

BRIGGS & STRATTON

Power-Charger

MODEL 300

12 VOLT - 300 WATT

TEMPORARY INSTRUCTIONS STARTING and OPERATING THE POWER-CHARGER

NOTE:- Mail the registration card and you will receive complete instructions on your model 300 Power-Charger.

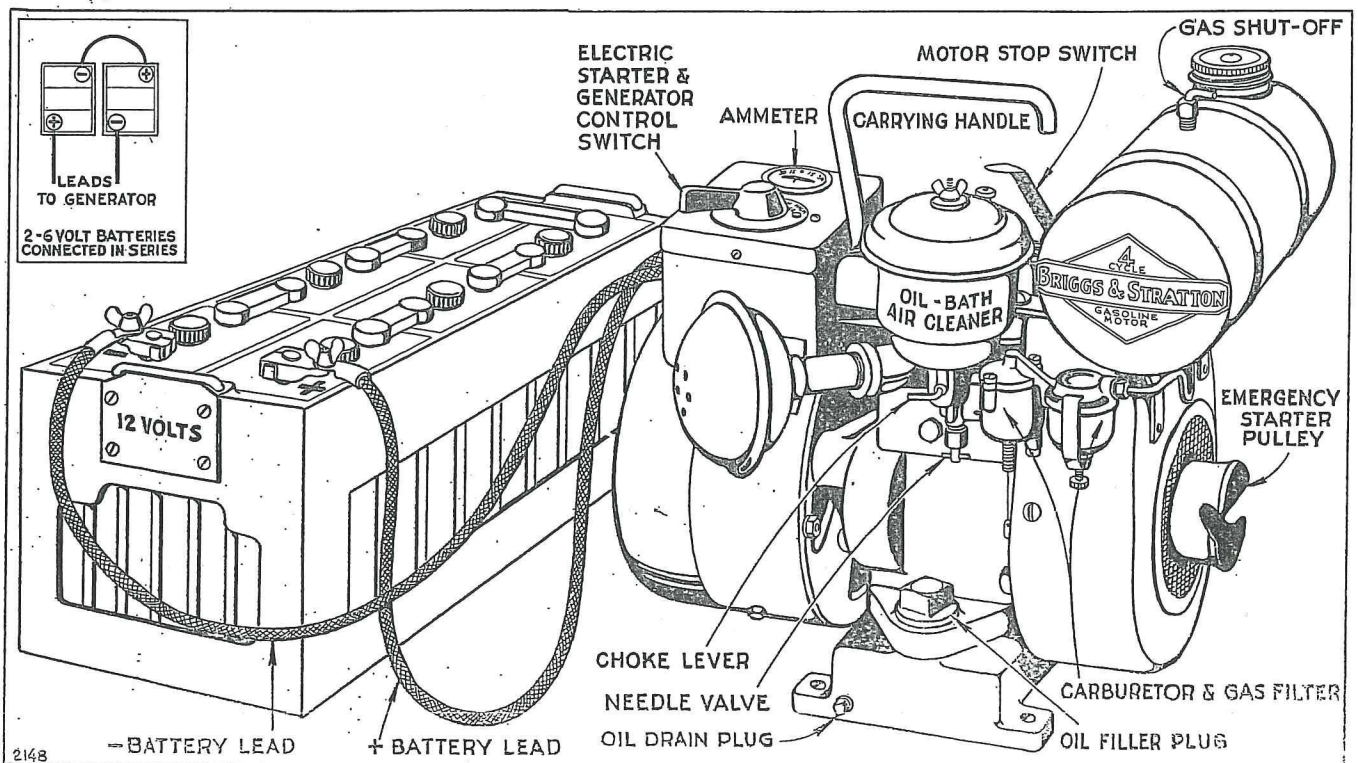
1. The Model 300 Power-Charger is primarily a 300-watt, 12-volt, charging plant. A 12-volt battery or its equivalent, not only acts as a current reservoir for lighting purposes when the plant is not running, but also provides current for electric starting of the plant. In addition the Power-Charger can be used to charge other batteries such as 2-volt and 6-volt, radio batteries, car and truck batteries, etc.

2. **BEFORE STARTING THE POWER-CHARGER.** You can operate the Power-Charger as soon as you

have it unpacked after filling the crankcase with a high-grade S.A.E. #20 automobile oil. Do not use any oil heavier than S.A.E. #20. Crankcase holds 4-1/2 pints. Fill the gas tank with a good grade of clean, white, regular test gasoline. Tank holds two quarts.

3. **POWER-CHARGER LOCATION:** The Power-Charger should be located where it will be dry and protected from the weather. It is not necessary to bolt it down although a permanent, protected location is recommended.

