

**ITEM # GEN3500DFI**



**3500 Surge Watts / 3000 Running Watts**

## **DUAL FUEL INVERTOR GENERATOR INSTRUCTION MANUAL**



### **READ ALL INSTRUCTIONS AND WARNINGS BEFORE USING THIS PRODUCT.**

This manual provides important information on proper operation & maintenance. Every effort has been made to ensure the accuracy of this manual. These instructions are not meant to cover every possible condition and situation that may occur. We reserve the right to change this product at any time without prior notice.

**IF THERE IS ANY QUESTION ABOUT A CONDITION BEING SAFE OR UNSAFE,  
DO NOT OPERATE THIS PRODUCT!**

**Visit our website for Troubleshooting / Frequently Asked Questions  
<http://sportsmanseriesbrand.com/generators>**

**HAVE QUESTIONS OR PROBLEMS? CONTACT CUSTOMER SERVICE FIRST  
BEFORE RETURNING THIS PRODUCT TO THE RETAILER**

If you experience a problem or need parts for this product, visit our website <http://www.buffalotools.com> or call our customer help line at 1-866-460-9436, Monday-Friday, 8 AM - 4 PM Central Time. A copy of the sales receipt is required.

**FOR CONSUMER USE ONLY – NOT FOR PROFESSIONAL USE.**

**KEEP THIS MANUAL, SALES RECEIPT & APPLICABLE WARRANTY FOR FUTURE REFERENCE.**

# GEN3500DFI Portable Dual Fuel Invertor Generator



## FEATURES:

- 3500 Surge Watts / 3000 Running Watts\*
- 4-Stroke OHV Engine 212cc
- Recoil Start
- 7.0 HP Dual Fuel Engine
- (Propane Tank Not Included)
- 1 - 12V D/C Outlet
- 2 - 120V A/C Outlets
- 1 - 120V RV Outlet
- Parallel Ports (cable sold separately)
- Engine Run Time: 9 Hours @ 50% Load Gasoline Fuel
- Engine Run Time: 10 hours @ 50% Load on 20 lbs of LPG Fuel
- Low Oil Shutdown
- EPA Approved
- Noise Level: 70dB @ 0% Load
- Oil Capacity: 18.5 ounces
- Fuel Capacity: 3.2 gallon
- Fuel type - Liquid Propane Gas (also commonly referred to as LP, LPG and Propane) Or Unleaded Gasoline with octane rating 87 or higher
- This portable generator is not for use with gasoline/ ethanol blends with over 15% ethanol. Do not use E85 fuel.
- 3,600 RPM
- Mobility Kit Not Available
- High Altitude Use: This generator is not recommended for high altitude use above 3,000 feet.
- If you are using a generator above sea level, the generator may not function properly because of air flow getting through the mixer.

\* SURGE WATTS / RUNNING WATTS MAY BE REDUCED BY 10% WHEN USING PROPANE FUEL VS USING GASOLINE.

## AC Output

Rated Voltage (V)	120
Rated Watts (W)	3000
Rated Frequency (Hz)	60
Phase	Single

## DC Output

Voltage (V)	12
Circuit Breaker Amperage (A)	8

## Engine

Engine Type	4-stroke single cylinder with forced air cooling system
Ignition System	Non-contact transistor (T.C.I.)
Starting System	Recoil

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# RECOGNIZE SAFETY SYMBOLS, WORDS AND LABELS

## What You Need to Know About Safety Instructions

Warning and Important Safety Instructions appearing in this manual are not meant to cover all possible conditions and situations that may occur. Common sense, caution and care must be exercised when operating or cleaning tools and equipment.

Always contact your dealer, distributor, service agent or manufacturer about problems or conditions you do not understand.



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.



DANGER indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.



WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



CAUTION indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.



CAUTION used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in property damage.

## 2 YEAR LIMITED EMISSION-RELATED WARRANTY

THIS ENGINE MEETS U.S. EPA EMISSION STANDARDS UNDER 40 CFR 1054.625. The emission-related limited warranty is valid for two (2) years. Keep the purchase receipt and mail in the product registration card for proof of purchase. Buffalo Corp limits emission-related warranty repairs to authorized service centers for owners located within 100 miles of an authorized service center. For owners located more than 100 miles from an authorized service center, Buffalo Corp will, in its sole discretion, either pay for shipping costs to and from an authorized service center, provide for a service technician to come to the owner to make the warranty repair, or pay for the repair to be made at a local non-authorized service center. The provisions of this paragraph apply only for the contiguous states, excluding the states with high-altitude areas identified in 40 CFR part 1068, Appendix III.

To exercise this warranty, DO NOT RETURN TO RETAILER. Instead, call Customer Service toll free at 1-866-460-9436 (email address [info@buffalotools.com](mailto:info@buffalotools.com)) and you will be instructed on where to take the engine for warranty service. Take the generator and proof of purchase (your receipt) to the repair facility recommended by the Customer Service Representative. The warranty does not extend to generators damaged or affected by fuel contamination, accidents, neglect, misuse, unauthorized alterations, use in an application for which the product was not designed and any other modifications or abuse.

## 1 YEAR LIMITED WARRANTY (30 Day Limited Warranty for Commercial and Rental Purpose)

Generators are warranted to be free from defects in materials and workmanship for a period of 1 YEAR from date of original purchase. Buffalo Corp. is not liable for any indirect, incidental or consequential damages from the sale or use of this product. Any implied warranties are limited to 1 YEAR as stated, or as otherwise stated, in this written limited warranty. Some states do not allow the exclusion or limitation of incidental or consequential damages. Some states do not allow limitation on the length of an implied warranty. Buffalo Corp will repair or replace, at its discretion, any part that is proven to be defective in materials or workmanship under normal use during the 1 YEAR warranty period. Warranty repairs or replacements will be made without charge for parts or labor. Parts replaced during warranty repairs will be considered as part of the original product and will have the same warranty period as the original product. This warranty gives you specific legal rights, and you may have other rights that vary state to state.

### Notice Regarding Emissions:

Engines certified to comply with U.S. EPA emission regulations for SORE (Small Off Road Equipment) are certified to operate on regular unleaded gasoline and may include the following emission control systems: Three-Way Catalyst (TWC) (if equipped), and Engine Modifications (EM).

### Legal Requirements:

Federal and/or State Occupational Safety and Health Administration (OSHA) regulations, local codes, and/or ordinances may apply to the intended use of this generator. Consult a qualified electrician, electrical inspector, and/or the local agency having jurisdiction. Some areas require generators to be registered with local utility companies. Additional regulations may apply if this generator will be used at a construction site.

## IMPORTANT SAFETY INSTRUCTIONS

# STOP!

Before using this generator and if you have any questions regarding the hazard and safety notices listed in this manual and/or on this generator, call 1-866-460-9436, Monday - Friday, 8 AM - 4 PM Central Time.

### **WARNING**

**WARNING:** Do not connect this generator to a home or office electrical system. Connecting a generator to your electric utility company's power lines or to another power source could damage your generator and your appliances and could cause serious injury or even death to you or a utility worker who may be working on nearby power lines. Plug your appliances directly into the generator, do not plug the generator into any electric outlet in your home. Doing so could create a connection to the utility company power lines. You are responsible for ensuring that your generator's electricity does not feed back into the electric utility power lines.

### **WARNING**

**WARNING:** Do not use this generator to provide power for emergency medical equipment or life support devices.

### **DANGER**

**Carbon Monoxide Gas:** When in operation, the exhaust from this generator contains poisonous carbon monoxide gas. Carbon monoxide gas is both odorless and colorless AND may be present even if you do not see or smell gas. Breathing this poison gas can lead to headaches, dizziness, drowsiness, loss of consciousness and eventually death.

### **WARNING**

**Propane (LPG):** This generator may emit highly flammable and explosive vapors, which can cause severe burns or even death. A nearby open flame can lead to an explosion even if not directly in contact the fuel.

- Do not operate this generator near open flame.
- Always operate this generator on a firm, level surface.

**This fuel is highly flammable and explosive. Handling fuel can result in serious injury or burns.**

- Before starting the generator, inspect your LPG tank valve for damage or leaks, attach only approved tanks that have been properly filled by an approved station. DO NOT light or smoke cigarettes.

Replace the hose at the first sign of a leak or if age-cracking becomes apparent.

- Always handle propane fuel and generator outdoors.
- Before transporting, turn the fuel valve to the "off" position and disconnect the spark plug.

### **WARNING**

**WARNING:** USE THIS GENERATOR ONLY OUTDOORS IN NON-CONFINED AREAS. DO NOT SECURE THE GENERATOR WITH A CHAIN OR ROPE, AS THIS WILL MAKE IT DIFFICULT TO MOVE IN AN EMERGENCY.

