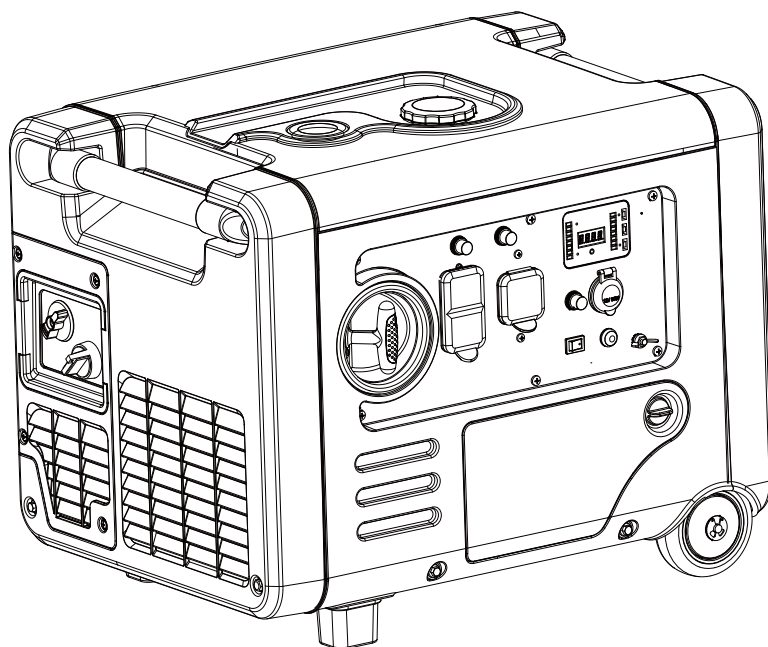




SIG4540E

GENERATOR OPERATOR'S MANUAL

PLEASE READ THIS MANUAL CAREFULLY BEFORE OPERATION

MANUAL DEL OPERADOR DEL GENERADOR

LEA ESTE MANUAL ATENTAMENTE ANTES DE LA OPERACIÓN

MANUEL D'UTILISATION DU GÉNÉRATEUR

VEUILLEZ LIRE ATTENTIVEMENT CE MANUEL AVANT L'UTILISATION

⚠ DANGER



DEADLY EXHAUST FUMES! ONLY use OUTSIDE far away from windows, doors and vents!



NOT INTENDED FOR USE IN CRITICAL LIFE SUPPORT APPLICATIONS.



SAVE this Manual. Provide this manual to any operator of the generator.



⚠ WARNING

This product and its exhaust can expose you to chemicals including lead and lead compounds, and carbon monoxide, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

This Manual contains important safety information and instructions for operating this generating set. **PLEASE READ THIS MANUAL CAREFULLY.** Failure to do so could result in property damage and/or personal INJURY/DEATH.

Provide this manual to any operator of this generator. This manual should be considered as a permanent part of your generator and should remain with it when you sell it.

The pictures and figures in the manual shall be only for reference. There may be differences between the pictures and figures and the physical product.

Table of contents

Operator Safety.....	2
Safety Rules.....	2
Getting Started.....	5
Know the Generator.....	6
Features and Controls.....	9
Operating.....	9
Operating Checklist.....	9
High Altitude.....	9
Operating Condition.....	9
Engine Oil.....	9
Engine Fuel.....	10
Electrical Devices.....	11
Grounding.....	11
Starting the Generator.....	11
Connect to Electrical Devices.....	12
Stopping the generator.....	13
Maintenance.....	14
Maintenance Schedule.....	14
Generator Maintenance.....	15
Engine Maintenance.....	15
Engine Oil.....	15
Add Oil.....	15
Change Oil.....	15
Spark Plug.....	15
Spark Arrester.....	16
Air Filter.....	16
Trouble Analysis and Troubleshooting.....	17
Storage and Transportation.....	17
Storage.....	17
Transportation.....	17
Specification.....	18
Specification Parameter Table.....	18
Wiring Diagram for 60Hz.....	19
Limited Warranty.....	20

SAVE THESE INSTRUCTIONS FOR FUTURE USE

All information in this publication is based on the latest product information available at the time of printing. We reserve the right to change, alter and/or improve the product and this document at any time without notice and without incurring any obligation.

Write down the serial number and purchase information of the generator. Keep this manual and the receipt for future reference.

Model: _____

Serial number: _____

Date of purchase: _____

OPERATOR SAFETY

Safety Rules



Pay attention to this safety alert symbol. Obey all safety messages that follow this symbol to avoid possible property damage, INJURY or DEATH. Each safety message is preceded by a safety alert symbol and one of three words, DANGER, WARNING, or CAUTION.

⚠ DANGER

Indicates a hazardous situation that, if not strictly complied with, will result in substantial property damage, serious injury or DEATH.

⚠ WARNING

Indicates a hazardous situation that, if not strictly complied with, may result in property damage, serious injury or DEATH.

⚠ CAUTION

Indicates a hazardous situation that, if not strictly complied with, could result in property damage or injury.



⚠ WARNING

READ THIS MANUAL COMPLETELY BEFORE OPERATING.

DO NOT operate this generator until you have read ALL safety, operation, and maintenance Instructions listed in this manual.

Failure to follow the instructions may result in property damage, INJURY or DEATH.

The warnings and precautions discussed in this manual cannot cover all possible conditions and situations that may occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be possessed by the operator.

⚠ WARNING

This generator is intended for residential consumer use only. DO NOT modify the engine and DO NOT use the engine for a purpose for which it is not intended.



⚠ WARNING

KICKBACK

Rapid retraction of the starter cord will pull your hand and arm towards the generator faster than you can let go.

Accidental starts can result in entanglement, traumatic amputation or laceration.

Broken bones, fractures, bruises or sprains could result.

⚠ WARNING:

Before each use, check for loose or damaged parts, signs of oil or fuel leaks, and any other condition that may affect proper operation. Repair or replace all damaged or defective parts immediately.

Locate all operating controls and safety labels.

Keep all safety guards in place and in proper working order at all times.

DO NOT allow any material to block the cooling slots.

DO NOT allow children or untrained persons to operate the generating set.

DO NOT run the generator unattended. Turn off the generator before leaving the area.



⚠ WARNING:

FIRE

Operation of this generator may create sparks that can start fires around dry vegetation.

This generator may not be equipped with a spark arresting muffler. If the generator will be used around flammable materials, or on land covered with materials such as agricultural crops, forest, brush, grass, or other similar items, then an approved spark arrester must be installed.

In some area, a spark arrester is required by law. Please contact local fire agencies for laws or regulations relating to fire prevention requirements.

⚠ WARNING:

Read the instructions provided with the equipment that is powered by this engine for any additional safety rules that should be observed in conjunction with generator startup, shutdown, operation, or protective apparel that may be needed to operate the equipment.



⚠ WARNING:

HOT SURFACE

The running generator produces heat. Severe burns can occur on contact.

DO NOT touch generator while operating or just after stopping. Avoid contact with hot exhaust gases.

Maintain at least three feet of clearance on all sides to ensure adequate cooling.

Combustible material can catch fire on contact. Maintain at least five feet of clearance from combustible materials.



⚠ DANGER:

TOXIC FUMES

The exhaust of the engine contains carbon monoxide, an odorless, colorless, poison gas. Using engine indoors CAN KILL YOU!

NEVER use inside any building or any kind of enclosure, EVEN IF doors and windows are open.

Place the generator in a well ventilated area and carefully consider wind and air currents when positioning the generator.



⚠ DANGER:

FIRE OR EXPLOSION

Gasoline is highly flammable and extremely explosive.

Fire or explosion can cause severe burns or death.

Keep flammable items away while handling gasoline.

Fill fuel tank outdoors and in a well-ventilated area with the generator stopped.

Always wipe off spilled fuel and wait until the fuel has dried before starting the generator.

DO NOT operate the generator with known leaks in the fuel system.

Use proper fuel storage and handling procedures. DO NOT store fuel or other flammable materials nearby.

Empty the fuel tank before storing or transporting this generator.

Keep fire extinguisher handy and be prepared if a fire starts.



⚠ DANGER:

MOVING PARTS

Moving parts can cause severe injury. Keep hands and feet away.

DO NOT operate generator with covers, shrouds, or guards removed.

DO NOT wear loose-fitting clothing, dangling drawstrings or items that could become caught. Tie up long hair and remove jewelry.

NEVER place fingers, hands, or body near the generator when it is running period.

⚠ WARNING:

ACID

(For types equipped with battery)

Be careful when using any battery.

Keep away from open flames, heat or spark.

Battery will exhaust hydrogen while charging. Only charge a battery in a well ventilated place.

Avoid spilled battery acid. If contact with skin is made, wash immediately with clean water.