THE POWER-CHARGER - MODEL 300
Plate No. 1



IMPORTANT SAFETY INFORMATION AND INSTRUCTIONS FOR ENGINE SELECTION ENGINE INSTALLATION ENGINE OPERATION

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

18002333723

Briggs & Stratton Corporation
Milwaukee, Wisconsin 53201

www.briggsandstratton.com

Keep these instructions for future reference.




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



Fire



Explosion



Moving Parts



Toxic Fumes



Hot Surface



Shock



Kickback

(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:
<p>Turn engine off and let engine cool at least 2 minutes before removing gas cap.</p> <p>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.</p> <p>Keep gasoline away from sparks, open flames, pilot lights, heat, and other ignition sources.</p>	
	 WARNING
	When starting engine:
<p>Remove all external equipment/engine loads.</p> <p>Wait until spilled fuel is evaporated. Start engine outdoors.</p> <p>Pull cord slowly until resistance is felt, then pull rapidly.</p> <p>If engine floods, set choke to OPEN/RUN, place throttle in FAST and crank until engine starts.</p>	
	 WARNING
	When operating equipment:
<p>Do not tip engine or equipment at angle which causes gasoline to spill.</p> <p>Run engine outdoors. Do not run in enclosed area, even if doors or windows are open.</p> <p>Do not choke carburetor to stop engine.</p>	

4. **CAUTION.** Do not operate the Power-Charger at any time without battery leads properly connected to a battery unless the control switch is set at "N" (neutral) immediately after starting.

5. **HOW TO CONNECT TO BATTERY FOR STARTING.** The Power-Charger can be started electrically connected to either a 12-volt battery, or two 6-volt batteries connected in series. Connect the battery leads, marked (+) and (-) on the control box, to the battery posts of the same markings with clamps provided. See Plate No. 1. As soon as motor starts, generator charges battery according to switch setting. Connections to the battery must be clean and tight. For information on how to connect a 2-volt, 6-volt, or additional 12-volt batteries for charging, see paragraph No. 13.

6. **ELECTRIC STARTING.** To start, turn the carburetor choke to a horizontal position and turn the control switch hard over against spring tension to "Start" position. The generator then acts as an electric starter and cranks the motor. When the motor fires, release the switch and it will automatically return to "N" (neutral) position. As the motor warms up, gradually adjust choke until motor is operating smoothly. Then set switch at desired charging rate. Operate carburetor choke the same as you operate the choke on your automobile. A hot motor does not require as much choking as a cold motor.

7. A low battery may sometimes fail to crank motor when turning the switch to "START". If this occurs, release switch for a few moments and then turn the switch back to "START". Do not hold switch in "START" position over a few seconds at a time. If after operating switch in this manner for a few times you are still unable to crank motor electrically, then crank motor with the emergency starter rope. See paragraphs 8 & 9.

8. **MANUAL STARTING - HOW TO START WITH A DEAD BATTERY.** The Briggs & Stratton motor has a built-in high tension magneto for ignition current and, therefore, the Power-Charger can be started even if the storage battery is dead. A battery provides a reservoir for lighting current and electric cranking power but does not supply any current for motor ignition.

9. To start motor manually, place switch at "N". Close carburetor choke. Wind rope clockwise around starter pulley with knot on inside of slot. If Power-Charger is not bolted down, hold it down by the carrying handle. Pull up quickly on starter rope. When motor starts, adjust choke until motor runs smoothly. Then set switch for desired charging rate.

10. **FAILURE TO START MOTOR.** If the motor fails to start after a reasonable number of trials, either cranking electrically or by

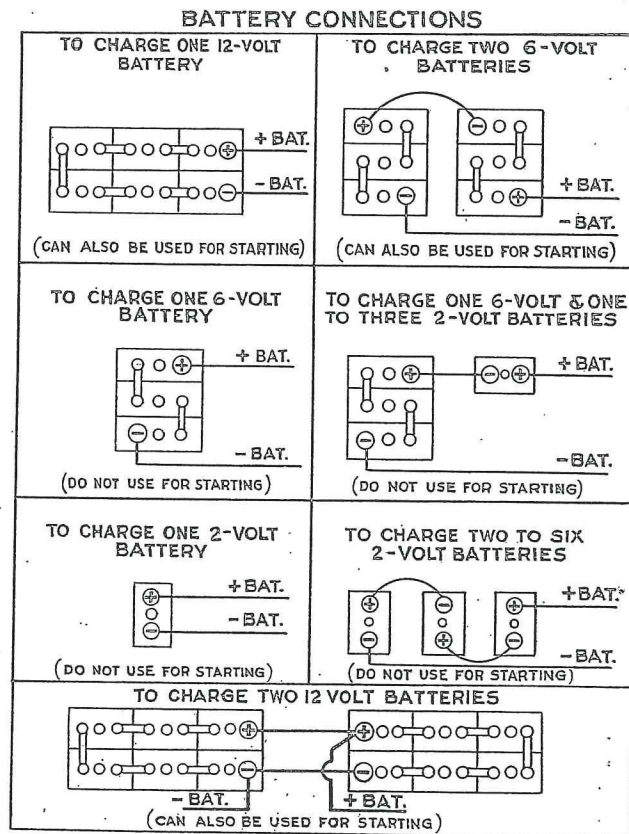
rope, do not make any adjustments until you have studied instructions on the Model "IBP" motor.

