

Power Systems

E SERIES GENERATOR USER MANUAL



Model Numbers E3100 E3600 E4500 E5000

E3600 Model Shown

MODEL & SERIAL NUMBER

Enter the Model and Serial numbers of your generator in the spaces provided below. Retain these numbers for future reference. The Model and Serial numbers are located on the generator data plate on the alternator case or generator frame, along with other important information.

Model Number

Serial Number



LIMITED 1 YEAR WARRANTY STATEMENT

A. PRAMAC Lifter[™] electrical generating sets originally sold by PRAMAC Industries, Inc. or an authorized Distributor/ Dealer thereof, are covered by a limited warranty for a period of 12 months. The Warranty period begins on the date of purchase by the end user, 2 days after shipment to the end user by the PRAMAC Lifter[™] Distributor/ Dealer, or 12 months from the date of original invoice by PRAMAC Industries, Inc.- whichever occurs first. PRAMAC Industries, Inc. warrants their PRAMAC Lifter[™] products to be free of defects in materials and workmanship for the time period shown above and within the limitations presented in the following. This PRAMAC Lifter[™] Limited Warranty does not cover components or assemblies manufactured by other organizations, including, but not limited to – engine, alternator, receptacles, etc. Warranties for items and assemblies not manufactured by PRAMAC Industries, Inc.[™] are covered under the warranties of the respective manufacturers of those products. Documentation concerning the warranty policies of items not manufactured by PRAMAC Industries, Inc., but included as part of the PRAMAC Lifter[™] electrical generator is included within the generator documentation.

These warranties are in lieu of and exclude all other warranties of merchantability, fitness, or otherwise, express or implied. There are no warranties extending beyond the description on the face thereof. The sole obligation of PRAMAC Industries, Inc. (Seller) shall be to repair or replace any components thereof which are proved to be other than warranted. PRAMAC Industries, Inc. shall have the sole right to determine whether such goods shall be repaired or replaced. This remedy of repair or replacement is in lieu of all other remedies, and it is agreed that no other claim may be made by the Buyer. Buyer and Seller agree that the sole purpose of this remedy is to provide the Buyer a satisfactory product under the contract. It is further agreed that in no event shall the Seller be liable for incidental or consequential damages arising from any breach of warranty. If goods are claimed to be other than as warranted. Seller or Sellers Authorized Agent, upon notice promptly given, will issue shipping instructions for return to the Seller or Sellers authorized Agent (transportation costs to be born by Buyer) the goods or components, and if goods are proven to be other than as warranted, replacement or repaired components will be shipped (cheapest way) to the Buyer with transportation costs borne by the Seller. PRAMAC Industries, Inc. reserves absolute and final decision power regarding the warrantability of any and all failed components or parts. Some states do not allow limitations on how long an implied warranty lasts, and some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights and you may also have other rights that vary from state to state.

B. All warranties of merchantability, fitness or otherwise, whether express or implied, shall not extend to any goods or parts thereof which have been: subject to misuse or neglect, damaged by accident, rendered defective by reason of improper handling or application, damaged or rendered defective due to tampering of factory set adjustments, damaged due to shipment, damaged due to lack of maintenance, damaged due to collision, impact or shock loads, damaged due to corrosion/ rust or damaged due to overload. Further, any modifications to the intended and original designed use of the PRAMAC Lifter™ electrical generator will negate all warranties. Seller does not accept any liability for normal wear and tear, nor for charges for repairs or replacements made without authority, nor contingent liability of any kind.

C. YOUR WARRANTY RESPONSIBILITIES: You are responsible for the performance of all maintenance including the use of approved fluids. Upon first indication of a problem, you are to cease operation of your PRAMAC Lifter[™] electrical generator and report the problem to your Authorized PRAMAC Lifter[™] Distributor/ Dealer. Upon request, you will be required to produce proof of purchase and other pertinent information. Your Authorized PRAMAC Lifter[™] Distributor/ Dealer will instruct you regarding transportation (prepaid by buyer) of your PRAMAC Lifter[™] electrical generator to the Authorized Distributor/ Dealer location or arrange for shipment (prepaid by buyer) of the failed components to the Authorized Distributor/ Dealer for warranty inspection. The name, address and telephone number of your local PRAMAC Lifter[™] Distributor/ Dealer or authorized service facility may be obtained by contacting PRAMAC Industries, Inc. at (770) 479-2922.

