..	1
	Note: **No. 91681** Bolt — Flywheel Mounting ($\frac{1}{32}$" O.S.)	..	1
91385	Screw — Magneto Mounting	..	1
91386	Screw — Machine, Rd. Hd. — 10-32 x ⅞"	..	1
91388	Lockwasher — $\frac{5}{16}$ x $\frac{3}{32}$ x $\frac{3}{64}$"	..	1
91389	Screw — Cap, Hex. Hd. — ¼-20 x 1⅝"	..	1
91413	Pin — Cotter — ⅛ x 1" long	..	1
91442	Screw — Cylinder Head	..	1
91450	Screw — Clutch Guard	..	1
91635	Connector — Fuel Filter	..	1
91691	Screw — Machine, Fill. Hd. — ¼ x ⅝"	..	1
91692	Nut — Carburetor Cover	..	1
	Note: **No. 68883** Screw — Inlet Elbow	..	1
	Used on earlier model engines without fuel filter.		
92129	Nut — Hex. — ¼-28	..	1
92146	Screw — Connecting Rod	..	1
	Note: **No. 92296** Screw — Connecting Rod	..	1
	Used on connecting rods with dipper cast on cap.		
92268	Lockwasher — ⅜ x ⅛ x $\frac{3}{32}$"	..	1
92285	Pin — Cotter — No. 18 x ¼" long	..	1
92287	Screw — Machine, Rd. Hd. — 10-32 x ¼"	..	1
92290	Lockwasher — No. 10 x $\frac{1}{16}$ x $\frac{3}{64}$"	..	1
92292	Nut — Hex. — ⅜-24	..	1
92305	Washer — Control Lever ($\frac{1}{16}$" thick)	..	1
92306	Screw — Cap, Hex. Hd. — ¼-28 x ⅜"	..	1
	Note: **No. 92278** Nut — Hex. — ¼-20	..	1
	No. 90802 Screw — Cap, Hex. Hd. — ¼-20 x ½"	..	1
	Used on type Nos. 60300, 60610, 60627, 60883.		
92308	Screw — Machine, Fill. Hd. — 10-32 x ¼"	..	1
92424	Screw — Machine, Fill. Hd. — ¼-20 x 1½"	..	1
92425	Nut — Square — ¼-20	..	1
92609	Screw — Connecting Rod Dipper	..	1
	Note: **No. 92296** Screw — Connecting Rod	..	1
	Used on connecting rods with dipper cast on cap.		
99321	Arrestor — Flame	1	..
99548	Control Assembly — Throttle	..	8
99573	Bowl — Carburetor	..	4
99665	Yoke — Fuel Filter	..	2
	Note: **No. 89743** Yoke Assembly — Fuel Filter	..	2
	Used on earlier model engines with Tillotson Fuel Filter.		
99909	Cover Assembly — Fuel Filter	..	2
	Note: **No. 61685** Cover — Fuel Filter	..	2
	Used on earlier model engines with Tillotson Fuel Filter.		
99910	Filter Assembly — Fuel	..	10
99920	Piston Assembly — Standard	..	8
99967	Piston Assembly .010" O.S.	..	8
99968	Piston Assembly .020" O.S.	..	8
99969	Piston Assembly .030" O.S.	..	8
290413	Cap — Oil Filler	..	2
	Note: **No. 91083** Plug — Oil Filler	..	2
	Used on type Nos. 60252, 60424, 60565.		
290415	Flywheel Assembly	8	8
290568	Lever Assembly — Control (Stamped Steel)	..	4
	Note: **No. 29035** Lever Assembly — Control (Cast Iron)	..	6
	Used on type Nos. 60300, 60610, 60627, 60883.		
	No. 99623 Lever Assembly — Control (Stamped Steel)	..	4
	Used on type Nos. 25368, 25369, 25802, 25806, 25864.		
290584	Base — Control Lever (Stamped Steel)	..	2
	Note: **No. 65631** Base — Control Lever (Cast Iron)	..	4
	Used on type Nos. 60300, 60610, 60627, 60883.		
290642	Lever — Control	..	..
290654	Screw and Nut — Contact Block	..	1
290918	Lever — Control	..	3
290984	Plug — Spark (with gasket)	..	8
	Note: **No. 99496** Plug — Spark	..	8
	Used on type Nos. 25368, 25369, 25370, 25371, 25802, 25803, 25806, 25807, 25811, 25864.		
290985	Pin Assembly — Piston — Std.	..	2
290986	Pin Assembly — Piston — .005" O.S.	..	2
291197	Nut and Washer — Flywheel Bolt	..	2

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 16.