- Keep at least several feet of clearance on all sides to allow proper ventilation for this generator.

### **WARNING**

**Usage:** Avoid the use of extension cords if possible. If you choose to use them, be sure they are sized adequately to handle the flow of electricity. An undersized cord can overheat, short out and cause a fire.

## **⚠ DANGER**

**Powerful Voltage:** This generator produces powerful voltage, which can result in electrocution.

- ALWAYS ground this generator before using it. (See “Ground the Generator” section in this manual).
- Only electrical devices should be plugged into this generator, either directly or with an extension cord. NEVER connect a building electrical system to this generator without a qualified electrician. **Doing so voids your warranty.** Such connections must isolate generator power from utility power and comply with local electrical laws and codes. Failure to comply can create a back feed into utility lines creating an electrocution hazard, which may result in serious injury or death to utility workers. Such a back feed may cause this generator to explode, burn and create fires when utility power is restored.
- Use a ground fault circuit interrupter (GFCI) in highly conductive areas such as metal decking or steel work. GFCIs are available in-line with some extension cords.
- Keep generator dry and operate with dry hands. Do not use this generator in wet conditions (rain, snow, active sprinkler system, wet hands, etc.).
- Do not touch bare wires or outlets (receptacles).
- Do not allow children or non-qualified persons to operate this generator.

## **⚠ WARNING**

**Flammable Gasoline:** This generator may emit highly flammable and explosive gasoline vapors, which can cause severe burns or even death. A nearby open flame can lead to an explosion even if not directly in contact with gasoline.

- Do not operate this generator near open flame.
  - Do not smoke near this generator.
  - Always operate this generator on a firm, level surface.
- Gasoline is highly flammable and explosive. Handling fuel can result in serious injury or burns.**
- Always shut down this generator before refueling. Refuel in a well-ventilated area. Keep heat, sparks and flame away while refueling and away from the location where gasoline is stored. Never refuel indoors where gasoline fumes may reach flames and/or sparks.
  - Allow this generator to cool for at least 2 minutes before removing the fuel tank cap. Loosen the cap slowly to relieve pressure in the fuel tank. Avoid spilling fuel.
  - Do not fill the fuel tank above the upper limit line. Gasoline may expand during operation. Do not fill to the top of the tank.
  - Always check for spilled gasoline and immediately wipe it up before starting this generator.
  - Empty the fuel tank before storing or transporting this generator.
  - Always handle fuel outdoors.
  - Before transporting, turn the fuel valve to the “OFF” position and disconnect the spark plug.

## **⚠ DANGER**

**High Temperatures:** This generator produces heat when in operation. Temperatures near the exhaust can exceed 150 Degrees Fahrenheit (65 Degrees Celsius).

- Do not touch hot surfaces. Observe all warning placards on this generator denoting hot surfaces.
- Allow this generator to cool for several minutes after use before touching the engine, muffler or other areas that are hot during operation and before storing indoors.
- Hot exhaust may ignite some materials. Keep flammable materials away from this generator.
- Keep at least several feet of clearance on all sides of this generator during operation. Do not enclose this generator in any structure.

## **⚠ WARNING**

**Usage:** Consult a physician(s) before using this generator if using a pacemaker. Electromagnetic fields in close proximity to a heart pacemaker could cause a pacemaker to malfunction or fail. Caution is necessary when near the engine's recoil starter.

## **⚠ CAUTION**

**Usage:** Prolonged exposure to high noise levels can be hazardous to hearing. Always wear ANSI-approved hearing protection when operating or working around the generator when it is running.

## **⚠ CAUTION**

**Usage:** Misuse of this generator can damage it or shorten its life. Use this generator only for its intended purpose.

- Operate this generator only on a dry, level surface. Do not secure the generator with a chain or rope, which would prevent it from being moved in an emergency.
- Allow this generator to run for several minutes before connecting any electrical devices.
- Promptly turn off any malfunctioning devices and disconnect them.
- Do not operate an excessive number of electrical devices in excess of the wattage capacity of this generator.
- Do not turn on electrical devices until *after* they are connected to this generator.
- Turn off all connected electrical devices before stopping this generator.

## **⚠ WARNING**

THIS GENERATOR PRODUCES HEAT WHEN RUNNING. TEMPERATURES NEAR EXHAUST CAN EXCEED 150°F. (65° C) DO NOT TOUCH HOT SURFACES. PAY ATTENTION TO WARNING LABELS ON THE GENERATOR DENOTING HOT PARTS OF THE MACHINE. ALLOW GENERATOR TO COOL AFTER USE BEFORE TOUCHING ENGINE OR AREAS WHICH HEAT DURING USE.

## **⚠ WARNING**

EXHAUST CONTAINS POISONOUS CARBON MONOXIDE GAS THAT CAN BUILD UP TO DANGEROUS LEVELS IN CLOSED AREAS. BREATHING CARBON MONOXIDE CAN CAUSE UNCONSCIOUSNESS OR DEATH. Never run the generator in a closed or even partly closed area where people may be present.

## **⚠ WARNING**

THE GENERATOR IS A POTENTIAL SOURCE OF ELECTRICAL SHOCK IF NOT KEPT DRY. Do not expose the generator to moisture, rain or snow. Do not operate the generator with wet hands. READ OWNER'S MANUAL CAREFULLY BEFORE OPERATION.

## **⚠ DANGER**

IMPROPER CONNECTIONS TO A BUILDING CAN ALLOW ELECTRICAL CURRENT TO BACKFEED INTO UTILITY LINES, CREATING AN ELECTROCUTION HAZARD. Connections to a building must isolate generator power from utility power and comply with all applicable laws and electrical codes.

## **⚠ WARNING**

Propane smells like rotten eggs, a skunk's spray, or a dead animal. IF YOU SMELL GAS- NO FLAMES OR SPARKS! Immediately put out all smoking materials and other open flames. Do not operate lights, appliances, telephones, or cell phones. Flames or sparks from these sources can trigger an explosion or a fire.

## **⚠ WARNING**

GASOLINE IS HIGHLY FLAMMABLE AND EXPLOSIVE. YOU COULD BE BURNED OR SERIOUSLY INJURED IF THE GASOLINE IS IGNITED. Before refueling, stop the engine and keep heat, sparks and flame away. Handle fuel only outdoors. Do not fill the fuel tank above the upper limit line. Wipe up spills immediately.

In addition to the previously described safety information, familiarize yourself with all safety and hazard placards on this generator.

**⚠ DANGER POISONOUS GAS**

Generator exhaust contains toxic carbon monoxide gas. Breathing exhaust can cause loss of consciousness and shortness of breath. NEVER operate generator in poorly ventilated areas.

**⚠ WARNING**

Risk of electric shock. Do not remove cover. No user serviceable parts inside. Refer servicing to qualified service personnel.

**⚠ WARNING! RISK OF ELECTRIC SHOCK**

**This generator produces high voltage.**  
 Always ground properly before use.  
 Do not connect to any building electrical system.  
 Never use in rainy or wet conditions.  
 Never touch bare wires or receptacles.  
 Never allow children or non-qualified person to operate.



USE THIS GENERATOR ONLY OUTDOORS IN NON-CONFINED AREAS. DO NOT SECURE THE GENERATOR WITH A CHAIN OR ROPE, AS THIS WILL MAKE IT DIFFICULT TO MOVE IN AN EMERGENCY.

**⚠ WARNING**

Propane smells like rotten eggs, a skunk's spray, or a dead animal. IF YOU SMELL GAS- NO FLAMES OR SPARKS! Immediately put out all smoking materials and other open flames. Do not operate lights, appliances, telephones, or cell phones. Flames or sparks from these sources can trigger an explosion or a fire.

**⚠ CAUTION! HOT EXHAUST**

**⚡ DO NOT TOUCH**

**⚠ CAUTION!**  
**HIGH TEMPERATURE**  
**DO NOT TOUCH**

**⚠ DANGER**

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

<b>NEVER use inside a home or garage, EVEN IF doors and windows are open.</b>	<b>Only use OUTSIDE and far away from windows, doors, and vents.</b>

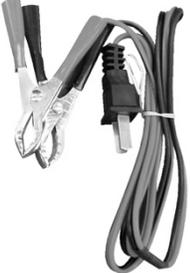
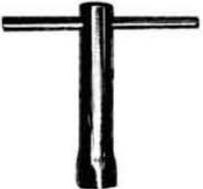
**Avoid other generator hazards. READ MANUAL BEFORE USE.**

## PACKAGE CONTENTS

The following items are supplied with this Generator. Verify that all items are included.