January 01, 2002

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All information provided in this manual is believed to be correct at the time of printing. The manufacturer reserves the right to correct any errors and omissions.

SECTION 1

GENERAL INFORMATION

This manual is provided for you so that your generator may be properly, safely and effectively applied and operated. Please read and understand all aspects of this manual before operating your generator set. Please also read and understand the documentation supplied with this generator regarding the engine. Keep this documentation in a safe and accessible place so that reference can be made as needed. All operators, users and subsequent owners of this generator must read and understand all aspects of this documentation before operation.

SPARK ARRESTING MUFFLER

Certain States and Jurisdictions require that engine driven equipment be fitted with spark arresting mufflers. Depending on the generator model, spark arresting mufflers may or may not be fitted. If spark arresting mufflers are required for your specific local and the generator muffler is not spark arresting, contact your local dealer for instructions for a retrofit.

EXHAUST EMISSION CONTROL SYSTEM

The exhaust emission control system for this generator complies to the standards set forth by the California Air Resources Board (CARB) and the Environmental Protection Agency (EPA). Warranties for the exhaust emission system are administered by the respective enaine manufacturers. Refer to the enaine documentation for warranty information.

WARNING **California Proposition 65**

The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm.



DO NOT OPERATE THIS GENERATOR WITHIN AN ENCLOSED AREA. THE EXHAUST GASES OF THIS GENERATOR EMIT "DEADLY" CARBON MONOXIDE. EXPOSURE TO CARBON MONOXIDE CAN CAUSE CARBON MONOXIDE POISONING, HEADACHES, NAUSEA, SEVERE SICKNESS OR DEATH.

DANGER: THIS GENERATOR SET PRODUCES ELECTRICAL CURRENT. THEREFORE. SAFETY GUIDELINES MUST BE FOLLOWED. IMPROPER USE OF THIS GENERATOR CAN RESULT IN ELECTROCUTION, INJURY OR DEATH. DO NOT OPERATE,

SERVICE OR REPAIR THIS GENERATOR UNLESS FULLY QUALIFIED TO DO SO.



DANGER: DO NOT OPERATE THIS GENERATOR IF THE AMBIENT TEMPATURE EXCEEDS 105ºF/41ºC.

SAFETY RULES





DANGER: If this generator is connected to a building, home, business, or any other electrical circuit normally fed by utility power, steps must be taken to insure the generator output and the utility

power are positively isolated. Failure to isolate the utility and generator electrical systems will result in generator damage and could result in injury or death to utility workers due to the backfeed of electricity.



CAUTION: Do not exceed the rated capacity of the generator. The total electrical loads at each outlet must be added to determine the total electrical load. The total load must not exceed the rated capacity of the generator. If the driven apparatus does not list wattage, but only amperage, wattage may be determined by multiplying amperage times voltage (watts = amps X volts).



CAUTION: Do not tamper with the enginegoverned speed. The generator operates at a nominal speed of 3600 rpm. Increases in speed over the 3600 rpm nominal will increase the chance of personal injury due to rotational stresses on the rotating members. Operation of the generator at speeds below the nominal 3600 rpm could cause damage to the generator or driven apparatus due to low voltage output.



CAUTION: Do not modify or misapply your generator set. Operation of the generator other than intended, could result in generator set damage, bodily injury or even death from electrocution.