GENERAL HAZARDS

- NEVER operate in an enclosed area, in a vehicle, or indoors EVEN IF doors and windows are open.
- For safety reasons, the manufacturer recommends that the maintenance of this equipment is carried out by an Authorized Dealer. Inspect the generator regularly, and contact the nearest Authorized Dealer for parts needing repair or replacement.
- Operate generator only on level surfaces and where it will not be exposed to excessive moisture, dirt, dust or corrosive vapors.
- Keep hands, feet, clothing, etc., away from drive belts, fans, and other moving parts. Never remove any fan guard or shield while the unit is operating.
- Certain parts of the generator get extremely hot during operation. Keep clear of the generator until it has cooled to avoid severe burns.
- DO NOT operate generator in the rain.
- DO NOT alter the construction of the generator or change controls which might create an unsafe operating condition.
- Never start or stop the unit with electrical loads connected to receptacles AND with connected devices turned ON. Start the engine and let it stabilize before connecting electrical loads. Disconnect all electrical loads before shutting down the generator.
- DO NOT insert objects through unit's cooling slots.
- When working on this equipment when physically or mentally fatigued.
- Never use the generator or any of its parts as a step. Stepping on the unit can stress and break parts, and may result in dangerous operating conditions from leaking exhaust gases, fuel, oil, etc.

NOTE:

This generator may be equipped with a spark arrestor muffler. The spark arrestor must be maintained in effective working order by the owner/operator. In the State of California, a spark arrestor is required by law (Section 4442 of the California Public Resources Code). Other states may have similar laws. Federal laws apply on federal lands.

EXHAUST & LOCATION HAZARDS

- NEVER operate in an enclosed area or indoors! NEVER use in the home, in a vehicle, or in partly enclosed areas such as garages, EVEN IF doors and windows are open! ONLY use outdoors and far from open windows, doors, vents, and in an area that will not accumulate deadly exhaust.

 DANGER	
Using a generator indoors CAN KILL YOU IN MINUTES. Generator exhaust contains carbon monoxide. This is a poison you cannot see or smell.	
 NEVER use inside a home or garage, EVEN IF doors and windows are open.	 Only use OUTSIDE and far away from windows, doors, and vents.

- The engine exhaust fumes contain carbon monoxide, which you cannot see or smell. This poisonous gas, if breathed in sufficient concentrations, can cause unconsciousness or even **death**.
- Adequate, unobstructed flow of cooling and ventilating air is critical to correct generator operation. Do not alter the installation or permit even partial blockage of ventilation provisions, as this can seriously affect safe operation of the generator. The generator MUST be operated outdoors.

- This exhaust system must be properly maintained. Do nothing that might render the exhaust system unsafe or in noncompliance with any local codes and/or standards.
- Always use a battery operated carbon monoxide alarm indoors, installed according to the manufacturer's instructions.
- If you start to feel sick, dizzy, or weak after the generator has been running, move to fresh air IMMEDIATELY. See a doctor, as you could have carbon monoxide poisoning.

ELECTRICAL HAZARDS

- The generator produces dangerously high voltage when in operation. Avoid contact with bare wires, terminals, connections, etc., while the unit is running, even on equipment connected to the generator. Ensure all appropriate covers, guards and barriers are in place before operating the generator.
- Never handle any kind of electrical cord or device while standing in water, while barefoot or while hands or feet are wet. **DANGEROUS ELECTRICAL SHOCK MAY RESULT.**
- The National Electric Code (NEC) requires the frame and external electrically conductive parts of the generator be properly connected to an approved earth ground. Local electrical codes may also require proper grounding of the generator. Consult with a local electrician for grounding requirements in the area.
- Use a ground fault circuit interrupter in any damp or highly conductive area (such as metal decking or steel work).
- Do not use worn, bare, frayed or otherwise damaged electrical cord set with the generator.
- Before performing any maintenance on the generator, disconnect the engine starting battery (if equipped) to prevent accidental start up. Disconnect the cable from the battery post indicated by a NEGATIVE, NEG or (–) first. Reconnect that cable last.
- In case of accident caused by electric shock, immediately shut down the source of electrical power. If this is not possible, attempt to free the victim from the live conductor. **AVOID DIRECT CONTACT WITH THE VICTIM.** Use a non-conducting implement, such as a rope or board, to free the victim from the live conductor. If the victim is unconscious, apply first aid and get immediate medical help.

FIRE HAZARDS

- **Gasoline is highly FLAMMABLE and its vapors are EXPLOSIVE. Never permit smoking, open flames, sparks or heat in the vicinity while handling gasoline.**
- Never add fuel while unit is running or hot. Allow engine to cool completely before adding fuel.
- **Never fill fuel tank indoors.** Comply with all laws regulating storage and handling of gasoline.
- **Do not overfill the fuel tank. Always allow room for fuel expansion.** If tank is over-filled, fuel can overflow onto a hot engine and cause FIRE or an EXPLOSION. Never store generator with fuel in tank where gasoline vapors might reach an open flame, spark or pilot light (as on a furnace, water heater or clothes dryer). FIRE or EXPLOSION may result. Allow unit to cool entirely before storage.
- Wipe up any fuel or oil spills immediately. Ensure that no combustible materials are left on or near the generator. Keep the area surrounding the generator clean and free from debris and keep a clearance of five (5) feet on all side to allow for proper ventilation of the generator.
- Do not insert objects through unit's cooling slots.
- **Never** operate the generator if connected electrical devices overheat, if electrical output is lost, if engine or generator sparks or if flames or smoke are observed while unit is running.
- Keep a fire extinguisher near the generator at all times.

STANDARDS INDEX

1. National Fire Protection Association (NFPA) 70: The NATIONAL ELECTRIC CODE (NEC) available from www.nfpa.org
2. National Fire Protection Association (NFPA) 5000: BUILDING CONSTRUCTION AND SAFETY CODE available from www.nfpa.org
3. International Building Code available from www.iccsafe.org
4. Agricultural Wiring Handbook available from www.nerc.org , Rural Electricity Resource Council P.O. Box 309 Wilmington, OH 45177-0309
5. ASAE EP-364.2 Installation and Maintenance of Farm Standby Electric Power available from www.asabe.org, American Society of Agricultural & Biological Engineers 2950 Niles Road, St. Joseph, MI 49085

This list is not all inclusive. Check with the Authority Having Local Jurisdiction (AHJ) for any local codes or standards which may be applicable to your jurisdiction.

GETTING STARTED

Unpacking

Remove the generator from the shipping carton

- Place the shipping carton on a solid, flat surface.
- Carefully cut each corner of the carton box from top to bottom. Fold each side flat on the ground.
- Remove everything from the carton except the generator.

Emission Information

The Environmental Protection Agency (and California Air Resource Board for generators certified to CA standards) requires that this generator comply with exhaust and evaporative emission standards. Locate the emissions compliance decal on the engine to determine what standards the generator meets, and to determine which warranty applies. This generator is certified to operate on gasoline. The emission control system includes the following components (if equipped):

- Air Induction System
 - Intake Pipe / Manifold
 - Air Cleaner
- Fuel System
 - Carburetor
 - Fuel Tank / Cap
 - Fuel Lines
 - Evaporative Vent Lines
 - Carbon Canister
- Ignition System
 - Spark Plug
 - Ignition Module
- Exhaust System
 - Exhaust Manifold
 - Muffler
 - Pulsed Air Valve
 - Catalyst

Optional Accessories

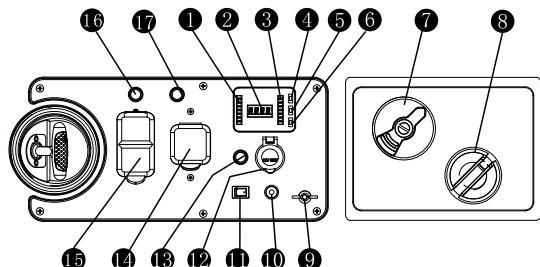
Since accessories, other than those offered by SIMPSON, have not been tested with this product, use of such accessories with this tool could be hazardous. To reduce the risk of injury, only SIMPSON recommended accessories should be used with this product.

Consult your dealer for further information on the appropriate accessories. If you need assistance in locating any accessory for your tool, please contact Customer Support at 1-877-362-4271 .

KNOW THE GENERATOR

Read the Owner's Manual and Safety Rules before operating this generator.
Compare the generator to the following figure to become familiarized with the locations of various controls and adjustments. Save this manual for future reference.

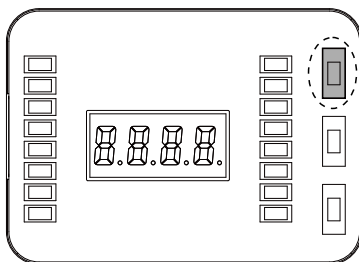
Control Panel



- | | |
|----------------------|-----------------------------|
| ① Fuel display | ⑩ Reset button |
| ② Hourmeter | ⑪ Energy-saving switch |
| ③ Power display | ⑫ DC output, 12V |
| ④ Running indicator | ⑬ DC circuit breaker 6A |
| ⑤ Overload indicator | ⑭ L5-30R Locking Receptacle |
| ⑥ Low oil indicator | ⑮ 5-20R Duplex Receptacle |
| ⑦ Fuel switch | ⑯ AC circuit breaker 20A |
| ⑧ OFF/ RUN/START | ⑰ AC circuit breaker 25A |
| ⑨ Ground terminal | |

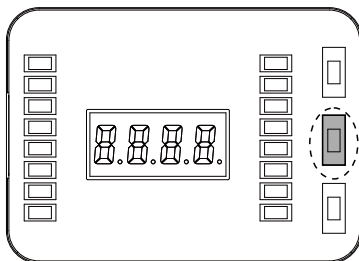
Running indicator (green)

The running indicator lights up when generator starts and has normal output.