11. **HOW TO STOP.** Hold stop switch down on spark plug terminal until motor stops.

12. **AMMETER.** The ammeter indicates the generator performance and is mounted on the control box cover. If control switch is at "START" or "N", the needle remains at zero (0) on the dial. If the needle remains at zero with the switch set at "LOW" or "HIGH", check to see that connections to the battery are tight and clean. If needle still remains at zero, see Generator Instructions, paragraphs 34 to 36. If needle shows "Discharge", battery connections should be reversed.

13. **HOW TO CHARGE BATTERIES.** If you wish to charge other than the 12-volt battery regularly connected to the plant, start the motor either electrically with the regular battery or manually with the rope. Set switch at "N" (neutral). Then connect up battery or batteries you wish to charge as shown in plate No. 2.

BATTERY CHARGING HOOK-UP - Plate No. 2



14. The generator armature of the Power-Charger, Model 300, is wound for maximum efficiency at 12-volt, 300-watts, and therefore it is desirable to hook-up the batteries on a 12-volt circuit. Hook-ups of circuits less than 12-volts can be made but reduce the watt out-

put. If more than one 12-volt battery is to be charged the batteries must be connected in parallel. See Plate No. 2 for suggested battery hook-ups.

15. Due to varying conditions of batteries, the charging current may not divide equally between the batteries on a parallel hook-up and as a result the batteries may not finish charging at the same time. Therefore the individual cells should be carefully watched for completion of charge. If the hydrometer test shows one battery approaching completion of the charge before the other, it should be disconnected. After the other battery approaches its completion of charge, again connect the two batteries and finish charging with the switch set at "LOW".

16. CHARGING RATE. Two charging rates can be obtained for 12-volt, 6-volt, or 2-volt batteries as follows:

Battery Voltage	Charging Rate in Amperes Switch Setting	
	"High"	"Low"
12-volts	20 to 25	9 to 11
6-volts	15 to 17	7 to 7.5
2-volts	6 to 7	3 to 4

CAUTION: Higher generator output than that listed above should not be attempted by increasing motor speed above 2900 R.P.M. See Paragraph 33.

17. CORRECT CHARGING RATE. The Power-Charger switch control provides two steps of generator output - a "HIGH", the full capacity of the plant and a "LOW" or finish rate. The reason for this is to conserve battery life. It is a known fact that batteries continually charged at a high rate develop excessive heat which causes rapid wear of plates and separators. In fact, such continued abuse will cut battery life from one-third to one-half. The high rate is very desirable up to the time the battery starts to boil and gas, which is when the temperature of the solution reaches approximately 140° F. At this time the output should be reduced by setting switch at "LOW". The point at which the battery will heat depends upon its condition, size and rate of charge. Add distilled water before charging and check during the charging to see that plates are covered - especially if charging at high rate.

18. After the battery has been charged and the plant stopped, it is not necessary to disconnect battery leads from the battery. Under these conditions, no current can leave the battery thru the Power-Charger for the reason that an automatic circuit breaker is installed in the control box - which automatically breaks the battery circuit. If additional

batteries are to be charged, motor can be left running but set switch at "N" (neutral) before making change.

19. TO DETERMINE THE CHARGE IN A BATTERY. Use a battery type hydrometer and test all cells in the battery occasionally to determine their condition. Most hydrometers are clearly marked "Discharged", "Half" or "Fully Charged", and are usually graduated in figures. 1150 shows a discharged battery while all cells of a fully charged battery will read 1275 to 1285.

20. Do not wait until a battery is completely discharged before recharging it. Check it occasionally with a hydrometer. You will soon learn by experience how often it will need recharging. The dimming of lights or poor radio reception are sure signs of a low battery.

21. Do not use an ammeter to determine the charge in a storage battery. The high momentary discharge will destroy the ammeter.

22. TO OPERATE AS A LIGHTING PLANT. All current for lights should be taken from a battery, or batteries. See Paragraph 24. Do not connect Power-Charger direct to lighting wires. A battery must always be in the line even though the battery is run down. You can always bring up the battery voltage and have lights by starting up the Power-Charger as long as your light load is not over 300 watts. If the load is less than 300 watts the difference goes into the battery as a charge.