GENERAL SAFETY OPERATIONAL GUIDELINES

- Read and understand all the general safety operational guidelines and rules before operating this generator.
- Always follow National and Local electrical codes.
- When moving or transporting this generator, take proper precautions to avoid fuel spillage. Further, always use common sense when lifting this generator. An adequate number of people and proper lifting procedures must be used.
- Do not wire your generator to a home or structure fed by utility power without proper isolation circuitry. Consult a local licensed electrician for proper wiring of your generator to a home, business or any facility or structure fed by utility power. Failure to properly isolate utility and generator electrical power could result in generator damage or electrocution to you or a utility worker. The main breaker, which disconnects from the utility power, must be open before the generator can safely be connected.
- Do not operate this generator unless the generator is in good mechanical and electrical condition.
- Do not overload this generator. Overloading this generator can cause generator damage, powered apparatus damage and excessive heat build up.
- Always keep hands, body parts, hair and clothing well away from the rotating or "HOT" parts of the generator set. Exhaust systems can cause severe burns.
- Do not start this generator with connected devices turned "ON". Always make sure that connected devices are disconnected from the generator or turned "OFF" before starting the generator.
- Do not operate this generator within an enclosed area. The operation area of the generator must be completely open. The exhaust gases of this generator emit "DEADLY" carbon monoxide. Exposure to carbon monoxide can cause carbon monoxide poisoning, headaches, nausea, severe sickness or death.
- Do not install this generator in an enclosed area such as a RV or motorhome. All warranty will be null and void if installed within an enclosed area.
- Always insure that at least 6 feet of clearance on all sides of the generator are maintained during operation. Failure to maintain proper clearance could damage your generator and potentially lead to fires.
- Never touch a receptacle or bare wire. Electrocution or shock could result.
- Gasoline is highly FLAMMABLE and its vapors are EXPLOSIVE. Handle gasoline with extreme care. Failure to properly handle gasoline can result in explosion or fire. Do not permit smoking within 50ft of this generator set.
- NEVER REFILL A HOT GENERATOR WITH FUEL. NEVER REFILL THE GENERATOR WHILE IT IS RUNNING. Spillage onto the engine or generator could result in an explosion or fire. Always allow the generator set to cool before refilling.
- Do not store this generator set in any location where gasoline fumes could potentially come into contact

with sparks, a pilot light or an open flame. Improper storage of this generator could result in an explosion or fire.

- GROUNDING: The NATIONAL ELECTRICAL CODE requires that the generator frame be properly grounded to earth. A ground lug is provided on the generator frame. As a general guideline, a 10 AWG wire connected to the grounding lug of the generator on one end (located on the generator frame as indicated by the International "GROUND" symbol) and connected to a copper or brass ground rod (driven into the ground) on the other end of the wire. Some locations require generator set or other grounding. Check with a local electrician to determine the grounding requirements for your area.
- Electrical generators produce electricity; Therefore, never allow or perform service operations to your generator set without proper training/certification. Service operations, without proper precautions can cause severe shock and even death by electrocution.
- Generators operating on job or construction sites must be equipped with GFCI (Ground Fault Circuit Interrupters) on all circuits. Certain generator models are not equipped with GFCI circuits. Therefore, customer supplied GFCI's must be installed in the power cords connected to the generator. Consult a local licensed electrician for proper wiring.
- Use only 3-Prong extension cords in good condition and make sure that the wire size within the extension cords is of sufficient size to safely carry the surge output of the generator.
- Never handle extension cords or electrical circuits if standing in water or if standing in a damp area.
- Operate, service or fill with fluids on a level surface only.
- Do not operate this generator in a corrosive or flammable environment.
- Never clean this generator with high-pressure water or a garden hose. Water can accumulate within the generator and cause fuel system, ignition system and or electrical problems or shorts. Cleaning should be done with a damp rag on a cool generator set.

GENERAL MAINTENANCE

ENGINE FUEL: Use Unleaded Fuel - ONLY!

ENGINE OIL: Refer to the Engine related documentation.

ENGINE MAINTENANCE:

Refer to the documentation supplied regarding the engine for all engine maintenance issues.

GENERATOR CLEANING



CAUTIONI: ALWAYS SHUT OFF THE GENERATOR AND ALLOW THE GENERATOR TO COMPLETELY COOL BEFORE PERFORMING CLEANING



WARNING! DO NOT USE HIGH PRESSURE WATER OR A GARDEN HOSE TO CLEAN YOUR GENERATOR. WATER INTRODUCED INTO THE GENERATOR CAN CAUSE ELECTRICAL SHORTS, GENERATOR DAMAGE OR PERSONAL INJURY.