Overload indicator (red)

When the generator is overloaded, the red light will blink. If the generator continues to be overloaded, the light will be on continuously. This overload condition may damage the generator and shorten the service life.

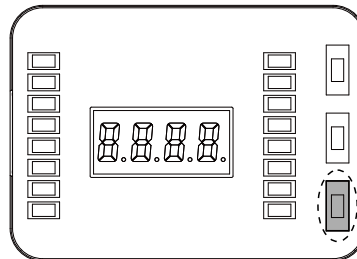


When the generator has no output and the overload indicator is on, please take the following steps:

1. Remove all loads.
2. Stop the generator.
3. Restart the generator.
4. Add loads.

Low oil indicator (yellow)

When the oil level drops below the limit, the oil protection system will stop the engine automatically and the low oil indicator will light up. The engine will not run until the oil has been filled to the proper level.

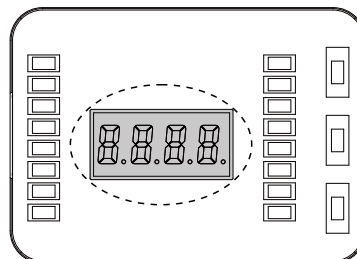


Note: If the low oil indicator lights up, it indicates lack of oil.

- ① Remove all loads.
- ② Add oil.
- ③ Restart.
- ④ Add loads.

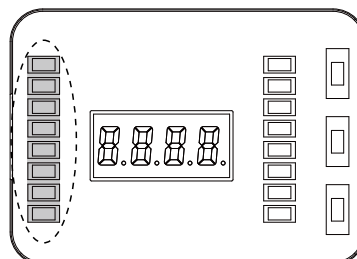
Hourmeter

The hourmeter tracks the accumulated running hours of generator.



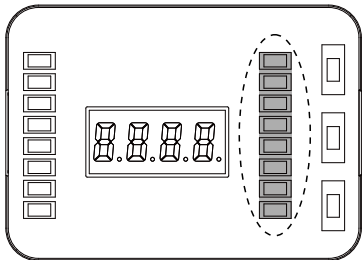
Fuel display

The fuel display indicates the fuel level in the fuel tank.



Power display

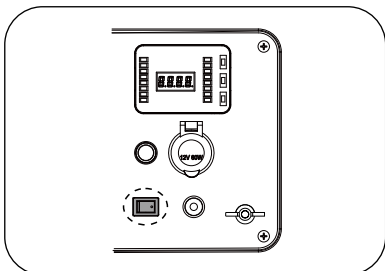
The power display indicates the amount of power on the running generator.



Energy-saving switch

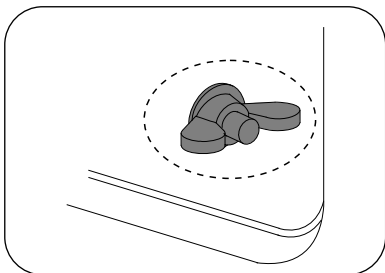
When the energy-saving (eco-mode) switch is in "ON" position, the energy saving equipment controls the engine rotate speed according to the connected loads. There will be good fuel consumption and low noise. When the energy-saving switch is in "OFF" position, the engine will always run in rated rotate speed no matter it is connected to the loads or not

Note: Please set the energy-saving switch (Eco-mode) to the "OFF" position when connecting to an air compressor, sump pump, etc. This type of equipment requires a large amount of starting current.



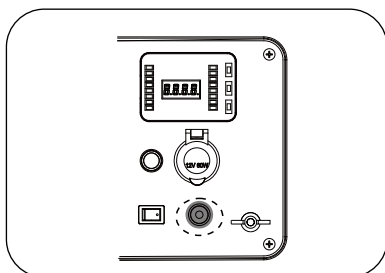
Grounding terminal

The grounding terminal is designed to prevent electric shock by connecting it to the grounding wire. The generator must be properly grounded before operation.



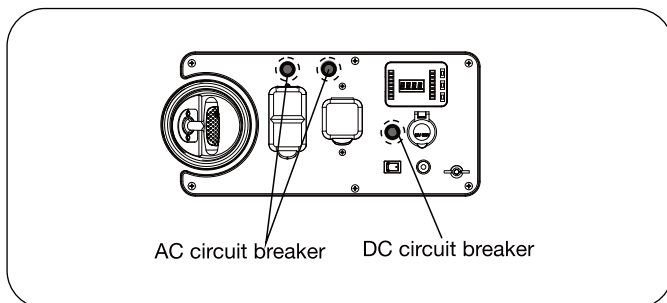
Reset button

The reset button is used to restore output if an overload occurs. To restore output, reduce the load and press the reset button.



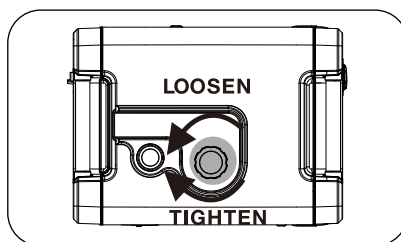
AC&DC Circuit breaker

The circuit breaker protects the generator against electrical overload.



Fuel tank cap

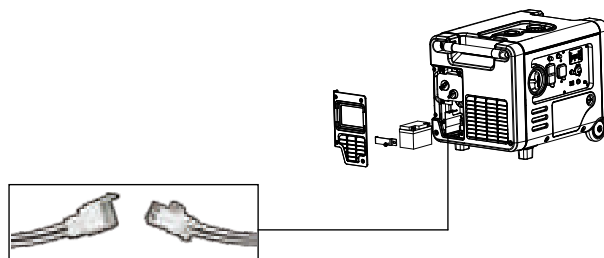
Remove the fuel tank cap, tighten clockwise.



IMPORTANT. PLEASE READ.

CONNECT BATTERY BEFORE USE

- Loosen the screws of the battery cover and remove the cover.
- Firmly connect the battery wires. To enabled electric starting
- Screw battery cover back into place.



⚠ DANGER:



Never operate in an enclosed area or indoors! NEVER use in the home, in a vehicle, or in partly enclosed areas such as garages, EVEN IF doors and windows are open! ONLY use outdoors and far from open windows, doors, vents, and in an area that will not accumulate deadly exhaust.



The engine exhaust fumes contain carbon monoxide, which you cannot see or smell. This poisonous gas, if breathed in sufficient concentrations, can cause unconsciousness or even death.



Adequate, unobstructed flow of cooling and ventilating air is critical to correct generator operation. Do not alter the installation or permit even partial blockage of ventilation provisions, as this can seriously affect safe operation of the generator. The generator MUST be operated outdoors.



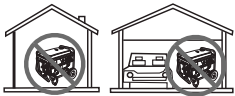
This exhaust system must be properly maintained. Do nothing that might render the exhaust system unsafe or in noncompliance with any local codes and/or standards.



Always use a battery operated carbon monoxide alarm indoors, installed according to the manufacturer's instructions.

⚠ DANGER

Using a generator indoors CAN KILL YOU IN MINUTES.
Generator exhaust contains carbon monoxide. This is a poison you cannot see or smell.



NEVER use inside a home or garage, EVEN IF doors and windows are open.



Only use OUTSIDE and far away from windows, doors, and vents.

Special Requirements

There may be Federal or State Occupational Safety and Health Administration (OSHA) regulations, local codes, or ordinances that apply to the intended use of the generator.

Please consult a qualified electrician, electrical inspector, or the local agency having jurisdiction:

- In some areas, generators are required to be registered with local utility companies.
- If the generator is used at a construction site, there may be additional regulations which must be observed.

Connecting the generator to a building's electrical system

When connecting directly to a building's electrical system, it is recommended that a manual transfer switch is used. Connections for a portable generator to a building's electrical system must be made by a qualified electrician and in strict compliance with all national and local electrical codes and laws.

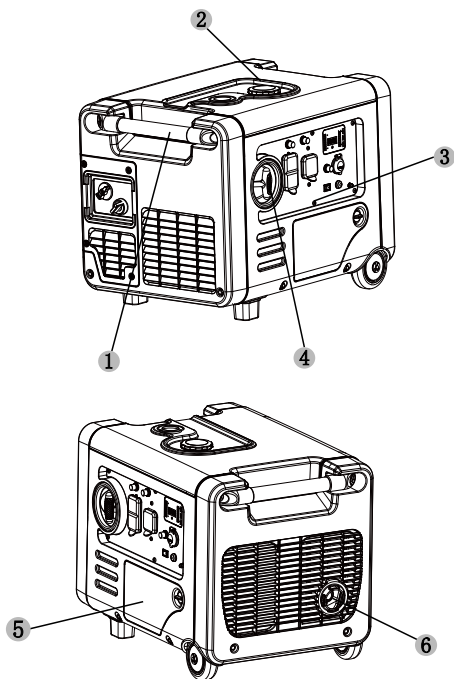
⚠ WARNING:

You must isolate the generator from electric utility by opening the electrical system's main circuit breaker or main switch if the generator is used for backup power. Failure to isolated the generator from the power utility may result in injury or death to electric utility workers and damage to the generator due to backfeed of electrical energy.

