Simplicity®

MOBILE GENERATOR

(ARTICLE No. 990220)

INTRODUCTION

Your mobile generator is a rugged, quality constructed, conservatively rated, heavy duty unit designed to increase the usefulness of your tractor and to assist you in accomplishing your job faster electrically. For the generator to provide its maximum usefulness, it is necessary for you to be thoroughly acquainted with the following installation and operating procedures. We therefore request your co-operation in carefully studying the following information.

GENERATOR RATING AND CONSTRUCTION

Your #990220 mobile generator is rated at 115 volts, 13 amps, 1500 watts at 60 cycles. The 60 cycle frequency is produced at a generator speed of 3600 rpm.

The generator is designed and built to the latest AC generator design principles. These include many features, such as sealed for life ball bearings, modern high temperature insulation, no commutator assembly to cause maintenance and sparking difficulties, built in voltmeter, outlets with ground polarizing pin, and a new exclusive rectifier field excitation circuit which greatly improves the voltage control and motor starting ability of your generator.

This generator is intended to handle all electrical loads up through 1500 watts in capacity. In determining the amount of load that may be applied to your generator, the nameplate rating of the load to be connected should first be checked. This will be expressed in either watts or amperes at 115 volts. The generator will handle combined loads which add up to 1500 watts or combined amperes loads which do not exceed 13 amps. For example: fifteen 100 watt electric bulbs may be operated from the generator or six 250 watt bulbs.

The following is a brief list of various loads with their average wattage requirements.

RATING OF VARIOUS EQUIPMENT

6 inch hand saw	1000 watts
10 inch hand saw	2000 watts
½" electric drill	750 watts
3 inch belt sander	1000 watts
14 inch chain saw	1000 watts
concrete vibrator	2500 watts
television set	250 watts
electric toaster	1000 watts
8½ inch hand saw	1500 watts
¼" electric drill	250 watts
1" electric drill	1000 watts
4½ inch belt sander	1250 watts
9 inch disc sander	1200 watts
frying pan	1300 watts
electric iron	900 watts

When considering the operation of electric motors it must be understood that electric motors require a great deal more amperage to start the motor than that which is required to keep it running. Your generator has a large amount of reserve capacity for motor starting purposes. It will deliver up to 25 amps momentarily for starting motors although the continuous duting rating is only 13 amps.

As a general rule of thumb this generator would be expected to start the following types of motors.

Motor type	Maximum size motor which may be started	
	With load	No load
Split phase induction motor	¼ h.p.	½ h.p.
Capacitor start, induction run motor	½ h.p.	¾ h.p.
Repulsion induction type motor	¾ h.p.	1 h.p.
Universal motor	1 h.p.	1½ h.p.

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GENERATOR INSTALLATION

Your generator is supplied with the generator and mounting bracket completely assembled to facilitate the installation of the generator to the tractor.

The present rope starting pulley, located on the side of the transmission must be removed and replaced with the generator drive pulley, V, Fig. 4, and the new shallow rope starting pulley, U, Fig. 4. Use cap screws, A, Fig. 1, and lockwashers for the re-assembly of these two parts to the transmission drive pulley.

The generator assembly is then held in place at the rear of the tractor and the pivot rod, C, Fig. 2, is inserted through the rear tractor arms and through the tubular portion of the mounting bracket, Fig. 2. The pivot rod is then secured by spring clips at each end.

The belt, B, Fig. 1, is then applied between the pulley, U, Fig. 4, mounted on the tractor transmission and the pulley on the mobile generator.

The adjusting rod, Q, Fig. 4, is inserted in place on the tractor as shown, and the spring clip, J, Fig. 4, attached to it. The wing nut, E, Fig. 3, and spring, M, Fig. 4, are then assembled to the tension rod, and the rod is inserted through the generator tension arm, K, Fig. 4. The cotter key, L, Fig. 4, is then inserted in the end of the adjusting rod as shown in Fig. 3.

With the belt on the generator, the wing nut should be tightened to provide a spring length of one inch.

GENERATOR OPERATION

After the generator has been properly installed as outlined, the unit may be placed in operation by *first* applying the tractor parking brake, *secondly* place the tractor transmission in neutral.

The engine should now be started and the speed set so that the voltmeter hand points to the black line in the green zone. This corresponds to 120 volt generator output and 60 cycles. The voltmeter hand must be kept in the green zone at all times when power is being taken from the generator. With exceptionally heavy loads it may be necessary to reset the engine speed in order to keep the voltmeter hand in the green operating zone.

Loads may be applied to the generator by plugging into one or both of the receptacles at the rear of the machine. It is *very important* that polarized plugs be used in order to maintain a common ground between the generator and its load. Failure to do so could result in electrical shocks from faulty loads connected to the unit.