# STOP!

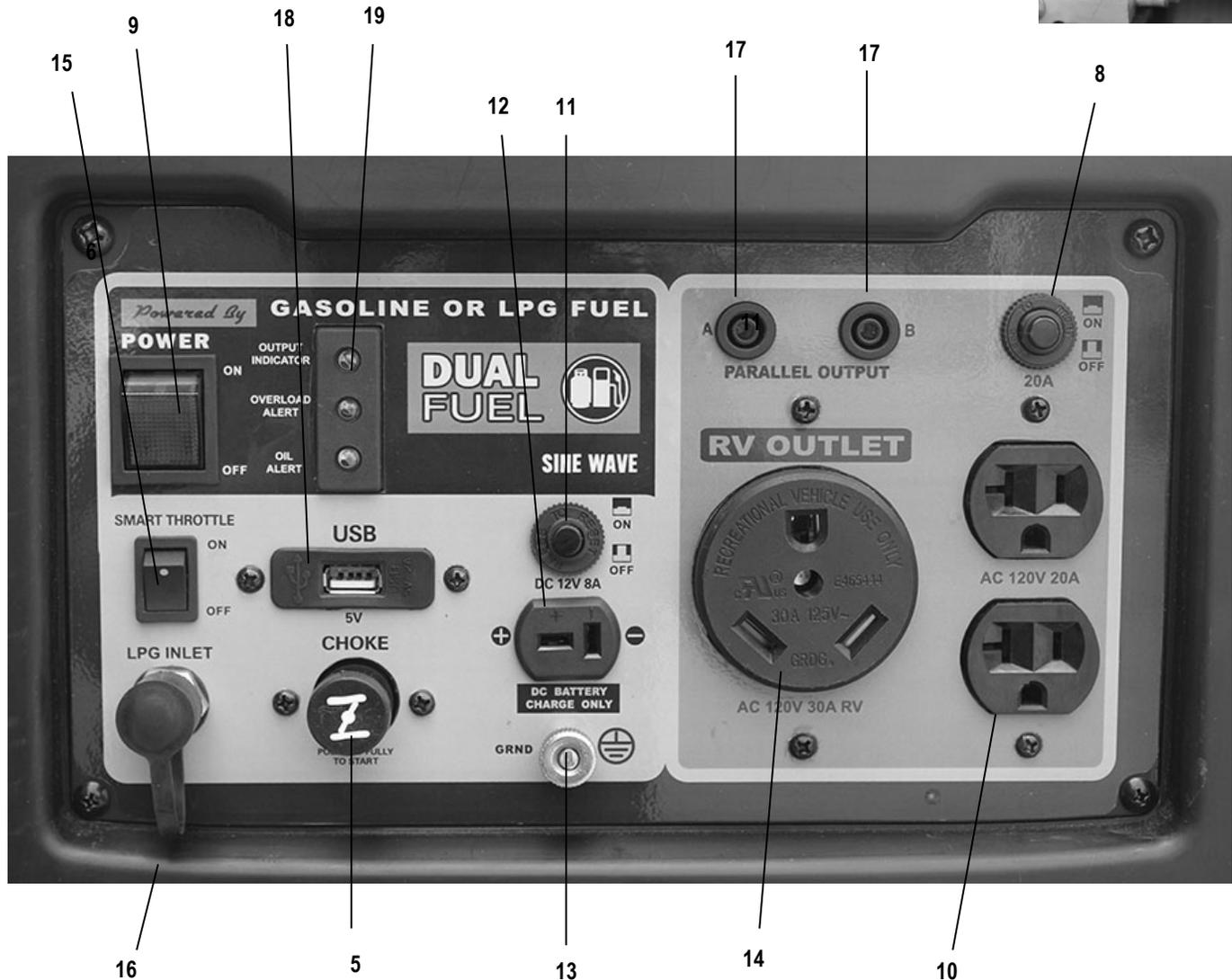
If there are missing items, call 1-866-460-9436, Monday - Friday, 8 AM - 4 PM Central Time for customer service.

Item List:	
	DC connector wires for charging 12 Volt automotive-type batteries
	Spark plug wrench
	5 ft 9 inch Regulator Hose Kit (YOU MUST USE THE SUPPLIED REGULATOR FOR SAFE OPERATION)
	Funnel for adding Oil

# GENERATOR COMPONENTS

Observe the locations and functions of the various components and controls of this generator.

- 1) Fuel Tank Cap
- 2) Control Panel
- 3) Oil Access
- 4) Fuel Cock (not shown)
- 5) Carburetor Choke Lever
- 6) Air Filter Cover (not shown)
- 7) Recoil Starter
- 8) AC Circuit Protector
- 9) Engine Power Switch
- 10) 120 Volt AC Outlet
- 11) DC Circuit Protector
- 12) 12 Volt DC Outlet
- 13) Grounding Terminal
- 14) 120 Volt RV Outlet
- 15) Smart Throttle
- 16) LP gas inlet
- 17) Parallel Ports A and B
- 18) USB Port
- 19) Alert Indicator



# PREPARING THE GENERATOR FOR USE

## Using this Generator for the First-Time

# STOP!

# CAUTION

The following section describes the required steps for preparing this generator for the first use. Failure to correctly perform these steps can damage this generator and/or shorten its life. If still unsure about how to perform any of these steps after reading this section, call 1-866-460-9436 Monday - Friday, 8 AM - 4 PM Central Time for customer service.

If this generator is being used for the first time, the following few steps are required to prepare it for operation:

### Step 1 - Add Oil

**THIS GENERATOR REQUIRES AT LEAST 18.5 OUNCES OF OIL (SAE10W-30) TO RUN.**

**ADD OIL UNTIL IT IS ALMOST OVERFLOWING. THE LOW-OIL SENSOR IS VERY SENSITIVE AND THE ENGINE WILL NOT RUN IF THE OIL IS LOW. START WITH 18.5 OUNCES, THEN ADD MORE UNTIL ALMOST OVERFLOWING.**

**TROUBLESHOOTING: IF THE GENERATOR WILL NOT START, DOUBLE CHECK THAT THE OIL LEVEL IS COMPLETELY FULL AND ALMOST OVERFLOWING.**

**This generator requires engine oil to function. Engine oil is a major factor affecting engine performance and service life.** When new from the package, this generator contains no oil in the engine crankcase. Add oil before operating this generator for the first time. When replenishing oil for subsequent use of this generator, always determine that this generator has the correct quantity of oil.

To add oil to the engine crankcase:

1. Confirm that this generator is on a level surface.
2. Remove the side panel screws (Figure 1A), then remove the side panel (Figure 1B).
3. Unscrew the oil filler/dipstick cap from the (Figure 1C).
4. Using a funnel, add high detergent motor oil to fill the engine crankcase to the correct quantity. SAE10W-30 oil is recommended for general use. When the engine crankcase is full and almost overflowing, the oil level should reach the lower lip of the oil filling opening as shown in Figure 2.
5. Replace the oil filler/dipstick cap and reattach the oil access panel.



Figure 1A



Figure 1B



Figure 1C



Figure 2 - Add Oil

## Step 2 - Add Gasoline or Connect Propane Tank

### **⚠ WARNING**

**Gasoline and gasoline fumes are highly flammable and explosive. Handling fuel can result in serious injury or burns.**

- Do not fill the fuel tank near a heat, sparks or an open flame. Keep gasoline away from appliance pilot lights, barbecues, electric appliances, power tools, etc.
- Do not overfill the fuel tank. Always check for fuel spills and immediately wipe them up. Spilled fuel is a fire hazard and causes environmental damage.

#### **To add gasoline:**

To ensure that this generator runs smoothly, use only FRESH, UNLEADED GASOLINE WITH AN OCTANE RATING OF 87 OR HIGHER. Unleaded gasoline produces fewer engine and spark plug deposits and extends the life of the exhaust system.

1. Confirm that this generator is on a level surface.
2. Unscrew fuel tank cap and set aside. (NOTE: The fuel tank cap may be tight and difficult to unscrew.)
3. Slowly add fresh, unleaded gasoline (with an octane rating 87 or higher) to the fuel tank. Be careful not to fill the fuel tank above the upper limit line. NOTE: Because gasoline can expand, do not fill the fuel tank to the very top.
4. Securely tighten the fuel tank cap and immediately wipe up any spilled gasoline with a dry cloth.

<b>Fuel Tank Capacity (gallons)</b>	3.2
<b>Fuel Type</b>	Fresh, Unleaded Gasoline Octane Rating 87 or Higher

#### **IMPORTANT:**

- Use only UNLEADED gasoline with an octane rating of 87 or higher.
- Never use a mixture of oil and gasoline.
- Never use old and/or contaminated gasoline.
- Avoid getting dirt and/or water in the fuel tank.
- Gasoline can age in the fuel tank and make it difficult to start this generator. Never store this generator for extended time with gasoline in the fuel tank.