WATTAGE REFERENCE GUIDE

Device	Running Watts
*Air Conditioner (12,000 Btu)	1700
*Air Conditioner (24,000 Btu)	3800
*Air Conditioner (40,000 Btu)	6000
Battery Charger (20 Amp)	500
Belt Sander (3")	1000
Chain Saw	1200
Circular Saw (6-1/2")	.800 to 1000
*Clothes Dryer (Electric)	5750
*Clothes Dryer (Gas)	.700
*Clothes Washer	.1150
Coffee Maker	1750
*Compressor (1 HP)	.2000
*Compressor (3/4 HP)	.1800
*Compressor (1/2 HP)	.1400
Curling Iron	.700
*Dehumidifier	.650
Disc Sander (9")	.1200
Edge Trimmer	.500
Electric Blanket	.400
Electric Nail Gun	.1200
Electric Range (per element)	.1500
Electric Skillet	.1250
*Freezer	.700
*Furnace Fan (3/5 HP)	.875
*Garage Door Opener	.500 to .750
Hair Dryer	.1200
Hand Drill	.250 to .1100
Hedge Trimmer	.450
Impact Wrench	.500
Iron	.1200
*Jet Pump	.800
Lawn Mower	.1200
Light Bulb	.100
Microwave Oven	.700 to .1000
*Milk Cooler	.1100
Oil Burner on Furnace	.300
Oil Fired Space Heater (140,000 Btu)	.400
Oil Fired Space Heater (85,000 Btu)	.225
Oil Fired Space Heater (30,000 Btu)	.150
*Paint Sprayer, Airless (1/3 HP)	.600
Paint Sprayer, Airless (handheld)	.150
Radio	.50 to .200
*Refrigerator	.700
Slow Cooker	.200
*Submersible Pump (1-1/2 HP)	.2800
*Submersible Pump (1 HP)	.2000
*Submersible Pump (1/2 HP)	.1500
*Sump Pump	.800 to .1050
*Table Saw (10")	.1750 to .2000
Television	.200 to .500
Toaster	.1000 to .1650
Weed Trimmer	.500
* Allow 3 times the listed watts for starting these devices.	

FEATURES AND CONTROLS



- ① Transport handle
- ② Fuel tank cap
- ③ Control panel
- ④ Recoil starter
- ⑤ Maintenance access cover
- ⑥ Muffler

OPERATING

Operating Checklist

Operating Location

- Only use OUTSIDE and place the generator in a well-ventilated area and carefully consider wind and air currents. Never operate your generator outdoors during rain, snow or any combination of weather conditions that could lead to moisture collecting on or in the generator.
- Place the generator on a level surface before any operation. Always operate the generator on a dry surface free of any moisture.
- Generator must be at least 6 feet from any building, other equipment, or combustible material. Generator must not be located near any windows, doors, or vents.



⚠ DANGER:

TOXIC FUMES

The exhaust of the generator contains carbon monoxide, an odorless, colorless, poison gas. Using the generator indoors CAN KILL YOU!

NEVER use inside any building or any kind of enclosure, EVEN IF doors and windows are open.

Place the generator in a well-ventilated area and carefully consider wind and air currents when positioning generator.

High Altitude

This engine will have proper engine performance and emission control when it is operated at or below an altitude of 5000 feet (1524 meters). This engine requires a high-altitude carburetor kit to ensure proper engine performance and emission control when it is operated at altitudes above 5000 feet (1524 meters). Operating the engine with the wrong engine configuration above 5000 feet (1524 meters) may increase its emissions and decrease fuel efficiency and performance. To obtain a high-altitude carburetor kit, contact Customer Support.

⚠ CAUTION:

Operation of the engine with a high-altitude carburetor kit at an altitude below 1524 meters may cause the engine to overheat and result in serious engine damage.

Operating Condition

- Check for loose or damaged parts, signs of oil or fuel leaks, and any other condition that may affect proper operation.
- Repair or replace all damaged or defective parts immediately.

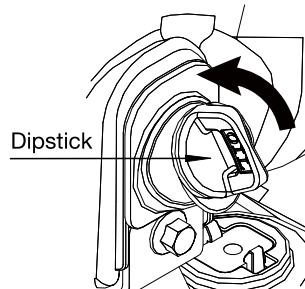
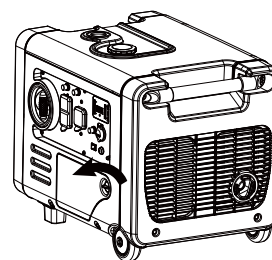
⚠ WARNING:

Failing to correct problem(s) before operation could result in property damage, serious injury or DEATH.

- Check the air filter. A dirty air filter will restrict air flow to the carburetor, reducing engine performance.
- Remove any excessive dirt or debris, especially around the muffler and recoil starter.
- DO NOT move or tip the generator during operation.
- Use generator only for intended uses. If you have questions about intended use contact Customer Support.

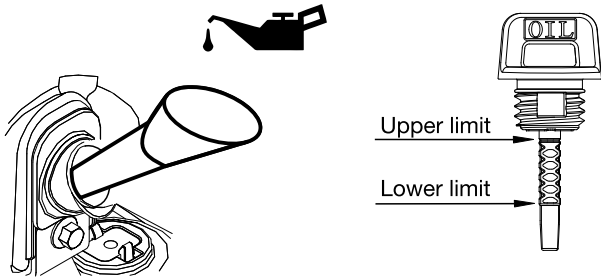
Engine oil

- Place the generator on a level surface with it stopped.
- Remove the Maintenance access cover.



- Remove dipstick
- Add oil
- Reinstall dipstick into hole.
- Remove the dipstick again and check oil level. Level should be between the upper and lower limit.

- Fill to the upper limit of the dipstick with the recommended oil if the oil level is low.



- Reinstall and fully tighten the dipstick.
- Engine damage could result from insufficient lubrication. Refer to **Add Oil** instruction in **MAINTENANCE** section for more information.
- See **SPECIFICATIONS** for oil capacity (rated).

⚠ WARNING:

This engine is not filled with oil at the factory. Any attempt to crank or start the engine before it has been properly filled with the recommended type and amount of oil may result in engine damage and void your warranty.

⚠ WARNING:

Oil is a major factor affecting performance and service life. Use 4-stroke automotive detergent oil recommended in the **MAINTENANCE** section of this manual.

⚠ WARNING:

Operate generator only on level surfaces. The low oil sensor (if equipped) will automatically stop the engine when the oil level falls below the safe limit. To avoid the inconvenient of an unexpected shutdown, fill to the upper limit and check the oil level regularly.

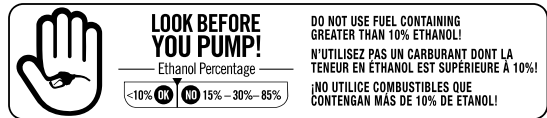
Engine fuel

- With the engine stopped, check the fuel level gauge. Refill the fuel tank if necessary.

⚠ CAUTION:

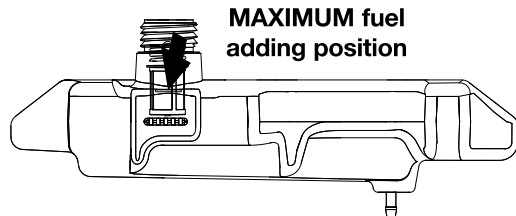
Pressure can build in the fuel tank. Allow the engine to cool for at least two minutes before removing fuel cap. loosen the fuel cap slowly to relieve any pressure in the tanks.

- Use clean, fresh, unleaded gasoline with a minimum octane rating of 87. DO NOT mix oil with petrol gasoline or use gasoline older than 30 days. DO NOT use gasoline that contains more than 10% ethyl alcohol. E15, E20 and E85 are NOT approved fuels and should NOT be used.
- Be sure not to fill the fuel tank above the upper limit mark. Always allow room for fuel expansion.
- See **SPECIFICATIONS** for fuel capacity (rated).



IMPORTANT: Ethanol Shield™ (sold separately) is a fuel stabilizer that helps eliminate and prevent ethanol related problems in power equipment. Follow the instructions on the container and add to the gasoline.

— Ethanol Percentage — **NOTICE:** Use of fuels with greater than 10% ethanol are not approved for use in this product per EPA regulations and will damage the unit and void the warranty.



⚠ WARNING:

Do not fill the fuel tank above the maximum fuel level. Over fill will result in engine die or damage the carbon canister (if equipped) and void your warranty.



⚠ DANGER:

FIRE OR EXPLOSION

Gasoline is highly flammable and extremely explosive. Fire or explosion can cause severe burns or death. Keep flammable items away while handling gasoline. Fill fuel tank outdoors and in a well-ventilated area with the engine stopped. Always wipe off spilled fuel and wait until the fuel has dried before starting the engine. DO NOT operate the engine with known leaks in the fuel system. Use proper fuel storage and handling procedures. DO NOT store fuel or other flammable materials nearby. Empty the fuel tank before storing or transporting this engine. Keep fire extinguisher handy and be prepared if a fire starts.

NEVER use engine or carburetor cleaner products in the fuel tank or permanent damage may occur.

It is important to prevent gum deposits from forming in essential fuel system parts, such as the carburetor, fuel filter, fuel hose or tank during storage. Also, experience indicates that alcohol-blended fuels (called gasohol, ethanol or methanol) can attract moisture, which leads to separation and formation of acids during storage.

Acidic fuel can damage the fuel system of an engine while in storage. Be sure to review the instructions given in "Storage" section.