- Compressed air (max. 25 psi) may be used to blow loose dirt and dust from your generator. DO NOT DIRECT COMPRESSED AIR DIRECTLY INTO ANY OPENING IN THE GENERATOR OR ENGINE.
- Use a dampened cloth to wipe clean exterior surfaces.
- Use a soft bristle brush to clean/ loosen heavy dirt, oil or grease deposits.
- NEVER insert rags, tools or any device into the generator or engine openings.

GENERAL STORAGE GUIDELINES

WARNING: GASOLINE FUMES ARE FLAMMABLE. DO NOT STORE YOUR GENSET IN ANY AREA THAT IS INDOORS OR IN POORLY VENTILATED AREAS. GASOLINE FUMES CAN IGNITE IN THE PRESENCE OF ANY OPEN FLAME, PILOT LIGHT, CLOTHES DRYER, WATER HEATER, ETC.

- Your generator should be started and operated for several minutes at least every 30 days.
- If the generator cannot be operated every 30 days, follow the storage recommendations within the engine documentation.
- NOTE: A fuel shut-off valve is positioned at the base of the fuel tank. The valve should be closed during storage periods.

ELECTRICAL LOADS AND GUIDELINES

Your generator set is designed to power electrical apparatuses within the electrical power output limitations of the generator. Please note that any generator overload can cause serious problems/damage to your generator. Additionally, apparatuses with electrical motors can require higher wattage requirements at start-up than when running. Some electric motors require as much as 2.5 times the rated wattage at start-up. Although the start-up wattage requirements for electric motors lasts only a few seconds, great care must be taken in connecting loads to your generator so as not to overload the generator. Refer to the label on each electrical apparatus to determine the wattage requirements of that apparatus. THE TOTAL WATTAGE REQUIREMENTS OF ALL POWERED APPARATUSES (INCLUDING START-UP LOADS) MUST NEVER EXCEED THE CONTINUOUS RATING OF YOUR GENERATOR, CORRECTED TO THE ACTUAL ENVIRONMENTAL CONDITIONS AT THE **OPERATING SITE.**

As a reference only, Table 1 below shows some general wattage requirements for several common electrical devices. This chart is intended as a guide only. The actual total wattage should be determined by referring to the actual labels on each of the powered electrical devices.

Table 1 GENERAL WATTAGE GUIDE

item	Running Watts
Air Conditioner (12000 Btu) (*) Air Compressor (1/2 hp) (*) Air Compressor (3/4 hp) (*) Air Compressor (1 hp) (*) Air Compressor (1 hp) (*) Battery Charger (25A) Belt Sander (3" belt) Circle Saw (6 ½") Coffee Maker Edger (lawn)	1400 1800 2000 600 1000 825-1050 900-1100 550 1200 1500 600 Bulb rated 1200 750 650 175 50-200 600 2000 250-550
Television	
Weed Trimmer Note: (*) Items allow 2.5 times the	
for starting.	

GENERATOR DESIGNED PERFORMANCE GUIDELINES

This electrical generator is designed to produce electrical energy for the purpose of powering lights, power tools, appliances and motor loads within the intended design constraints of the generator. The generator is designed to produce single-phase electrical power at 120 or 120/ 240 VAC. This generator is not intended for installation in RV or motorhome applications. The Performance Specifications for your generator are listed in Table 2 Performance Specifications.

T	Table 2 PERFORMANCE SPECIFICATIONS				
Model	Voltage	Cont. Watts	Surge Watts		
E3100	120 VAC	2600 Watts	3100 Watts		
	(Single Phase)	22 Amps @ 120 VAC	25.8 Amps @ 120 VAC		
E3600	120/240 VAC	3100 Watts	3600 Watts		
	(Single Phase)	25.8 Amps @ 120 VAC	30 Amps @ 120 VAC		
		12.9 Amps @ 240 VAC	15 Amps @ 240 VAC		
E4500	120/240 VAC	3825 Watts	4500 Watts		
	(Single Phase)	32 Amps @ 120 VAC	37.5 Amps @ 120 VAC		
		16 Amps @ 240 VAC	18.8 Amps @ 240 VAC		
E5000	120/240 VAC	4250 Watts	5000 Watts		
	(Single Phase)	36 Amps @ 120 VAC	41.6 Amps @ 120 VAC		
		18 Amps @ 240 VAC	20.8 Amps @ 240 VAC		