#### **To connect propane:**

If using LPG, first connect the regulator that was included with the generator to the Propane Fuel Tank, then connect the other end to the Gas Inlet. Make sure the LPG cylinder is vertical and securely positioned.



### Step 3 - Ground the Generator

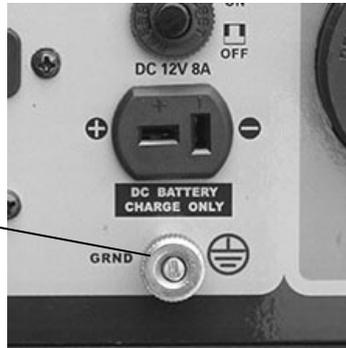
#### **WARNING**

Failure to properly ground this generator can result in electrocution.

Ground this generator by tightening the grounding nut against a grounding wire as illustrated in Figure 3. A No. 12 AWG (American Wire Gauge) stranded copper wire is generally an acceptable grounding wire. The other end of this grounding wire should be connected to a copper or brass grounding rod that is driven into the earth.

Grounding codes can vary by location. Contact a local electrician for information on grounding regulations for your area.

**Figure 3**  
The Grounding Terminal is located on the front of the generator, to the left of the DC Output socket.



### Subsequent Use of this Generator

For subsequent uses of this generator after the first use, certain steps still must be completed to prepare it for operation.

**IMPORTANT:** Be familiar with the procedures described in the previous section titled “Using the Generator for the First Time” of this manual. If not, review this section now.

#### Step 1 - Verify Oil Level

It is important to check the oil level in the engine crankcase before each use to ensure that there is sufficient quantity.

1. Verify that this generator is on a level surface.
2. Unscrew the oil filler/dipstick cap from the engine.
3. With a dry cloth, wipe the oil off of the dipstick that is located on the inside of the cap.
4. Fully insert the dipstick without screwing the filler/dipstick cap and then remove again. There should be oil on the dipstick. If there is no oil on the dipstick, or oil is visible only at the very end of the dipstick, add oil until the engine crankcase is filled. (See “Changing/Adding Oil” in the “Maintenance/Care” section of this manual).
5. Confirm that the oil filler/dipstick cap is properly screwed in place when finished verifying the oil level.

## Step 2 - Verify Gas Level If Using Gasoline Fuel

Before starting this generator, verify that there is sufficient gasoline in the fuel tank. If necessary, add fresh unleaded gasoline with an octane rating of 87 or higher according to "Step 2 - Add Gasoline" of the "Using this Generator for the First Time" section of this manual.

Fuel Tank Capacity (gallons)	3.2
Fuel Type	Fresh, Unleaded Gasoline Octane Rating 87 or Higher

### **WARNING**

**Gasoline and gasoline fumes are highly flammable and explosive. Handling fuel can result in serious injury or burns.**

- Do not fill the fuel tank near a heat, sparks or an open flame. Keep gasoline away from appliance pilot lights, barbecues, electric appliances, power tools, etc.
- Always allow several minutes for the engine to cool before refueling.
- Do not overfill the fuel tank. Always check for fuel spills and immediately wipe them up. Spilled fuel is a fire hazard and causes environmental damage.

### **IMPORTANT:**

- Use only fresh UNLEADED gasoline with an octane rating of 87 or higher.
- Never use old and/or contaminated gasoline.
- Never use a mixture of oil and gasoline.
- Avoid getting dirt and/or water in the fuel tank.
- Never store generator for extended time with gasoline in the fuel tank.

## Step 3 - Ground the Generator

### **WARNING**

**Failure to properly ground this generator can result in electrocution.**

Ground this generator by tightening the grounding nut against a grounding wire as previously illustrated in Figure 3. A generally acceptable grounding wire is a No. 12 AWG (American Wire Gauge) stranded copper wire. The other end of this grounding wire should be connected to a copper or brass grounding rod that is driven into the earth.

Grounding codes can vary by location. Contact a local electrician for information on grounding regulations for your area.

# STARTING THE GENERATOR

## STOP!

Before starting this generator, confirm that all the steps in the section titled, "Preparing the Generator for Use," of this manual have been correctly completed. If unsure about how to perform any of these steps, call 1-866-460-9436, Monday - Friday, 8 AM - 4 PM Central Time for customer service.

### **CAUTION**

Disconnect all electrical loads from this generator before attempting to start.

To start this generator:

1. Confirm that there are no electrical devices connected to this generator. Connected devices may increase the difficulty in starting the engine.
2. Confirm that this generator is properly grounded. (See "Ground the Generator" section of this manual.)
- 3A. If using gasoline, turn the fuel switch to the "on" position.
- 3B. If using propane, turn the fuel switch to the "off" position.
4. Pull the choke lever towards you.
5. Set the engine switch to the "on" position.



6. Slowly pull on the recoil starter handle, shown in Figure 4, until a slight resistance is felt. Then pull briskly to start the engine. Gently return the cord into the generator to avoid damage to the starter or housing. Never allow the cord to snap back.
7. If the engine fails to start, repeat step 6.

NOTE: After repeated attempts to start the engine, consult the troubleshooting guide before attempting again. If problems persist, call 1-866-460-9436, Monday - Friday, 8 AM - 4 PM Central Time.

8. Once the engine has started, GRADUALLY push the choke lever until the engine levels off. Then let the engine run approximately 5 minutes BEFORE adding appliances or tools.

### Choke Rod

The choke is used to provide an enriched fuel mixture when starting a cold engine. It can be opened and closed by operating the choke rod manually.



Choke OUT/OFF  
To Start



Choke IN/ON  
To Run



Figure 4  
The Recoil Start is located on the left side of the generator.

## USING THE GENERATOR

### **⚠ WARNING**

- USE THIS GENERATOR ONLY OUTDOORS IN NON-CONFINED AREAS. DO NOT SECURE THE GENERATOR WITH A CHAIN OR ROPE, AS THIS WILL MAKE IT DIFFICULT TO MOVE IN AN EMERGENCY.
- Keep at least several feet of clearance on all sides to allow proper ventilation for this generator.

After the engine has been running for several minutes, electrical devices may be connected to this generator.

### AC Usage

Electrical devices running on AC current may be connected according to their wattage requirements.

<b>Rated (Running) Wattage</b>	3000
<b>Surge Wattage</b>	3500
	* SURGE WATTS / RUNNING WATTS MAY BE REDUCED BY 10% WHEN USING PROPANE FUEL VS USING GASOLINE.

The *rated (running) wattage* corresponds to the maximum wattage a generator can output on a continuous basis.

The *surge wattage* corresponds to the maximum amount of power a generator can output for a short time. Many electrical devices, such as a refrigerator, require short bursts of extra power for starting and stopping fan motors, etc., in addition to their listed rated wattage. Motorized devices typically require more than their rated wattage for startup. The surge wattage ability of a generator allows for this extra power requirement.

The total running wattage requirement of the electrical devices connected to a generator should not exceed the rated wattage of the generator itself. To calculate the total wattage requirement of the electrical devices to be connected, look up the rated (running) wattage of each device and add these numbers together to find the total wattage that all of the devices together will draw from the generator. If the total wattage of the selected devices exceeds the rated wattage of the generator, DO NOT connect all of the devices. Select a combination of the electrical devices that will have a total wattage less than or equal to the rated wattage for the generator.

### **⚠ CAUTION**

**This generator can run at its surge wattage capacity for only a short time. Connect electrical devices requiring a rated (running) wattage equal to or less than the rated wattage of this generator. Never connect devices requiring a rated wattage equal to the surge wattage of a generator.**

A device's rated (running) wattage should be listed somewhere on the device itself and/or in its manual. If the wattage specification for a device is not available, the wattage can be calculated by multiplying the Voltage requirement (120) by the Amperage drawn.

Watts = Volts x Amperes

Or, the wattage required by a device can be estimated by using the following chart. The chart provides only estimates and it is better to know the exact wattage of each electrical device to be powered by this generator.

Electrical Device	Rated (Running) Watts	Additional Surge Watts
air compressor (1 - 1/2 HP)	2500	2500
airless sprayer (1/3 HP)	600	1200
coffee maker	1500	0
computer w/17 inch monitor	800	0
deep freezer	500	500
electric drill (1/2 HP)	1000	1000
furnace fan blower (1/2 HP)	800	1300
hot plate	2500	0
microwave oven (1000 watt)	1000	0
quartz halogen work light	1000	0
refrigerator/freezer (18 Cu. Ft.)	800	1600
saw - circular (7 1/4 inch)	1500	1500
stereo receiver	450	0
electric stove - single element	1500	0
sump pump	800	1200
television (27 inch color)	500	0
well water pump (1/3 HP)	1000	2000
window air conditioner (10000 BTU)	1200	1800
window fan	300	600

### **⚠ CAUTION**

**Connect only electrical devices that are in good working order. Faulty devices or power cords present the risk of electrical shock. Immediately turn off and disconnect any device that commences to operate abnormally, sluggish or abruptly stops. Determine if the problem was the device or the rated load capacity of this generator has been exceeded.**

**NOTE:** Plug appliances into the correct outlet. Connect standard 120 Volt, single phase, 60 Hz loads to the 120 Volt outlet. Connect 12 Volt, DC loads to the 12 Volt outlet.