Plate No. 16

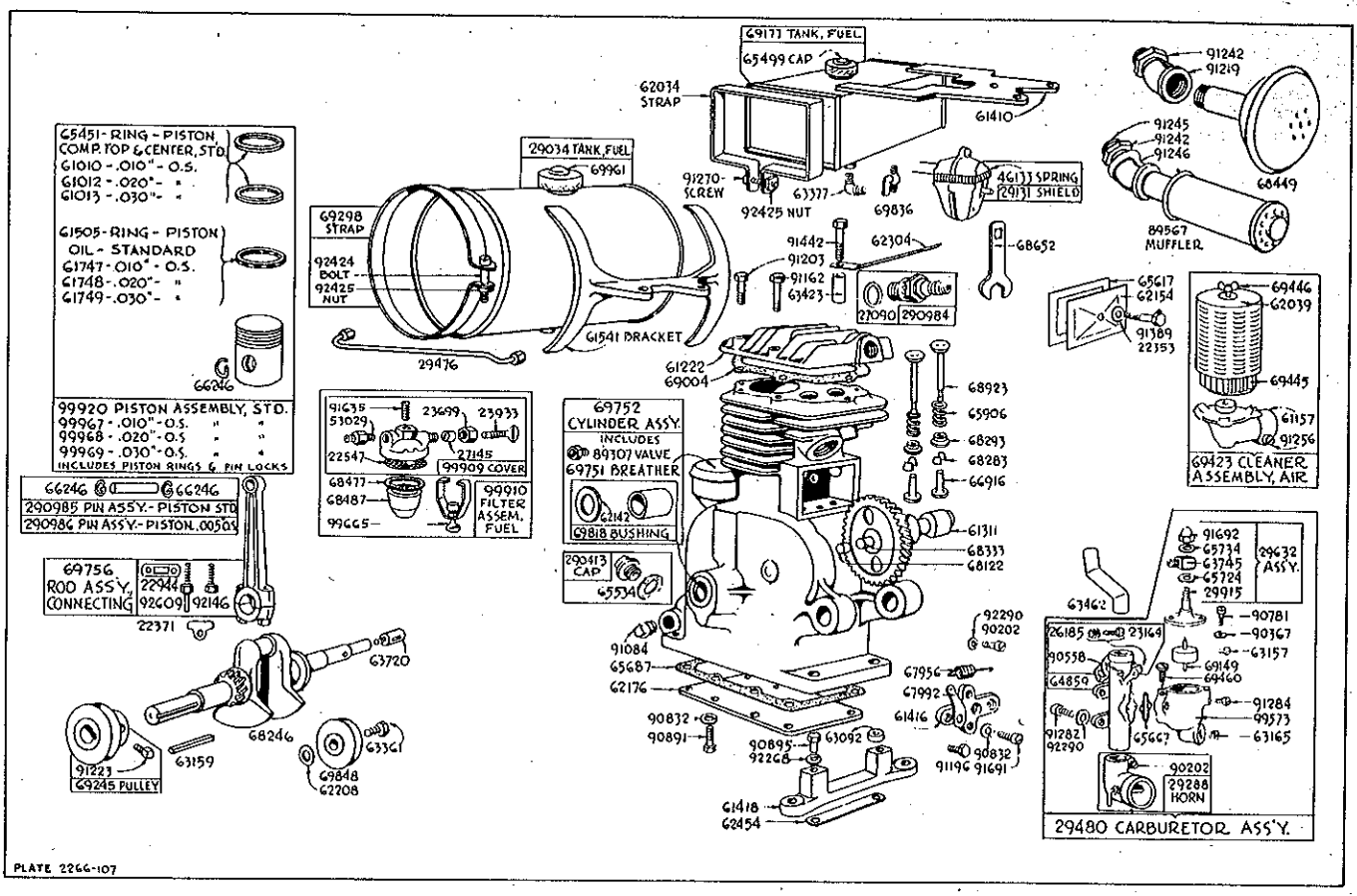


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Plate No. 17