The generator is equipped with a built in automatic reset type circuit breaker which will automatically shut the generator off if excessive loads are applied to the unit for too long a period.

Basically the generator will supply 13 amps on a continuous duty basis and overload of up to 20 amps may be obtained for approximately 5 minutes, 25 amps for approximately a minute and one-half, and 30 amps for approximately 30 seconds. Loads above these values and for time periods greater than specified will result in the circuit breaker automatically shutting the generator down. After the generator has cooled sufficiently the breaker will again place the unit in operation.

The generator may be used as an auxiliary source of power around the home or barn in case of power line failures. To connect the unit into the power line, the following procedure should be followed. First, pull the main line fuses or open the main line circuit breaker as the case may be, at the service entrance to the building. It is *absolutely imperative that these fuses be pulled or breaker be opened prior to connecting the generator to the house electrical power.* Failure to do so will result in severe damage and could possibly cause electrical shock injuries. *This is an absolute must, first step if the unit is to be connected to the house electrical system.*

Secondly, after opening the house electrical circuit to the power line, a #14 wire size extension cord should be obtained which has a polarized plug on each end. With the tractor engine turned off, one end of the plug should be inserted into the tractor generator and the other end into an outlet receptacle which is wired into the house electrical circuit. If your present house circuits do not contain the 3 prong polarized outlet, it will be necessary to have such an outlet installed prior to using the generator for emergency power in your home. The polarized outlet is necessary in order to provide a common ground between the generator and the house electrical system. With the extension cord connected to both the house and the generator, the tractor engine should be started and be brought up to the proper operating speed as indicated by the voltmeter hand as previously described. A note of caution here, the heavy electrical loads in the house should all be turned off prior to starting your tractor engine and then load applied to the generator after it is operating at its proper speed.