**⚠ CAUTION**

Even though this generator has an overall rated wattage of 3500, do not attempt to draw more than 3000 Watts from the 120 Volt outlet. Draws higher than 3000 Watts will damage this generator and void the warranty.

**NOTE:** While this generator is running, power is available from either the standard 120 Volt outlet or the 12 Volt DC outlet. Both 120 Volts and 12 Volts can be simultaneously drawn from this generator.

Turn on the connected electrical devices beginning with the device with the highest rated wattage requirement and then each additional device with the next lower rated wattage requirement.

**⚠ CAUTION**

Do not connect 50Hz or 3-phase loads to this generator.

## DC Usage

**⚠ CAUTION**

- The DC outlet is for charging 12 Volt battery, up to 8 Amps.
- **NEVER attempt to jumpstart a car with this generator.**

**⚠ DANGER**

Do not secure the generator with a chain or rope, which would prevent it from being moved in an emergency.

## To Plug Items Into the Generator

1. Allow the engine to run for several minutes after it has been started.
2. Confirm that the electrical device is switched off prior to plugging it into this generator.
3. Turn on the connected electrical devices beginning with the device with the highest rated wattage requirement and then each additional device with the next lower rated wattage requirement.

## To Plug Items Into the USB

The generator offers convenient (5V DC 2.0 A) USB outlet to allow charging of USB devices like tablets, MP3 players, GPS, digital cameras and other USB chargeable devices. Allow the engine to run for several minutes after it has been started before plugging in a USB cable for charging.

## Engine Overload Indicator Light

If the engine overload indicator light comes on, the generator's wattage / amperage capacity has been exceeded by connected electrical devices or by a power surge. When this occurs, the green AC Pilot Indicator Light will go off. The engine will continue to run, (but the red Engine Overload Indicator Light will stay on and power will no longer be supplied to connected electronic devices.

## AC Pilot Indicator Light

The green AC Pilot Indicator Light comes on when the engine starts and generates power.

## DC Circuit Breaker

When the DC Circuit Breaker is in the "ON" position, the generator is able to supply power to connected electronic devices. When the DC Circuit Breaker is in the "OFF" position, the generator will no longer supply power. The DC Circuit Breaker automatically turns "OFF" when connecting electronic devices to the generator that exceed the generator's rated output. If the DC Circuit Breaker turns off, reduce the load of connected electronic devices until the load is within the specified rated output. To re-establish power, return the DC Circuit Breaker back to the "ON" position.

## Smart Throttle Control Switch

When the Smart Throttle Control switch is turned to the "ON" position, the economy control unit automatically determines the generator's proper engine speed based on the connected electronic load. This results in superior fuel economy and reduces noise. When the Smart Throttle switch is turned to the "OFF" position, the engine runs at the rated speed of 4,100 r/min. Note: The Smart Throttle switch must be turned to the "OFF" position when using electronic devices that require a large starting current, such as a compressor.

## AC PARALLEL TERMINALS

Located just above the RV Outlet, the generator's Parallel Outlets enable a user to run two GEN3500DFI generator's simultaneously. This operation requires special cables (sold separately).

The parallel port terminals are used with a parallel kit (sold separately). It will allow two generators to be linked to increase output. The black and white wire connections are non-polarized and can be inserted into either the left or right ports.

NOTE: Do not disconnect cables while the generator is running. The generator or the load may be damaged.

NOTE: Only connect two identical Inverter Generators together using a Parallel Kit.

### **⚠ WARNING**

Do not pair more than 2 generators.

Only use the Sportsman Generator parallel output cable for parallel operation (sold separately).

### **⚠ CAUTION**

You can use the outlets on the control panel of the generator while operating in parallel. Do not exceed combined load on all outlets 20 amps.

### **⚠ WARNING**

If parallel cables are not properly connected to the generators, one or both generators can be damaged and could explode.

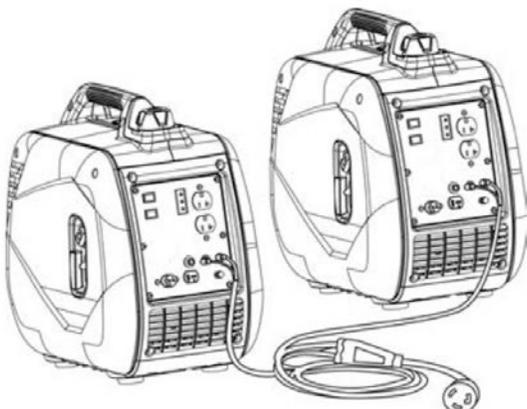
### **⚠ CAUTION**

DO NOT connect or disconnect the parallel connection cable from the control panel while the generators are running. Turn off both generators before disconnecting parallel cables.

Before connecting an appliance to a generator, make sure that the appliance is in good working order and that its electrical rating does not exceed that of the outlet. Most appliances require more than their electrical rating for startup.

1. Have both generators ready to operate.
2. Plug in BOTH parallel cables FIRST. If you attach black wire on left A and white wire on right B, duplicate the same position on the opposite generator.
3. Attach both ground connections on both control panels.
4. Power up each generator, with the Smart Throttle switch in off position.
5. After running a few minutes, plug in appliances into RV cable or outlet on control panel. Make sure appliances are off.
6. Gradually turn on each appliance after making sure both generators are in normal running (the output indicator LED (green) flashes).

**Note:** The required power of the electrical appliance connected to the parallel outlet cannot exceed the rated output of paralleled generators.



### **Turning Off Generators while in Parallel Function**

1. Disconnect or turn off item plugged into parallel receptacle.
2. Turn off both generators.
3. Carefully disconnect the parallel cables from both generators

## SOME NOTES ABOUT POWER CORDS

Long or thin cords can require more wattage from a generator to power an electrical device. Figure 6 shows the recommended cords according to the power requirement of the electrical device. When using cords that exceed these specifications, allow for the electrical device to have a slightly higher rated wattage requirement.

Device Requirements			Max. Cord Length (ft) by Wire Gauge				
Amps	Watts (120V)	Watts (240V)	#8 wire	#10 wire	#12 wire	#14 wire	#16 wire
2.5	300	600	NR	1000	600	375	250
5	600	1200	NR	500	300	200	125
7.5	900	1800	NR	350	200	125	100
10	1200	2400	NR	250	150	100	50
15	1800	3600	NR	150	100	65	NR
20	2400	4800	175	125	75	50	NR
25	3000	6000	150	100	60	NR	NR
30	3600	7200	125	65	NR	NR	NR
40	4800	9600	90	NR	NR	NR	NR

Figure 6 - Maximum Extension Cord Lengths by Power Requirement

## SWITCHING BETWEEN GASOLINE & PROPANE FUEL

In order to switch between gasoline and propane fuel, you must turn off the current fuel. For example, if using gasoline and you want to switch to propane, turn the gasoline Fuel Switch to OFF position and let the engine continue to run until it burns off all remaining gasoline fuel in carburetor. Then turn the propane tank ON. If using propane and you want to switch to gasoline, turn the propane tank OFF and turn the gas Fuel Switch ON.

## STOPPING THE GENERATOR

To stop this generator:

1. Turn off all connected electrical devices and then unplug them.
2. Allow this generator to run for several more minutes with no electrical devices connected to help stabilize the temperature of this generator.
3. If using gasoline, turn the fuel valve to the "OFF" position.
4. Set the engine power switch to the "OFF" position.
5. If using Propane, turn the propane tank fuel valve to the "off" position, then turn off the engine power switch.

### **⚠ WARNING**

Allow this generator to cool down before touching areas that become hot during operation.

### **⚠ CAUTION**

Allowing gasoline to sit in this generator's fuel tank for extended time without use can increase the difficulty in starting this generator in the future. Never store this generator for extended time with gasoline in the fuel tank.

## MAINTENANCE/CARE

Proper routine maintenance of this generator is essential for safe, economical, and trouble-free operation. It will help prolong the life of this generator as well as help reduce air pollution. Perform maintenance checks and procedures according to the schedule in Figure 7.

### **⚠ CAUTION**

Never perform maintenance procedures while this generator is running. Allow this generator to cool before commencing any maintenance procedures. Keep heat, sparks and flame away.