Gasoline/Alcohol Blends: up to 10% alcohol, 90% unleaded gasoline by volume is approved as a fuel. Other gasoline/alcohol blends are not approved. Effects of old, stale or contaminated fuel are not warrantable.

⚠ CAUTION:

To minimize gum deposits in your fuel system and to insure easy starting, do not use gasoline left over from the previous season.

⚠ CAUTION:

Pressure can build up in the fuel tank. Allow the generator to cool for at least two minutes before removing fuel cap. Loosen the fuel cap slowly to relieve any pressure in the tank.

Electrical devices

- Disconnect all electrical devices from the generator and switch off the circuit breaker before starting the engine.
- The generator may be hard to start with electrical devices connected. Damage to electrical devices may occur.
- The power needed to run connected electrical devices can not be over the limit of generator max power, see parameter sheet for reference.

Grounding

- The generator must be properly connected to an appropriate ground. It helps prevent electrical shock if a ground fault condition exists in the generator or in connected electrical devices, especially with a wheel kit. Proper grounding also helps dissipate static electricity, which often builds up in ungrounded devices.

⚠ DANGER:

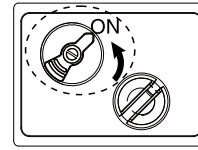
Electric Shock

Failure to properly ground the generator can result in electric shock.

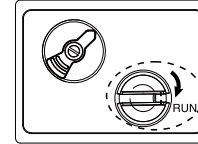
- A ground terminal has been provided on the generator. For remote grounding, connect a length of heavy gauge (4mm²) copper wire between the generator ground terminal and a copper rod driven into the ground.
- The National Electrical Code requires that the frame and external electrically conductive parts of this generator be properly connected to an approved earth ground. Local electrical codes may also require proper grounding of the unit. We strongly recommend that you consult with a qualified electrician for grounding requirements in your area.

Starting the generator

1. Turn the fuel switch to the "ON" position.



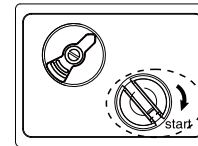
2. Turn the engine switch to "RUN" position.



3. Choose one of the starting modes to start the engine.

a. Electric start

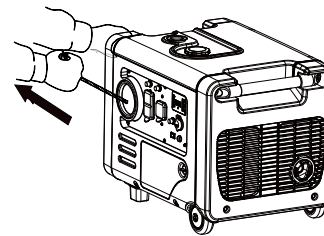
Turn the engine switch to "START" position, and then let the engine switch return to "RUN" position.



⚠ CAUTION:

If engine fails to start, wait 3-5 seconds and repeat step 3a.

- b. Manual start - Pull the starter grip slowly until it is engaged, then pull it quickly.



⚠ CAUTION:

Return the starter grip slowly by hand. Do not let the starter grip spring back quickly.



⚠ WARNING:

Kickback

Rapid retraction of the starter cord will pull hand and arm towards the engine faster than you can let go.

Unintentional startup can result in entanglement, traumatic amputation or laceration. Broken bones, fractures, bruises or sprains could result.

- If the starter fails to start the engine, immediately turn off the starter. Don't attempt to restart the engine before the failure cause is identified.

⚠ WARNING:

The engine starts attempt time should not exceed 15 minutes. If the engine fails to start, allow the starting motor to cool for one minute before restart. Failure to operate according to this rule will damage the starting motor.

⚠ CAUTION:

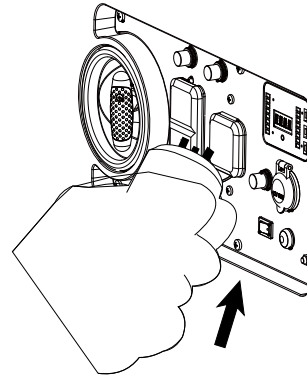
If the engine fails to start after attempt for 3 times or flames out after starting, inspect and ensure that the generator is placed in horizontal surface and enough engine oil is included.

During starting, don't keep the starting switch in "start" position for more than 5 seconds, otherwise it is possible to damage the starter motor. If the unit fails to start the first time, restart after about 10 seconds. If the starting speed of the motor falls, please replace the battery(6.5Ah). During the operation of the unit, the storage battery supplies power for the solenoid valve of the carburetor. For this, when the unit is turned off, make sure that the starting switch is in "OFF" position and otherwise the storage battery voltage is reduced due to the operating solenoid valve of the carburetor, impacting on starting for next time.

If the engine is equipped with an engine oil alarm, it is possible to prevent engine start when the engine oil in the crankcase is lower than minimum level.

During running-in, routinely inspect the engine oil. See Maintenance section for recommended maintenance period.

6. After all above operations, The unit is ready for use.



⚠ WARNING:

Do not start or stop the generator when the output terminal of generator is connected to an electric device and the electric device is in "ON" state.

Connect to electrical devices

- Inspect power cord for damage before using. There is a hazard of electrical shock from crushing, cutting or heat damage.
- Make sure that the generator has been properly grounded. If the electric devices require grounding, the generator must ground.
- Allow the engine to stabilize and warm up for a few minutes after starting.
- Make sure that the electric devices are in "OFF" position.
- Connect and start the electric devices.
- If the generator supplies for several loads or electric devices, start the smallest one first and the largest one last.

⚠ CAUTION:

If connected devices overheat, turn them off and disconnect them from generator.



⚠ DANGER:

Electric Shock

To reduce the risk of electrical shock, **DO NOT** use electrical cords that are worn, frayed, bare or otherwise damaged.

DO NOT touch bare wires of receptacles.

DO NOT handle generating set or electrical cords while standing in water, while barefoot, while hand or feet are wet.

⚠ WARNING:

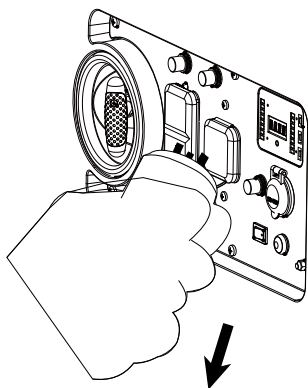
DO NOT overload the generator

Exceeding the capacity of generator can damage the generator and/or electrical devices connected to it.

- You must make sure your generator can supply enough rated (running) and surge (starting) watts for the electrical devices you will power at the same time. Follow these simple steps to calculate the running and starting watts necessary for your purposes.
 1. Select the electrical devices you will power at the same time.
 2. The amount of power you need to run all the devices is the total rated (running) watts of these items.
 3. Identify how many surge (starting) watts you will need. Surge wattage is the short burst of power needed to start electric motor-driven tools or appliances such as a circular saw or refrigerator.
- Because not all motors start at the same time, total surge watts can be estimated by adding only the electrical device(s) with the highest additional surge watts to the total rated watts, refer to page 8.

Stopping the generator

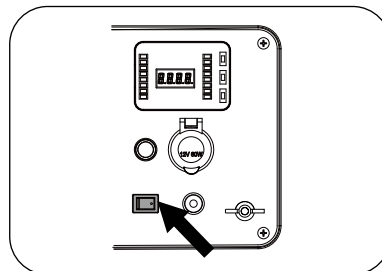
1. Turn off loads first.
2. Remove all loads on generator by Removing the plugs of all electric equipment from the generator panel.



⚠ WARNING:

NEVER stop the engine with electrical devices connected and with the connected devices turned “ON”.

3. Turn the energy saving switch to the “ON” position.



4. Allow the generator run at no load for a few minutes to stabilize internal temperatures of the engine and generator.
5. Turn off generator, turn off fuel.

⚠ CAUTION:

When the generator is overloaded, the red light will blink. If the generator continues to be overloaded, the light will be on continuously. This overload condition may damage the generator and shorten the service life.

When continuously operating the generator, power cannot exceed the rated power of generator.

The total power of electric devices cannot exceed the rated power of generator. The manufacturers of electric devices or tools always list the rated power of similar models or serial number.

MAINTENANCE

A trained technician or authorized dealer or knowledge experienced person of the owner's choosing may maintain, replace or repair emission control devices and systems; however, warranty replacements or repairs must be performed by an FNA distribution or service center. To obtain information about how to make a warranty claim or to make arrangements for authorized repairs, please contact FNA Group at cservice@fna-group.com or 1-877-362-4271.

It is the owner's/operator's responsibility to complete all scheduled maintenance in a timely manner. Correct any issue before operating the engine. Always follow the inspection and maintenance recommendations and schedules in this manual.

Before servicing the generator, **stop the generator**, disconnect all electrical devices and battery(if equipped) and allow the generator to cool down.

⚠ WARNING:

Improper maintenance or failure to correct a problem before operation can cause a malfunction and result in property damage, serious injury or DEATH.
Improper maintenance may void your warranty.



⚠ DANGER:

Accidental starts can cause severe injury or death. Remove and ground spark plug wire before performing any service.

⚠ CAUTION:

The filter element may contain polyaromatic hydrocarbons (PAHs). PAHs are harmful to your health. Please wear gloves for protection during air filter maintenance.

Maintenance Schedule

Follow the service intervals indicated in the chart below. Your generating set may need to be serviced more frequently when operating in adverse conditions, such as excessive dust or airborne debris, high moisture, high vibrations, or intense heat or sunlight.