23. SIZE OF WIRE AND PERMISSIBLE LENGTH. The size and length of wire is important. The following suggestions are based on average installation to provide best results.

Where Used	Wire Size	Dia. in Inches	Dia. in Cent.	Max. Length
(A) Power-Charger battery leads to battery	No. 4	.2043	.5189	6 ft.
(B) Power-Charger battery leads to battery	No. 6	.162	.4115	3 ft.
(C) Battery to fuse block	No. 6	.162	.4115	50 ft.
(D) Each circuit from fuse block to last light	No. 8	.1285	.3264	50 ft.
(E) Drop cords, floor lamps, table lamps, etc.	No. 14	.0641	.1628	6 ft.

Any kind of wire, solid or stranded, single or duplex, can be used if it is of the right size. Be sure that it is well insulated and flexible enough to be easily put up.

ADDITIONAL STORAGE BATTERY INFORMATION

24. **SIZE OF THE BATTERY.** It never pays to buy too small a battery. A large battery provides a greater current reservoir and does not have to be charged as often as a smaller battery. The additional amount spent for a larger battery or even more than one battery, will be offset in less frequent charging, lower operating costs and will result in greater satisfaction. Buy the largest capacity battery you can for the work you want it to do. The life of the battery is determined by the number of charges and discharges it receives.

25. **BATTERY LOCATION.** Locate each battery as near to the center of the load it has to carry and as near to the Power-Charger as possible. If the main lighting battery can be permanently connected to the Power-Charger, so much the better. Other smaller batteries can easily be taken to it for charging.

26. Never locate a battery near a stove or furnace, as the heat will rapidly evaporate the water, neither should a battery be left in a room subject to extreme cold, as it will freeze and break if left in a discharged condition.

27. **BATTERY LEADS.** The leads furnished with the Power-Charger are of convenient size and length for average use. In some instances it might be desirable to extend these leads a few feet to make a convenient permanent installation. For the minimum amount of current loss these extensions should be of length and size of wire as follows:

- 3 feet - use No. 6 cable
- 6 feet - use No. 4 cable.

Do not exceed these lengths or use smaller wire from the Power-Charger to the battery, or line loss will effect electric cranking power.

BATTERY RADIO SET INFORMATION

28. **GENERAL RECOMMENDATIONS.** Most modern types of battery radios use either a 6-volt or a 2-volt wet storage battery. The Power-Charger is designed to properly charge both of these types of batteries.

29. For maximum results and noise-free operation, the radio should never be connected to the batteries used for lighting. The drop in voltage is often excessive. Also, the light wires frequently pick up static and other electrical disturbances and carry them into the radio, resulting in poor reception.

30. The radio should be provided with an individual battery which should be located as near to the radio as possible. Follow the radio manufacturers' instructions. When it needs recharging it should be disconnected and removed entirely from the radio.

31. **CAUTION.** Do not charge radio battery while it is connected to the radio, even if the radio is turned off.

GENERATOR

32. **GENERAL DATA.** The generator is of a high efficiency, 4-pole-4 brush, shunt wound type which acts as a powerful cranking motor through a special series winding.

33. The generator is designed to deliver its rated output at an average motor speed of 2750 R.P.M. The generator operates at the gasoline motor speed. Under no circumstances attempt to increase generator output above 300 watts or operate motor above 2900 R.P.M.

34. **BRUSHES.** The special size brushes are mounted in box type brush holders riveted to the brush plate assembly. The brushes should be inspected occasionally for brush wear. This can be done by removing the generator cover and pulling out the "U" shaped staples. Brushes that are worn to within 1/4" of the holder should be replaced.

35. **TO INSTALL OR RESEAT BRUSHES.** To replace the brushes, loosen screw on the brush plate holder which holds the brush pig-tail. Replace brush and tighten screw. To seat brushes, wrap a strip of No. 00 sandpaper around the commutator with the rough side next to brushes. A few strokes with the sandpaper will form the brush seat correctly. Remove sandpaper and blow out all sand and dust. **NEVER USE EMERY CLOTH TO SEAT BRUSHES.**

36. **COMMUTATOR.** If inspection shows the commutator to be black or dirty, it can be polished and cleaned by holding a piece of No. 00 sandpaper against it while the unit is running. This can best be done by placing the sandpaper over the end of a stick cut square on the end. Have both the stick and sandpaper trimmed just the width of the commutator. Do not use excessive pressure on commutator. If inspection of the commutator shows it to be worn rough or the copper bars worn even with the mica insulation between the bars, the unit should be dismantled, thoroughly cleaned, the commutator turned in a lathe and the insulation undercut and the unit reassembled. It is strongly recommended that this work be done only by a Briggs & Stratton Authorized Service Distributor or the factory.

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