### **⚠ WARNING**

Improper maintenance and/or failure to correct any problems prior to operating this generator can cause a malfunction which could cause death or serious injury. Always follow the inspection and maintenance recommendations and schedules in this manual.

### Recommended Maintenance Schedule

		Each Use	Every Month or Each 20 Hrs	Every 3 Months or Each 50 Hrs	Every 6 Months or Each 100 Hrs	Every Year or Each 300 Hrs
Engine Oil	Check Level	X				
	Replace		X (first use)		X	
Air Filter	Check	X				
	Clean			X		
Spark Plug	Check/Clean				X	
Fuel Tank	Verify Gas Level	X				
	Clean					X

Figure 7 - Recommended maintenance schedule

### Cleaning the Generator

Always try to use this generator in a cool dry place. If this generator becomes dirty, the exterior can be cleaned with a damp cloth, soft brush, vacuum and/or pressurized air.

Never clean this generator with a bucket of water and/or a hose as water can get inside and cause a short circuit or corrosion.

Never use gasoline to clean parts of this generator.

## Checking the Oil Level

It is important to check the oil level in the engine crankcase before each use to ensure that there is a sufficient quantity.

To check the oil level:

1. Verify that this generator is shut down and on a level surface.
2. Unscrew the oil filler/dipstick cap from the engine.
3. With a dry cloth, wipe the oil off of the dipstick that is located on the inside of the cap.
4. Insert the dipstick as if replacing the cap and then remove again. There should be oil on the dipstick. If there is no oil on the dipstick, or oil is visible only at the very end of the dipstick, add oil until the engine crankcase is filled.
5. Confirm that the oil filler/dipstick cap is properly in place when finished verifying the oil level.

## Changing/Adding Oil

The oil level in this generator should be checked before each use. When the oil level is low, add oil until the level is sufficient to operate this generator. (See Figure 8B)

The oil should be changed after the first 20 hours of operation. Subsequently, the oil should be changed every 6 months, or for every 100 hours of use, or when the oil has become contaminated with water and/or dirt.

To drain the oil from this generator:

1. Place a bucket underneath this generator to catch oil as it drains.
2. Unscrew the oil drain plug located on the crankcase underneath the oil filler/dipstick cap using 12 mm hex wrench. Figure 8A
3. Allow all the oil to drain from this generator.
4. Replace the oil drain plug and tighten using 12 mm hex wrench.

**NOTE: Never dispose of used motor oil in the trash, down a drain or on the ground. Put oil in a sealed container and contact your local recycling center or auto garage to arrange oil disposal.**

**THIS GENERATOR REQUIRES AT LEAST 18.5 OUNCES OF OIL (SAE10W-30) TO RUN.**

**ADD OIL UNTIL IT IS ALMOST OVERFLOWING. THE LOW-OIL SENSOR IS VERY SENSITIVE AND THE ENGINE WILL NOT RUN IF THE OIL IS LOW. START WITH 18.5 OUNCES, THEN ADD MORE UNTIL ALMOST OVERFLOWING.**

**TROUBLESHOOTING: IF THE GENERATOR WILL NOT START, DOUBLE CHECK THAT THE OIL LEVEL IS COMPLETELY FULL AND ALMOST OVERFLOWING.**

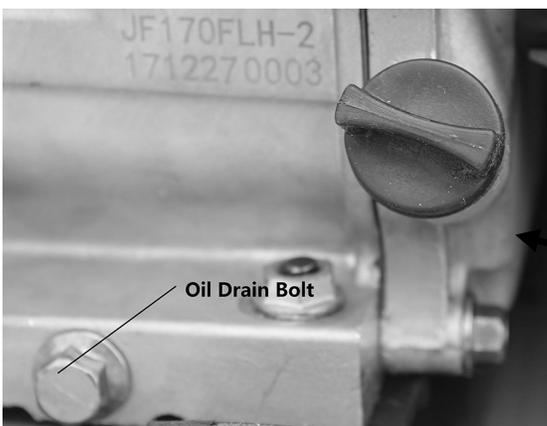


Figure 8B – Adding oil

Figure 8A – Use 12mm hex wrench to REMOVE bolt and drain oil

## Air Filter Maintenance

Routine maintenance of the air filter helps maintain proper airflow to the carburetor. Occasionally verify that the air filter is free of excessive dirt. The air filter will require more frequent cleaning when operating this generator in extremely dusty areas.

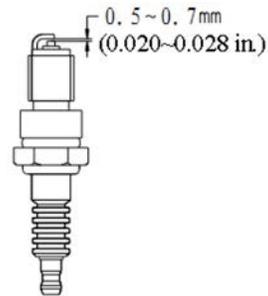
To clean the air filter, remove the foam filter element from the generator and wash it in warm water and household dish detergent. Thoroughly rinse and dry. Pour a small amount of motor oil onto the filter, ring out ALL excess oil, and reinstall the foam filter element in the generator.

Unscrew the bolts, or unsnap the clips at the top and bottom of the air filter cover, located below the choke lever, to access the foam filter element.

## Spark Plug Maintenance

The spark plug is essential for proper engine operation. The spark plug should be intact, free of deposits, and properly gapped. A bad or incorrectly installed spark plug can cause engine damage. To inspect the spark plug:

1. Remove the spark plug by pulling on the spark plug cap.
2. Unscrew the spark plug from this generator by using the included spark plug wrench.
3. Visually inspect the spark plug. If it is cracked and/or chipped, discard and install a new spark plug. A F7RTC spark plug, such as NGK BPR6ES is recommended.
4. Measure the spark plug electrode gap with a gauge. The gap should be 0.020-0.028in (0.5-0.7mm). (See Figure 9.)
5. If re-using the spark plug, use a wire brush to clean any dirt from around the spark plug base and then re-gap the spark plug.
6. Screw the spark plug back into place on this generator by using the included spark plug wrench.
7. Replace the spark plug cap.



## Changing Fuel Line

Fuel line installation instruction (include the carburetor and the fuel tank ,etc. ).

1. Connect clamp(Φ7.5) to the fuel hose.
2. Slide fuel hose onto connection until it touches the bottom.
3. Then secure with clamp.

**Figure 9**  
**Measuring the spark plug gap**

## To store this generator for extended time, drain the gasoline from the carburetor AND fuel tank.

To drain gasoline from this generator:

1. Turn the fuel valve to the "off" position and let the engine run until it stops.
2. Remove the fuel filter cup.
3. Empty the fuel filter cup of any fuel.
4. Place a receptacle underneath this generator to catch gasoline as it drains.
5. Turn the fuel valve to the "on" position and allow all gasoline to drain.
6. Turn the fuel valve to the "off" position.
7. Replace the fuel filter cup.
8. Store the drained gasoline in a suitable place.

To store this generator for extended time, the fuel needs to be drained from the carburetor. To drain the gasoline from the carburetor turn the fuel valve to the "off" position while the engine is running. The generator will shut down when all the gasoline in the carburetor has been used.

## STORAGE/TRANSPORT PROCEDURES

**⚠ CAUTION**

Do not store gasoline for more than 3 months.

**⚠ CAUTION**

Never place any type of storage cover on this generator while it is still hot.

When transporting or storing this generator for extended time:

- Allow generator to fully cool before moving it. A hot engine and exhaust system can burn you and ignite some materials.
- Empty the fuel tank. (See “Emptying the Fuel Tank” in the “Maintenance/Care” section.)
- Turn the fuel valve to the “off” position.
- Disconnect the spark plug.
- Do not obstruct any ventilation openings.
- Do not drop or strike this generator while moving it.
- Store this generator in a cool dry area, free of excessive dust.

<b>Storage Time</b>	<b>Recommended Storage Procedure</b> (which will help prevent difficult starts)
Less than 1 month	No storage procedure required.
1 to 2 months	Fill with fresh gasoline and add gasoline conditioner
2 months to 1 year	Empty the fuel tank. (See “Emptying the Fuel Tank” in the “Maintenance/Care” section.)
1 year or more	Empty the fuel tank. (See “Emptying the Fuel Tank” in the “Maintenance/Care” section.) Disconnect the spark plug.

## TROUBLESHOOTING

**IMPORTANT:** If trouble persists, call our customer help line at 1-866-460-9436, Monday - Friday, 8 AM - 4 PM Central Time.