		Each time before use	The first month or 10 hours ^{Note 2}	Every three months or 50 hours ^{Note 2}	Every six months or 100 hours ^{Note 2}	Every year or 300 hours ^{Note 2}
Engine oil	Inspection	√				
	Replacement		√	√		
Air cleaner	Inspection	√				
	Cleaning			√ ^{Note 3}		
Spark plug	Inspection and adjustment				√	
	Replacement					√
Spark arrestor	Cleaning				√	
Idle speed	Inspection and adjustment					√ ^{Note 4}
Valve clearance	Inspection and adjustment					√ ^{Note 5}
Carbon canister ^{Note 1}	Inspection	Every two years ^{Note 4}				
Low permeability oil tube ^{Note 1}	Inspection	Every two years ^{Note 4}				
Oil tube	Inspection	Every two years ^{Note 4}				

Note 1: Applicable types.

Note 2: Before each season and after then (whichever comes first).

Note 3: Service more frequently under severe, dusty, dirty conditions.

Note 4: To be performed by knowledgeable, experienced owners or the authorized dealer.

Note 5: To be performed by knowledgeable, experienced owners or the trained technician or authorized dealer, but not necessary to keep the emission control warranty valid.

Generator maintenance

- Make certain that the generator is kept clean and stored properly.
- Use a damp cloth to clean exterior surfaces of the generator.
- Use an air compressor (25 PSI) to clear dirt and debris from the generator.
- Inspect all air vents and cooling slots to ensure that they are clean and unobstructed.

⚠ WARNING:

DO NOT use water to clean the generator. Water can enter the generator through the cooling slots and damage the generator windings.

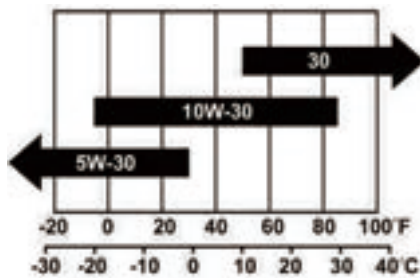
⚠ WARNING:

DO NOT modify the generator in any way.
DO NOT tamper with governed speed. Generating set supplies correct rated frequency and voltage when running at factory.
Tampering with the factory set governor will void your warranty.

Engine Maintenance

Engine Oil

SAE 10W-30 is recommended for general, all-temperature use. Other viscosities shown in the chart may be used when the average temperature in your area is within the indicated range.

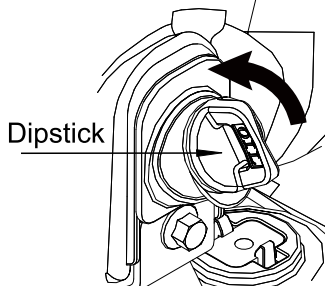


AMBIENT TEMPERATURE

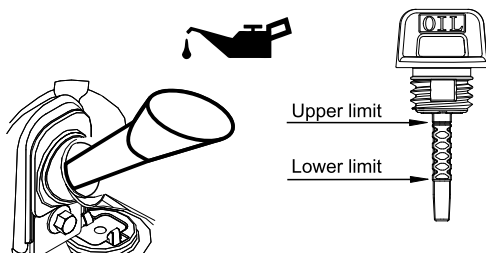
See **SPECIFICATIONS** for oil capacity (rated)

Add Oil

1. Place the engine on a level surface.
2. Remove the dipstick and wipe it clean.



3. Add recommended oil to the upper limit.



⚠ CAUTION:

Oil level check

Reinstall dipstick into hole; rest on oil fill neck. **DO NOT** thread cap into hole.

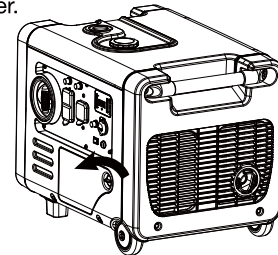
4. Fully tighten the dipstick.
5. Properly dispose of any used oil at an approved waste management facility.

Change Oil

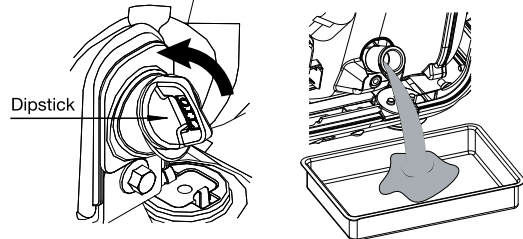
⚠ CAUTION:

Change oil when the engine is warm from operation.

1. Place the engine on a level surface which is 300mm higher than the ground.
2. Remove the side cover.



3. Place the waste oil container on the ground.
4. Remove oil dipstick, and tilt the machine to pour the oil.



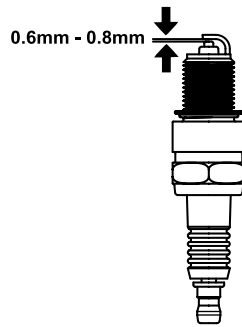
5. Add recommended oil to the upper limit.
6. Reinstall and fully tighten the dipstick.
7. Dispose of used oil at an approved waste management facility.
8. Reinstall the side cover.

Spark Plug

1. Clean any dirt from the spark plug cap and spark plug base.
2. Remove the spark plug cap.
3. Use a socket wrench to loosen and remove the spark plug.
4. Inspect the spark plug and spark plug washer. If they are damaged or worn, replace with a new one. Clean the spark plug with a wire brush if it can be reused.

NOTICE: Replace spark plug if electrodes are pitted, burned or porcelain is cracked. Use only the recommended spark (Champion RN9YC or equivalent). The use of a nonrecommended spark plug can result in damage to the engine.

5. Check spark plug gap. Carefully bend side electrode to adjust the gap if necessary. **Spark plug gap: 0.6mm - 0.8mm**



6. Carefully thread the plug into the engine by hand.
7. After the spark plug is seated, use spark plug wrench to tighten the plug. **Spark Plug Torque: 20-25N.m**
8. Attach the spark plug cap to the plug.

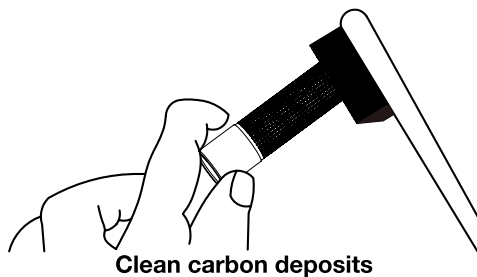
⚠ WARNING:

Only use recommended spark plug or equivalent. DO NOT use spark plugs that have improper heat range.

Spark Arrester

(Applicable types)

1. Allow the engine to cool completely before servicing the spark arrester.
2. Remove the muffler blind window.
3. Remove the spark arrester screen.
4. Carefully remove the carbon deposits from the spark arrester screen with a wire brush.
5. Replace the spark arrester if it is damaged.
6. Reinstall the spark arrester in the muffler and reinstall the muffler blind window.



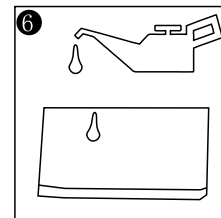
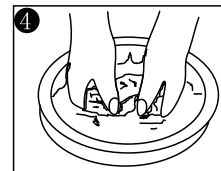
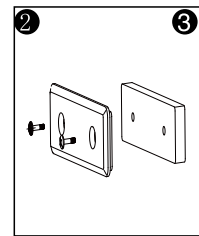
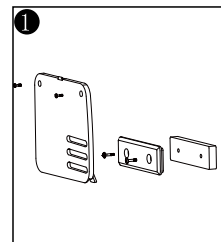
7. Fully tighten the dipstick.
8. Properly dispose of any used oil at an approved waste management facility.
9. Reinstall the oil maintenance cover.

⚠ WARNING:

The engine is not filled with oil at the factory. Any operation before it has been properly filled with the recommended type and amount of oil may result in engine damage and void your warranty.

Air Filter

1. Remove the side cover.
2. Remove the cover of the air filter.
3. Remove the foam filter element.
4. Wash in liquid detergent and warm water.
5. Squeeze thoroughly dry in a clean cloth.
6. Saturate in clean engine oil.
7. Squeeze in a clean absorbent cloth to remove all excess oil.
8. Place the filter in the assembly.
9. Reinstall the foam filter element.
10. Reinstall the cover of the air filter.
11. Reinstall the side cover.



⚠ WARNING:

DO NOT run the engine without the air filter. Serious damage to the engine can result without the air filter.

TROUBLE ANALYSIS AND TROUBLESHOOTING

Failure	Reason	ART Solution
Generator fails to start	ON/OFF dial is in "OFF" position.	Turn the ON/OFF dial to the "RUN" position.
	Lack of fuel.	Fill fuel tank per instructions in this manual.
	Lack of engine oil.	Check oil level. This engine is equipped with a low oil sensor. The engine cannot be started unless the oil level is above the prescribed lower limit.
	No ignition	Remove the spark plug cap. Clean any dirt around the plug base, and then remove the spark plug. Install the spark plug in the plug cap. Turn the OFF/RUN/ST switch to "RUN" position. Grounding the electrode to any engine ground, pull the recoil starter to see if sparks jump across the gap. If there is no spark, replace the plug. Reinstall the plug and start engine according to instructions in this manual. Consult Customer Service if necessary.
	Spark plug is flooded by fuel	Remove the spark plug and wipe the fuel. Reinstall plug.
	The generator flames out after running for a certain time.	Check the fuel and oil level. Add them if necessary.
	Old gas	Reload with fresh gas
Generator has no output	Breaker trip	Reset circuit breakers.
	Damaged cord sets or extension cords.	Check cord sets or extension cords capabilities in section controls; cable size in this manual. Consult Customer Service if necessary.