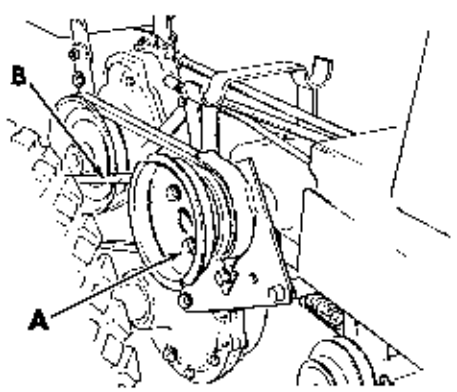

Fig. 1

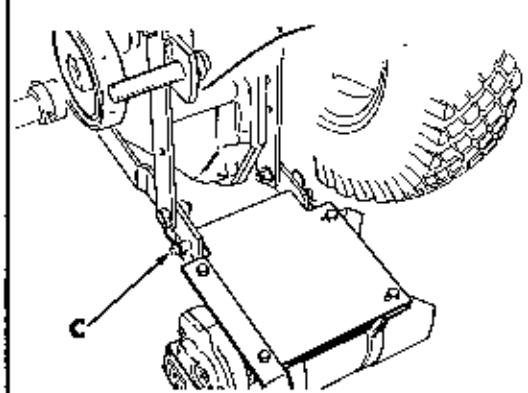

Fig. 2

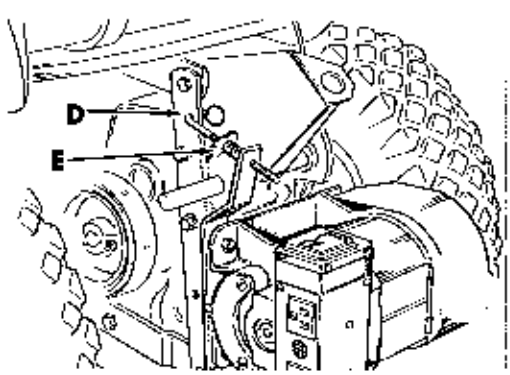

Fig. 3

Mobile Generator

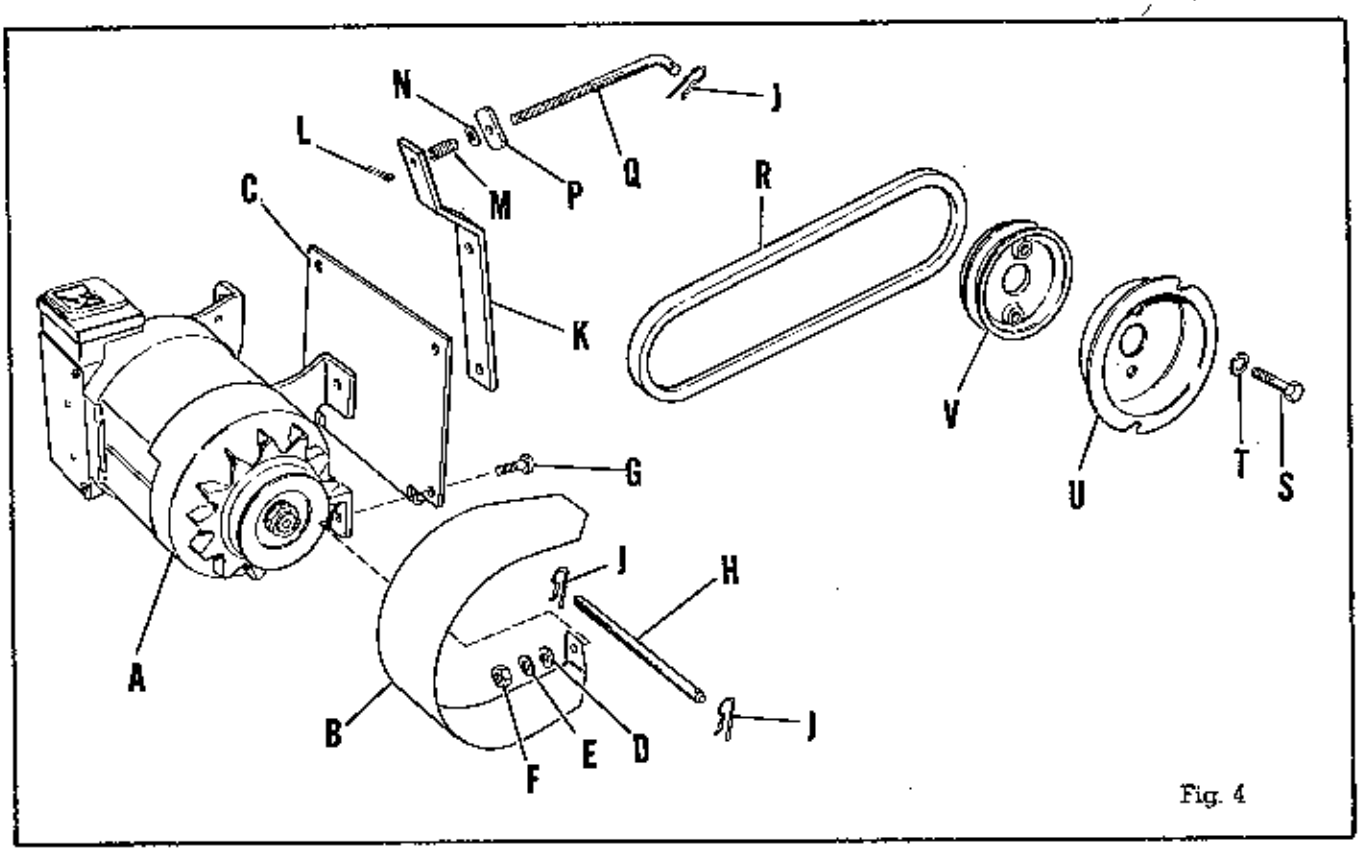

Fig. 4

Order by Part Number

Reference Letter	Part No.	Description
A	122070	Generator
B	122074	Guard, Generator
C	122071	Base Assembly, Generator
D	719002	Washer, Plain, 5/16"
E	720001	Washer, Lock, 5/16"
F	717001	Nut, Hex, Full, 5/16"-18 NC
G	705007	Capscrew, Hex Hd., 5/16"-18 NC x 1" lg.
H	105140	Rod, Pivot
J	S1-A45A	Clip, Spring
K	122075	Bracket, Belt Tightening
L	722005	Pin, Cotter, 3/32" dia. x ⅞" lg.
M	122077	Spring, Compression
N	719002	Washer, Plain, 5/16"
P	718020	Nut, Wing
Q	122076	Rod, Adjusting
R	122069	Belt, "V"
S	705023	Capscrew, Hex Hd., 5/16"-18 NC x 1¾" lg.
T	720001	Washer, Lock, 5/16"
U	154384	Pulley, Rope Starter
V	122068	Pulley