Symptom	Cause	Solution
Engine will not start.	Engine switch is set to "off."	Set engine switch to "on."
	Fuel valve is turned to "closed."	Turn fuel valve to "open."
	Choke is set to "Open/Run".	Set the choke to "Closed/Choke"
	Engine is out of gasoline.	Add gasoline.
	Engine is filled with contaminated and/or old gasoline.	Drain gasoline from the engine and add new gasoline.
	Spark plug is dirty.	Clean spark plug.
	Spark plug boot is cracked.	Replace spark plug.
	Spark plug is broken.	Replace spark plug.
	Oil is low.	The oil level should almost OVERFLOW. If it is not, add more oil.
Engine will not start.	Spark plugs not sparking.	Verify that you have spark. Pull spark plug cap off spark plug. Take spark plug out using spark plug wrench. Put spark plug back into boot and hold it onto bare metal. Make sure the on/off switch is in the ON position. Pull the starter. You should see a spark.
Engine will not start.	Carburetor is gummed up.	If the generator has been sitting for a long time, it is possible that it is gummed up. Remove air box cover, then remove the air filter. Remove the two 10mm nuts that hold the carburetor. Lift up on the throttle linkage on the top of the carburetor. It should pop off. Pull the fuel line off. The carburetor will slide off. Turn the carburetor upside down and remove the 10mm bolt on the bottom of the bowl. Remove the pin that holds the float on. Pull the float up. Inspect the float needle, and make sure the orifice is not gummed up. Remove the rubber gasket, then clean the orifice if it is dirty. Use carb cleaner. Do not spray carb cleaner on the float needle or any rubber.
Engine will not start.	Gas is not getting to carburetor.	Make sure gas is getting to the carburetor. Remove the carburetor and turn the drain screw counter clockwise. Don't remove completely.
Engine will not start.	Two wires on the back of the switch may be disconnected.	Make sure two wires on the back of the switch are connected.
Engine runs but there is no electrical output.	Reset button is "off."	Push reset button to "on."
	Bad connecting wires/cables.	Try a different extension cord.
	Bad electrical device connected to generator.	Disconnect device, try connecting another device.
	Generator is overloaded.	Reduce draw on generator to within this generator's rated wattage by reducing number of connected electrical devices.
Generator starts but won't stay running	Choke is in "Closed/Choke" position, or gas is empty.	Make sure that after it is started, move the Choke to the "Open/Run" position. Make sure at least one inch of gas is in the tank.
Generator runs but does not support all connected electrical devices.	Short in one of the connected devices.	Disconnect any faulty or short-circuited electrical loads.
	Air filter is dirty.	Clean or replace air filter.

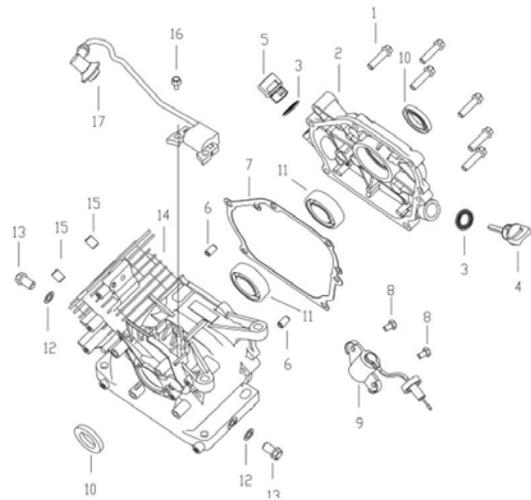
## TROUBLESHOOTING

<p>If the engine starts and runs, but does not produce power, or power is too low.</p>	<p>AVR needs adjusting.</p>	<p>Remove two screws on AVR from back of generator. Turn it around to see the backside. Adjust the small brass screw with a flat jewelers screwdriver. Have a voltmeter attached to determine the output 125V.</p>
	<p>Carbon brushes need replacing</p>	<p>Inspect carbon brushes. Are either of carbon brushes broke? Is one carbon brush shorter than the other? Replace carbon brushes if broken.</p>

# PARTS DIAGRAM

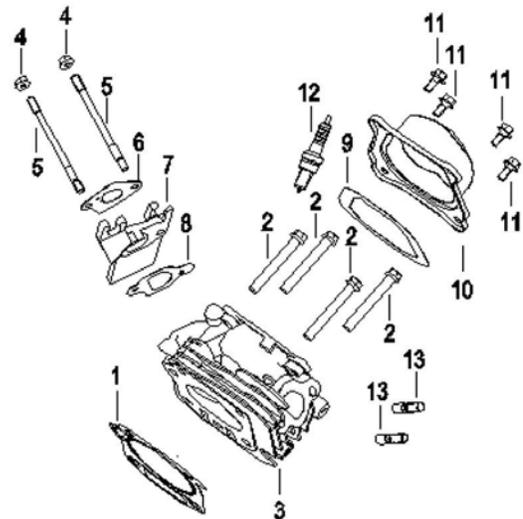
## CRANKCASE ASSEMBLY

NO.	PART NO.	DESCRIPTION	QTY
1	B0133080306B	Bolt M8x30	6
2	31010121001000	Cover, Crankcase	1
3	31050112001000	Oil Seal, Dipstick	2
4	31040121001000	Dipstick	1
5	31030121001000	Plug	1
6	31100121001000	Guide Dowel 8x14	2
7	31020121001001	Gasket, Crankcase	1
8	B0133060166B	Bolt M6x16	2
9	21040121001000	Oil level sensor	1
10	21020121001000	Oil Seal 25x 41.25x6	2
11	B12016020553	Bearing 6205/P53	2
12	31070124001001	Washer, Drain Plug	2
13	31060124001000	Drain Plug	2
14	21020123001003	Crankcase Body	1
15	32070132001000	Guide Dowel 10x14	2
16	B0131060206B	Bolt M6x20	1
17	24010423003000	Ignition Coil	1



## CYLINDER HEAD

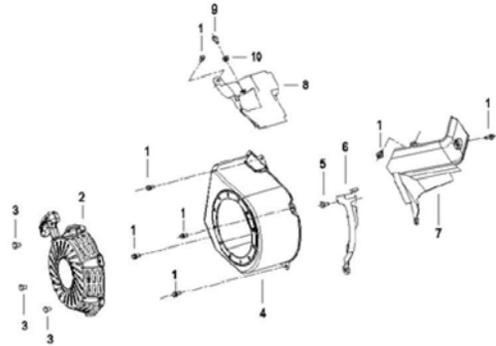
NO.	PART NO.	DESCRIPTION	QTY
1	32011123001000	Gasket, Cylinder Head	1
2	B0133080606B	Bolt, Cylinder Head M8x60	4
3	22020122001002	Cylinder Head Assembly	1
4	B0428060002B	Nut M6	2
5	32060116001000	Double End Stud	2
6	32050121001001	Gasket, Intake 1	1
7	32020121001000	Spacer, Heat Insulating	1
8	32040121001001	Gasket, Intake 2	1
9	32060121001000	Gasket, Cylinder Head Cover	1
10	22040121001003	Cylinder Head Cover	1
11	B0131060146B	Bolt M6x14	4
12	22070121001000	Spark Plug	1
13	32070121001000	Double End Stud	2



# PARTS DIAGRAM

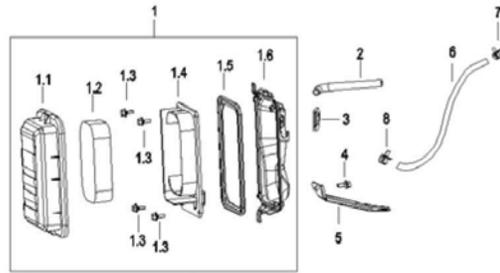
## PLATE VENTILATION HOOD COMPONENTS

NO.	PART NO.	DESCRIPTION	QTY
1	B0131060106B	Bolt M6x10	7
2	26020121001091	Starter Assembly	1
3	B0131060086B	Bolt M6x8	3
4	26010123041000	Engine Side Cover Assy.	1
5	B0131060206B	Bolt M6x20	1
6	26020123041000	Shield 1	1
7	36180121001000	Shield 2	1
8	36010123041000	Shoud Assy. (UPPER)	1
9	B0133060306B	Bolt M6x30	1
10	B0428060002B	Nut M6	1



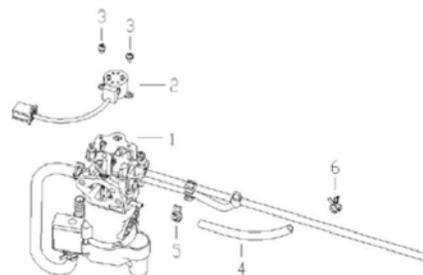
## AIR CLEANER

NO.	PART NO.	DESCRIPTION	QTY
1	27020121002002	Air Filter Assembly	1
2	37090121002000	Breather Tube	1
3	27080121001000	Spacer	1
4	B0131060106B	Bolt M6x12	1
5	37100121002000	Air Filter Bracket	1
6	37530121001000	Rubber Pipe 5 x 8	1
7	37060132018000	Clamp 7	1
8	37010117001000	Clamp 10	1