STORAGE AND TRANSPORTATION

Storage

The generator should be started at least once every two weeks and allowed to run for at least 20 minutes. Follow the instructions below for longer term storage if the generating set will be out of service for 2 months or more.



⚠ DANGER:

FIRE OR EXPLOSION

Gasoline is highly flammable and extremely explosive. Empty the fuel tank before storing or transporting the generator.

1. Allow the generator to cool completely before storage.
2. Clean the generator according to the instructions in the Maintenance section.
3. Drain all fuel completely from the fuel hose and carburetor to prevent gum from forming.
4. Turn off the fuel supply at the fuel valve.
5. Change the oil.
6. Store the unit in a clean, dry area out of direct sunlight.

Transportation

To prevent fuel spillage when transporting or during temporary storage, the generating set should be secured upright in its normal operating position, with the engine switch OFF. The fuel valve lever should be turned OFF.

⚠ WARNING:

When transporting:

DO NOT overfill the tank.

DO NOT operate the generator while it is on vehicle. Take the generator off the vehicle and use it in a well-ventilated place. Avoid a place exposed to direct sunlight when putting the generator on a vehicle. If the generator is left in an enclosed vehicle for many hours, high temperature inside the vehicle could cause fuel to vaporize resulting in a possible explosion.

DO NOT drive on a rough road for an extended period with the generator on board. If you must transport the generator on a rough road, drain the fuel from the generator beforehand.

SPECIFICATIONS

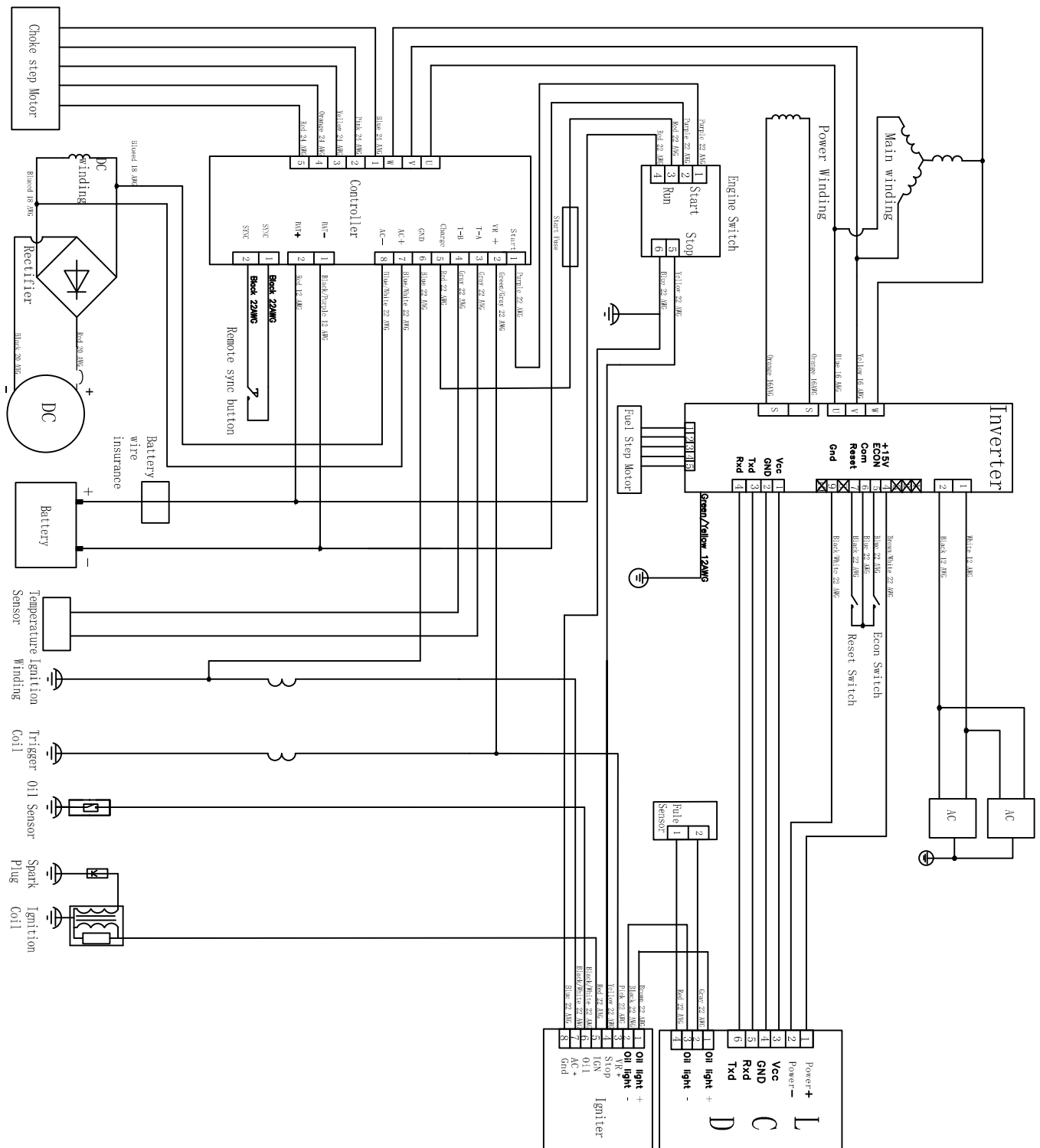
Specification Table

Feature	Model	SIG4540E
Engine specifications	Engine model	JF223BP
	Style	OHV
	Displacement (cm ³)	223
	Ignition system	CDI
	Start style	Hand recoil starting Electric starting
	Oil capacity(L)	0.6
Inverter generator specifications	Frequency(Hz)	60
	Voltage(V)	120
	★ Rated power(kW)	4.0
	Maximum power(kW)	4.5
	Power factor	1.0
	Insulation rate	F
	Fuel capacity(L)	9.0
	Max. site ambient temperature(°C)	40
	Max. site altitude of installation(m)	1500
	★★ Measured sound pressure level(dB(A))	≤69
	Measurement uncertainty(dB(A))	≤1.5
	Guaranteed sound power level(dB(A))	≤97
	Net weight(kg)	50

* Inverter generator per PGMA(Portable Generator Manufactures Association) standard ANSI/PGMA G300-2015, Safety and Performance of portable generator.

** 1/4 load @ 7 meters.

Wiring Diagram for 60Hz



NOTE: Because of the difference of generator, the wiring diagram is only for reference.

LIMITED WARRANTY

FNA Group, warrants to the original retail purchaser that this SIMPSON brand outdoor product is free from defect in material and workmanship and agrees to repair or replace, at FNA Group's, discretion, any defective product free of charge within these time periods from the date of purchase.

Three years if the product is used for personal, family or household use.

One year for commercial use.

This warranty extends to the original retail purchaser only and commences on the date of the original retail purchase.

Any part of this product found in the reasonable judgment of FNA Group to be defective in material or workmanship will be repaired or replaced without charge for parts and labor by an authorized service center for SIMPSON brand outdoor products. (Authorized SIMPSON Service Center).

The product, including any defective part, must be returned to an authorized SIMPSON service center within the warranty period. The expense of delivering the product to the service center for warranty work and the expense of returning it back to the owner after repair or replacement will be paid by the owner. SIMPSON's responsibility in respect to claims is limited to making the required repairs or replacements and no claim of breach of warranty shall be cause for cancellation or rescission of the contract of sale of any SIMPSON brand outdoor product. Proof of purchase will be required by the dealer to substantiate any warranty claim. All warranty work must be performed by an authorized service center.

This warranty does not cover any product used for rental or commercial purposes, or any other income-producing purpose

This warranty does not cover any product that has been subject to abuse, misuse, neglect, negligence, accident, the effects of corrosion or erosion, or that has been operated in any way contrary to the operating instructions as specified in this operator's manual. This warranty does not apply to any damage to the product that is the result of improper maintenance or to any product that has been altered or modified. The warranty does not extend to repairs made necessary by normal wear or by the use of parts or accessories which are either incompatible with the SIMPSON brand outdoor product or adversely affect its operation, performance, or durability.

In addition, this warranty does not cover:

Tune-ups – Spark Plugs, Carburetor, Carburetor Adjustments, Ignition, Filters, Oil Change

Wear items–Recoil Starter Rope, Motor Brushes, Alternator Brushes, Cotter Pins, Wheels, Gaskets, Valves, Pistons, Pump Valve Assemblies.

ALL IMPLIED WARRANTIES ARE LIMITED IN DURATION TO THE STATED WARRANTY PERIOD. ACCORDINGLY, ANY SUCH IMPLIED WARRANTIES INCLUDING MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR OTHERWISE, ARE DISCLAIMED IN THEIR ENTIRETY AFTER THE EXPIRATION OF THE APPROPRIATE THREE-YEAR OR NINETY-DAY WARRANTY PERIOD.