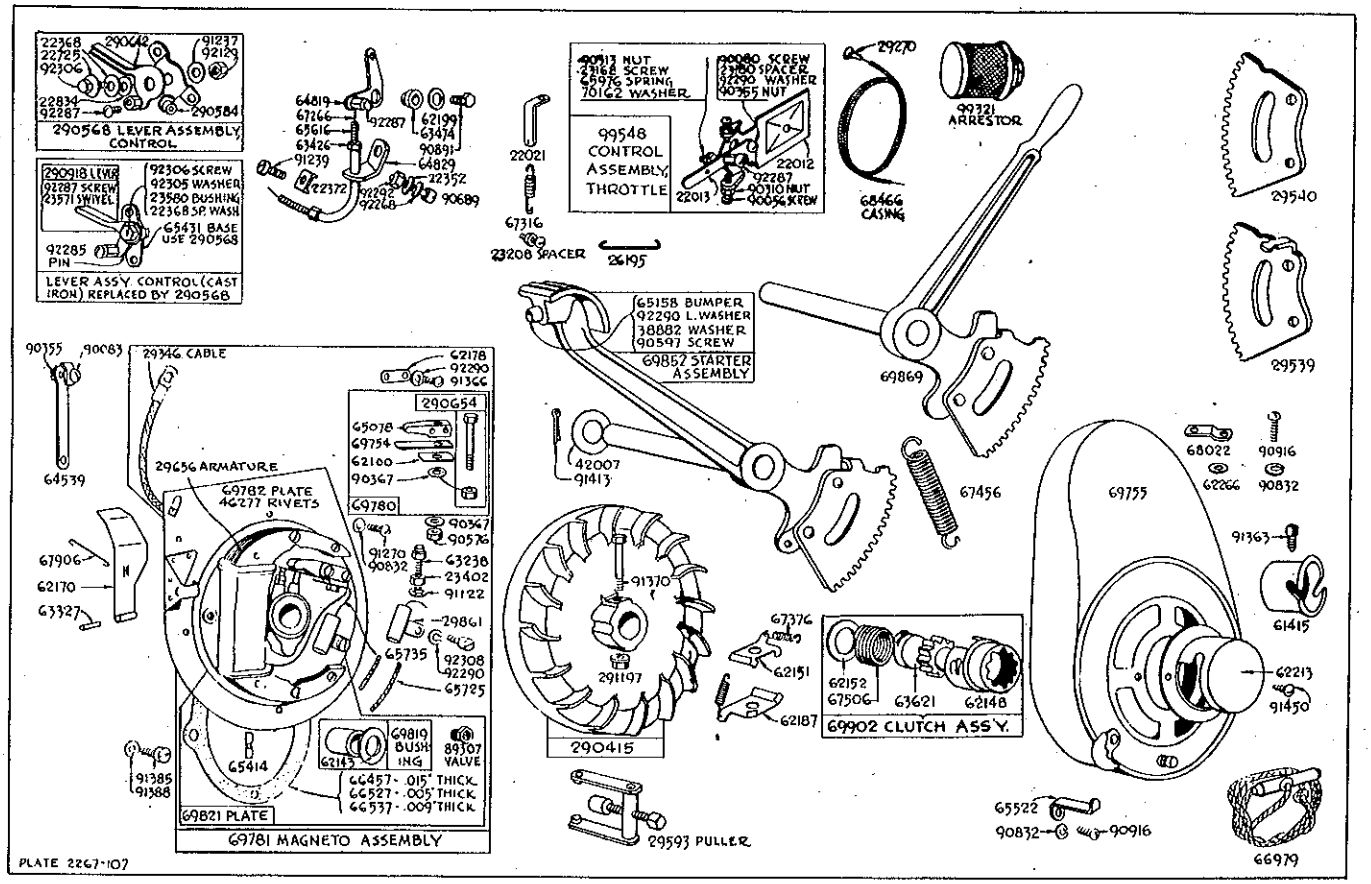

PLATE 2267-107

Assemblies include all parts shown in brackets.
Above parts listed on pages 10 thru 14.