AC Mobile Generator

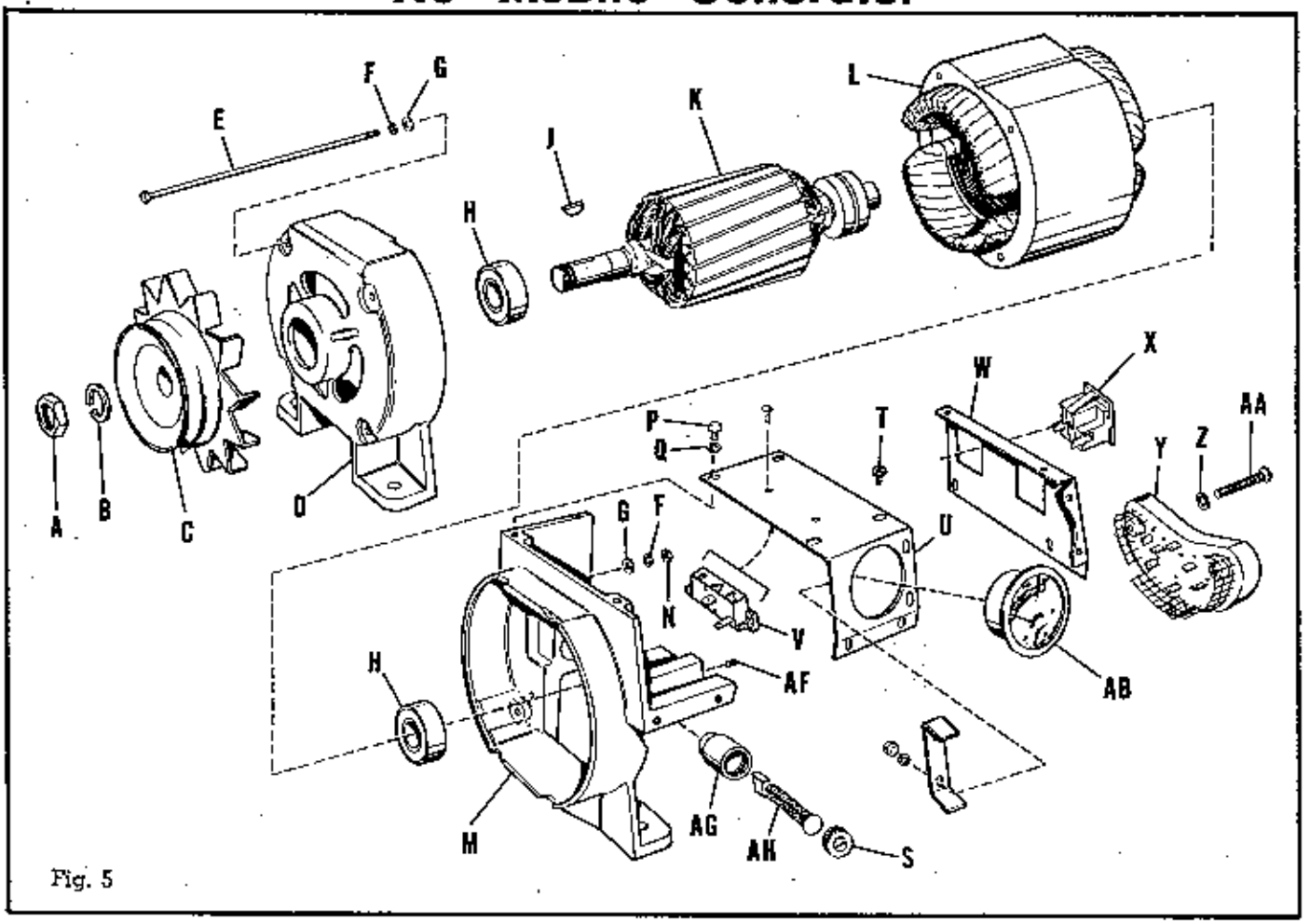

Fig. 5

Order by Part Number

Reference Letter	Part No.	Description
A	122096	Hex Nut
B	720008	Lockwasher
C	122085	Fan and Pulley
D	122083	Front Bearing Carrier
E	122084	Hex Hd. Mach. Screw, 10-32 x 7¼" lg.
F	721507	#10 Shakeproof Washer
G	719008	#10 Flat Washer
H	122081	Bearing
J	725002	#6 Woodruff Key
K	122082	Armature
L	122080	Field Assembly
M	122086	Rear Bearing Carrier
N	717007	10-32 Hex Nut
P	710004	10-32 x ⅜" lg. Rd. Hd. Mach. Screw
Q		#10 Shakeproof Washer
S	122092	Brush Holder Cap
T		#8 Pan Hd. Self Tapping Screw, ⅜" lg.
U	122087	Brush Box Cover (Top)
V	122089	Circuit Breaker Reset
W	122093	Brush Box Cover (Back)
X	122094	115 Volt Outlet
Y	122095	Rectifier Pad Assy.
Z	721502	¼" Shakeproof Washer
AA	705053	Rd. Hd. Cap Screw, ¼-20 x 1¾" lg.
AB	122088	Voltmeter Assy.
AF	122097	Allen Hd. Set Screw, 10-32 x ¼" lg.
AG	122090	Brush Holder
AH	122091	Brush