SIMPSON OBLIGATION UNDER THIS WARRANTY IS STRICTLY AND EXCLUSIVELY LIMITED TO THE REPAIR OR REPLACEMENT OF DEFECTIVE PARTS AND SIMPSON DOES NOT ASSUME OR AUTHORIZE ANYONE TO ASSUME FOR THEM ANY OTHER OBLIGATION. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU. SIMPSON ASSUMES NO RESPONSIBILITY FOR INCIDENTAL,

CONSEQUENTIAL, OR OTHER DAMAGES INCLUDING, BUT NOT LIMITED TO, EXPENSE OF RETURNING THE PRODUCT TO AN AUTHORIZED SIMPSON SERVICE CENTER AND EXPENSE OF DELIVERING IT BACK TO THE OWNER, MECHANIC'S TRAVEL TIME, TELEPHONE OR TELEGRAM CHARGES, RENTAL OF A LIKE PRODUCT DURING THE TIME WARRANTY SERVICE IS BEING PERFORMED, TRAVEL, LOSS OR DAMAGE TO

PERSONAL PROPERTY, LOSS OF REVENUE, LOSS OF USE OF THE PRODUCT, LOSS OF TIME, OR INCONVENIENCE. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. This warranty applies this SIMPSON brand outdoor product manufactured by or for SIMPSON's and sold in the United States and Canada.

To locate your nearest Authorized SIMPSON Service Center, dial 1-877-362-4271.

Emission Control System Warranty

FEDERAL and CALIFORNIA EMISSION CONTROL WARRANTY STATEMENT YOUR WARRANTY RIGHTS AND OBLIGATIONS

The California Air Resources Board (CARB) and the United States Environmental Protection Agency (EPA), together with FNA Group (FNA), are pleased to explain the Emission Control System Warranty on your [2021 model year – 2022 model year]* small off-road engine(SORE). In California, new equipment that uses small off-road engines must be designed, built and equipped to meet the state's stringent anti-smog standards. In other states, new small off-road engine must be designed, built and equipped at the time of sale to meet the U.S. EPA regulations for small off-road engines. FNA will warrant the emission control system on your engine for the periods of time listed below provided there has been no abuse, neglect, or improper maintenance of your engine.

Your emission control system may include parts such as the carburetor or fuel injection system, the ignition system, catalytic converters, fuel tanks, valves, filters, clamps, connectors, fuel lines, fuel caps, canisters, vapor hoses, and other associated components. Also included may be hoses, belts and connectors, and other emission-related assemblies. For engines less than or equal to 80cc only the fuel tank is subject to the evaporative emission control warranty requirements of this section. (California Only)

Where a warrantable condition exists, FNA will repair your engine at no cost to you, including diagnosis, parts, and labor.

MANUFACTURER'S WARRANTY COVERAGE:

The emission control system is warranted for two years. If, during such warranty period, any emission-related part on your engine is found to be defective in materials or workmanship, repairs or replacement will be performed by a FNA Authorized Warranty Service Facility.

PURCHASER'S/OWNER'S WARRANTY RESPONSIBILITIES:

(a) As the SORE purchaser/owner, you are responsible for the completion of all required maintenance as listed in your factory supplied Owner's Manual. For warranty purposes, FNA recommends that you retain all receipts covering maintenance on your SORE. However, FNA cannot deny warranty solely because of the lack of receipts or for your failure to ensure the completion of all scheduled maintenance.

(b) As the SORE purchaser/owner, you should, however, be aware that FNA may deny any and/or all warranty coverage or responsibility if your SORE or a part/component thereof, has failed due to abuse, neglect, improper maintenance or unapproved modifications, or the use of counterfeit and/or "grey market" parts not made, supplied or approved by FNA.

(c) You are responsible for presenting your SORE to a FNA Authorized Warranty Service Facility as soon as a problem occurs. The warranty repairs should be completed in a reasonable amount of time, not to exceed 30 days. Warranty service can be arranged by contacting either your selling dealer or a FNA Authorized Warranty Service Facility. To locate the FNA Authorized Warranty Service Facility nearest you, call our free number:

1-877-362-4271

IMPORTANT NOTE: This warranty statement explains your rights and obligations under the Emission Control System Warranty (ECS Warranty), which is provided to you by FNA pursuant to California and federal law. See also the "FNA Limited Warranties for FNA Group (FNA)" which is enclosed herewith on a separate sheet, also provided to you by FNA. The ECS Warranty applies only to the emission control system of your new engine. If there is any conflict in terms between the ECS Warranty and the FNA Warranty, the ECS Warranty shall apply except in circumstances where the FNA Warranty may provide a longer warranty period. Both the ECS Warranty and the FNA Warranty describe important rights and obligations with respect to your new engine.

Warranty service can be performed only by a FNA Authorized Warranty Service Facility. When requesting warranty service, evidence must be presented showing the date of the sale to the original purchaser/owner. The purchaser/owner shall be responsible for any expenses or other charges incurred for service calls and/or transportation of the product to/from the inspection or repair facilities. The purchaser/owner shall also be responsible for any and/or all damages or losses incurred while the engine is being transported/shipped for inspection or warranty repairs.

IF YOU HAVE ANY QUESTIONS REGARDING YOUR WARRANTY RIGHTS AND RESPONSIBILITIES, YOU SHOULD CONTACT FNA AMERICA AT THE FOLLOWING ADDRESS:

926 E FRANCIS ST, ONTARIO, CA 91761

cservice@fna-group.com

II. EMISSION CONTROL SYSTEM WARRANTY

Emission Control System Warranty (ECS Warranty) for equipment using small off-road engines:

(a) **Applicability:** This warranty shall apply to equipment that uses small off-road engines. The ECS Warranty Period shall begin on the date the new engine or equipment is purchased by/delivered to its original, end-use purchaser/owner and shall continue for 24 consecutive months thereafter.

(b) **General Emissions Warranty Coverage:** FNA warrants to the original, end-use purchaser/owner of the new engine or equipment and to each subsequent purchaser/owner that each of its engines is...

(1) Designed, built and equipped so as to conform with all applicable regulations adopted by the EPA and CARB pursuant to their respective authority, and

(2) Free from defects in materials and workmanship which, at any time during the ECS Warranty Period, may cause a warranted emissions-related part to fail to be identical in all material respects to the part as described in the engine manufacturer's application for certification.

The ECS Warranty only pertains to emissions-related parts on your engine, as follows:

(1) Any warranted, emissions-related parts that are not scheduled for replacement as required maintenance in the Owner's Manual shall be warranted for the ECS Warranty Period. If any such part fails during the ECS Warranty Period, it shall be repaired or replaced by FNA according to Subsection (4) below. Any such part repaired or replaced under the ECS Warranty shall be warranted for the remainder of the ECS Warranty Period.

(2) Any warranted, emissions-related part that is scheduled only for regular inspection as

specified in the Owner's Manual shall be warranted for the ECS Warranty Period. A

statement in such written instructions to the effect of "repair or replace as necessary" shall not reduce the ECS Warranty Period. Any such part repaired or replaced under the ECS Warranty shall be warranted for the remainder of the ECS Warranty Period.

(3) Any warranted, emissions-related part that is scheduled for replacement as required

maintenance in the Owner's Manual shall be warranted for the period of time prior to the first scheduled replacement point for that part. If the part fails prior to the first scheduled

replacement, the part shall be repaired or replaced by FNA according to Subsection (4) below. Any such emissions-related part repaired or replaced under the ECS Warranty shall be warranted for the remainder of the ECS Warranty Period prior to the first scheduled replacement point for such emissions-related part.

(4) Repair or replacement of any warranted, emissions-related part under this ECS Warranty shall be performed at no charge to the owner at a FNA Authorized Warranty Service Facility.

(5) When the engine is inspected by a FNA Authorized Warranty Service Facility, the owner shall not be held responsible for diagnostic costs if the repair is deemed warrantable.

(6) FNA shall be liable for damages to other original engine components or approved modifications proximately caused by a failure under warranty of any emission-related part covered by the ECS Warranty.

(7) Throughout the ECS Warranty Period, FNA shall maintain a supply of warranted emission-related parts sufficient to meet the expected demand for such emission-related parts.

(8) Any FNA authorized and approved emission-related replacement part may be used in the performance of any ECS Warranty maintenance or repairs and will be provided without charge to the purchaser/owner. Such use shall not reduce FNA's ECS Warranty obligations.

(9) Unapproved, add-on, modified, counterfeit and/or "grey market" parts may not be used to modify or repair a FNA engine. Such use voids this ECS Warranty and shall be sufficient grounds for disallowing an ECS Warranty claim. FNA shall not be held liable hereunder for failures of any warranted parts of a FNA engine caused by the use of such an unapproved, add-on, modified, counterfeit and/or "grey market" part.

EMISSION RELATED PARTS INCLUDE THE FOLLOWING (IF EQUIPPED):

1) Fuel Metering System:

a) Gasoline carburetor assembly and its internal components.

b) Fuel tank/cap

c) Fuel pump

d) Fuel hose, Fuel Line Fitting, Clamps

- e) Carbon canister
- 2) Air Induction System including:
 - a) Intake pipe/manifold
 - b) Air cleaner
- 3) Ignition System including:
 - a) Spark plug
 - b) Ignition module/coil
- 4) Catalytic Muffler Assembly including:
 - a) Exhaust manifold
 - b) Muffler (Catalytic converter)
- 5) Air injection system (if so equipped)
 - a) Pulse valve
- 6) Miscellaneous items used in above systems including:
 - a) Switches
 - b) Hoses, belts, connectors, and assemblies.