Table 3 Engine Type				
SKU Number Engine HP				
E3100	Honda GX 160	5.5hp		
E3600	Honda GX 200 6.5hp			
E4500	Honda GX 240	8.0hp		
E5000	Honda GX 270	9.0hp		

RECEPTACLE DETAILS

The following receptacle details are to aid in identifying mating plugs. Use this chart and compare to your genset to determine which receptacle(s) you have. Note the NEMA configuration and use this to purchase the correct mating plug.





NEMA 5-20R 125V - 20A

NEMA L5-30R 125V - 30A



NEMA L6-30R 250V - 30A



NEMA L6-20R 250V - 20A



NEMA 14-50R 125/250V - 50A

NEMA L14-20R 125/250V - 20A



NEMA L14-30R 125/250V - 30A

ENGINE LIMITATIONS ON GENERATOR PERFORMANCE

Generator ratings assume $60^{\circ}F$ (20C) and Sea Level. Operation of your generator at temperatures above $60^{\circ}F$ (20C) or above Sea Level will result in lower electrical output. Electrical output must be derated 2% for each $9^{\circ}F$ above $60^{\circ}F$ and 3 ½ % for each 1000 feet above mean sea level.

LOADING YOUR GENERATOR SET

With reference to the Receptacle details section, please review the power receptacles fitted to your generator. The actual load that may be pulled from each receptacle is driven by the circuit breaker rating and the generator rating.

DO NOT EXCEED THE INDIVIDUAL RECEPTACLE RATINGS AS SHOWN IN THE TABLE BELOW.

DO NOT EXCEED THE TOTAL GENERATOR RATING SHOWN IN TABLE 2 PERFORMANCE SPECIFICATIONS.

All generator units are equipped with a "**PUSH TO RESET**" Circuit Breaker.

AMPERAGE RATE TABLE

Model SKU	Figure 1 120V Duplex	Figure 2 120V Duplex	Figure 3 120V GFCI	Figure 4 125V/250V Twistlock	Figure 5 125V/250V Twistlock
E3100	20Amps	20Amps	20Amps	N/A	N/A
E3600	15Amps	15Amps	15Amps	15Amps	15Amps
E4500	20Amps	20Amps	20Amps	20Amps	20Amps
E5000	20Amps	20Amps	20Amps	20Amps	20Amps

PLEASE READ THE FOLLOWING CAREFULLY

THE MANUFACTURER AND/OR DISTRIBUTOR HAS PROVIDED THE PARTS AND WIRING DIAGRAM(S) IN THIS MANUAL AS A REFERENCE TOOL ONLY. MANUFACTURER NOR DISTRIBUTOR NEITHER THE MAKES ANY REPRESENTATION OR WARRANTY OF ANY KIND TO THE BUYER, THAT HE OR SHE IS QUALIFIED TO MAKE ANY REPAIRS TO THE PRODUCT OR THAT HE OR SHE IS QUALIFIED TO REPLACE ANY PARTS OF THE PRODUCT; IN FACT THE MANUFACTURER AND/OR DISTRIBUTOR EXPRESSLY STATES THAT ALL REPAIRS AND PARTS REPLACEMENTS SHOULD BE UNDERTAKEN BY CERTIFIED AND LICENSED TECHNICIANS AND NOT BY THE BUYER. THE BUYER ASSUMES ALL RISK AND LIABILITY ARISING OUT OF HIS OR HER REPAIRS TO THE ORIGINAL PRODUCT OR REPLACEMENT PARTS THERETO. OR ARISING OUT OF HIS OR HER INSTALLATION OF REPLACEMENT PARTS THERETO. PARTS MAY CHANGE OR VARY FROM THOSE SHOWN.

SECTION 2 E3100 AND E3600 GENERATOR PARTS AND PART LISTS



ITEM	QTY	PART NO.	DESCRIPTION
1	1	FRA0005-1	HG Class Roll Cage
2	2	VIB0014	Vibro Isolator - 30 X 30
3	6	NUTM080001	Nut, M8 - Nylon Insert
4	5	WASM080001	Flatwasher, M8
5	1	SPA0001	Spacer, .375x1.25x.125 Zinc
6	1	VIB0009	Vibro Isolator - 30X30
7	1	Ground Assembly	Ground Wire Assembly, E3100-E5000



ITEM	QTY	PART NO.	DESCRIPTION
1	1	SCR0310001	Bolt, 5/16*x18x1, Grade 5
2	1	WASM080002	M8 Lockwasher
З	1	NUT0310001	Wingnut, 5/16″
4	1	WAS0310001	Starwasher, 5/16"
5	3	WASM080001	Flatwasher, M8
6	1	NUT0310002	Nut, 5/16-18 Grade 5
8	1	WIR0004	Wire, Ground - E3100-5000



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ITEM	QTY	PART ND.	DESCRIPTION
1	2	REC0001	20A Duplex Receptacle
5	2	CIR0008	25A Thermal Circuit Breaker
3	4	SCR0250001	Bolt, #8-32x3/8 Phil Pan HD Z
4	4	NUT0250001	Nut, #8 Nylon Insert



E3600

ITEM	QTY	PART NO.	DESCRIPTION	
1	1	REC0003	30A 125/250V, Twistlock Receptacle	
2	2	CIR0003	15A Thermal Circuit Breaker	
3	4	SCR0250001	Bolt, #8-32x3/8 Phil Pan HD Z	
4	4	NUT0250001	Nut, #8 Nylon Insert	
5	1	REC0001	20A Duplex Receptacle	



SECTION 3 E4500 AND E5000 GENERATOR PARTS AND PART LISTS



ITEM	QTY.	PART ND.	DESCRIPTION
1	1	FRA0001-1	Frame Assembly, E4500/5000
2	1	BRA0044-1	Alternator Bracket
3	1	VI B0009	Vibration Isolator, 30 X 30
4	4	NUTM080001	Nut, M8 - Nylon Insert
5	5	WASM080001	Flat#asher, M8
6	2	SCRM080002	Bolt, M8 X <u>1</u> 6
7	1	Ground Assembly	Ground Wire Assembly
8	1	Sub-Frame Assembly	Engine Sub-Frame Assembly



Engine Sub-Frame Assembly

ITEM	QTY	PART NO.	DESCRIPTION
1	1	SUB0001-1	Engine Sub-Frame
2	2	VIB0010	Vibration Isolator
3	4	WASM080001	Flatwasher, M8
4	2	NUTM080001	Nut, M8 - Nylon Insert
5	2	SCRM100001	Bolt, M10 × 40 Z
6	4	WASM100002	Flatwasher, M10 Z
7	2	NUTM100001	Nut, M10
8	2	WASM100001	Lockwasher, M10
9	2	SCRM080002	Bolt, M8 X 16

Ground Wire Assembly



ITEM	QTY	PART ND.	DESCRIPTION
1	1	SCR0310001	Bolt, 5/16"x18x1, Grade 5
2	1	WASM080002	M8 Lockwasher
3	1	NUT0310001	∀ingnut, 5/16″
4	1	WAS0310001	Starwasher, 5/16'
5	3	WASM080001	Flatwasher, M8
6	1	NUT0310002	Nut, 5/16-18 Grade 5
7	1	WIR0004	Wire, Ground - E3100-5000



ITEM	QTY	PART NO.	DESCRIPTION
1	1	REC0003	30A 125/250V, Twistlock Receptacle
5	5	CIRODO4	20A Thermal Circuit Breaker
3	4	SCR0250001	Bolt, #8-32x3/8 Phil Pan HD M/S Z
4	4	NUT0250001	Nut, #8 Nylon Insert
5	1	REC0001	20A Duplex Receptacle



A.C. WIRING SCHEMATIC

Notes