## CARBURETOR

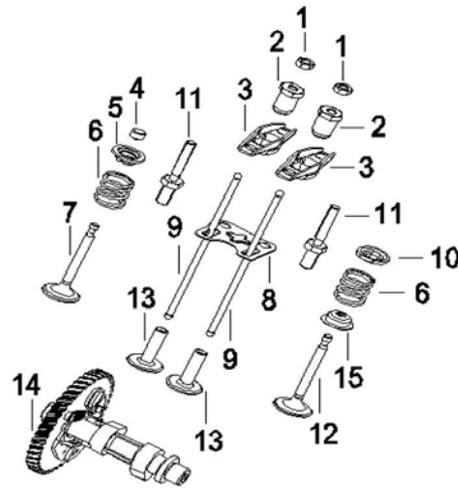
NO.	PART NO.	DESCRIPTION	QTY
1	27010123002004	Carburetor Assembly	1
2	37440119001000	Stepping-motor	1
3	B0221040062B	Screw M4x6	2
4	37520121001001	Rubber Pipe 4.5 x 8.5	1
5	37200121001000	Clamp 8	1
6	38040121002000	Clamp 8.5	1



# PARTS DIAGRAM

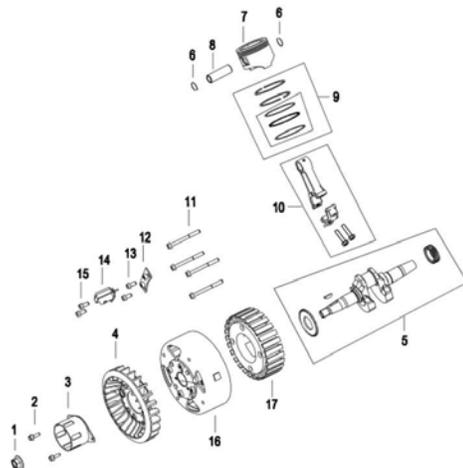
## Valve Assembly

NO.	PART NO.	DESCRIPTION	QTY
1	33100124001000	Nut, Valve Clearance Adjustment	2
2	33050127002000	Button head, Arm	2
3	33080121001000	Arm	2
4	33020121001000	Cap, Exhaust Rod	1
5	33090121001000	Upper Retainer, Exhaust Valve Spring	1
6	33060121001000	Spring, Valve	2
7	33040121001002	Valve, Exhaust	1
8	23060121001000	Guide Plate, Connecting Stud	1
9	23040121001000	Rod, Connecting	2
10	33070121001000	Upper Retainer, Intake Valve Spring	1
11	33020127002000	Adjusting Stud, Valve Clearance	2
12	33050121001002	Valve, Intake	1
13	33010122001000	Stud, Connecting	2
14	23020122001002	Camshaft	1
15	23020132001000	Oil Seal	1

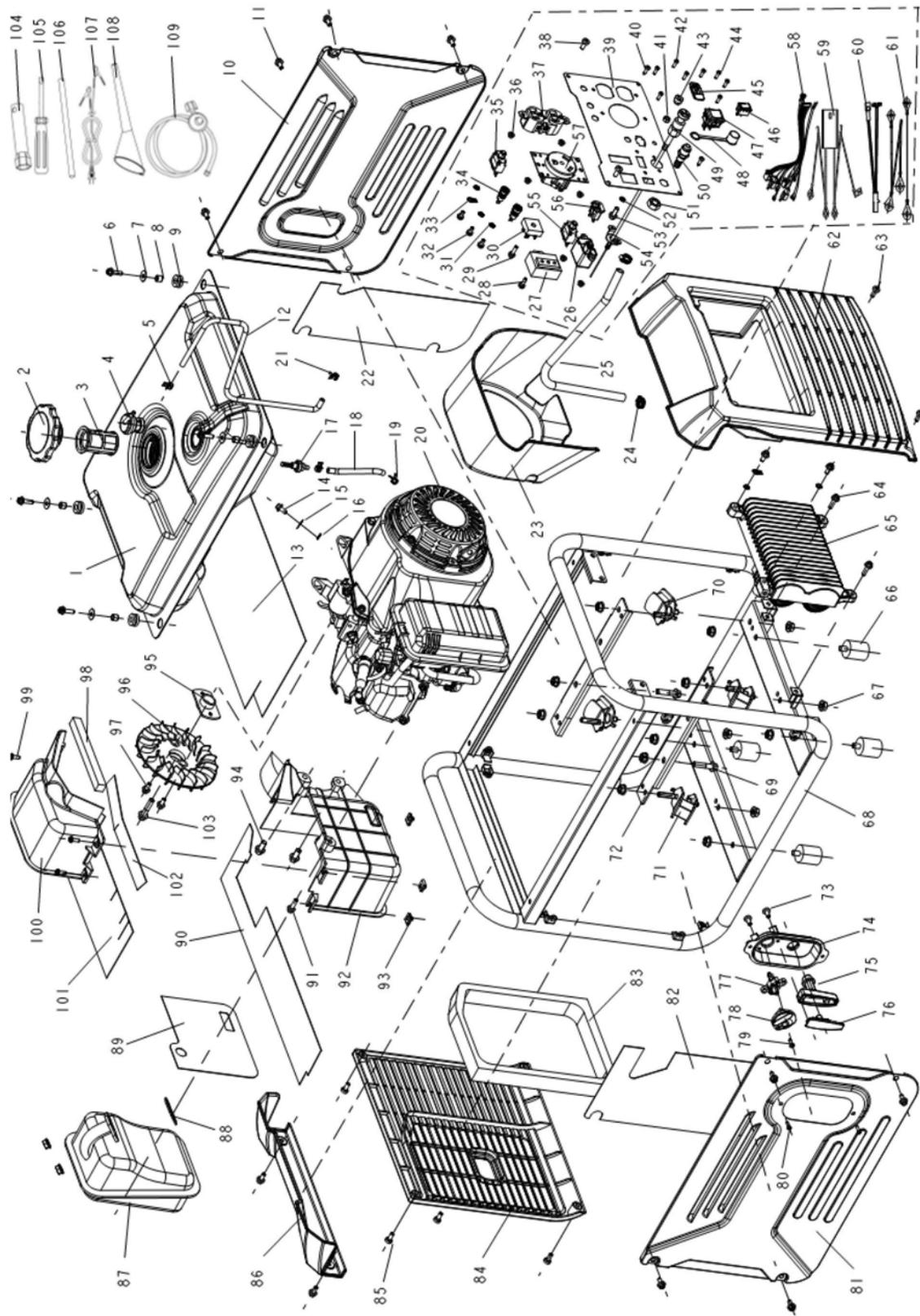


## CRANKSHAFT ASSEMBLY

NO.	PART NO.	DESCRIPTION	QTY
1	B0429141505B	Nut, Clamp	1
2	B0131060146B	Start-Up Ratchet Gear	2
3	26030123041000	Fan Wheel	1
4	34020123041000	Fly Wheel	1
5	24020123002000	Crankshaft	1
6	34070121001000	Circlip , Piston Pin	2
7	34010123001001	Piston	1
8	34060121001000	Pin, Piston	1
9	24020123001001	Piston Ring Assembly	1
10	24040121001000	Connecting Rod Assembly	1
11	B0131060606B	Bolt M6x60	4
12	28010123041000	Support	1
13	B0133060166B	Bolt M6x16	2
14	24020423003000	Generator, Pulse	1
15	B0131050126B	Bolt M5x12	2
16	20020423003000	Rotator	1
17	20010423003000	Stator Assy.	1



# PARTS DIAGRAM



## PARTS LIST

NO.	PART NO.	DESCRIPTION	QTY
1	21010423003750	Fuel Tank Comp	1
2	21050412600000	Sump Cover Subassembly	1
3	31040412600001	Filtering Net	1
4	21010412900001	Oil Spill Valve	1
5	37060132018000	Fuel Pipe Clip $\phi 7$	1
6	B01310602067	Bolt M6*20	4
7	B07020006047	Washer $\phi 6$	4
8	31020412600010	Fuel Tank Rubber Hose	4
9	31010412600000	Fuel Tank Rubber	4
10	36030423003750	Right Decorative	1
11	B01310601067	Bolt M6*10	10
12	37530121001000	Hose $\phi 5 * \phi 8 * 580$	1
13	31010423003000	Fuel Tank Protecror	1
14	B01310601066	Bolt M6*10	3
15	30090422001000	Ground Connecting Symbol $\phi 6$	2
16	B07180006056	Lock Washer $\Phi 6$	3
17	27180121001000	Fuel Lid Assembly	1
18	37520121001001	Fuel Hose $\phi 4. 5 * \phi 8. 5 * 180$	1
19	37200121001000	Fuel Pipe Clip $\phi 8$	3
20	101230410001000	Engine	1
21	37010117001000	Fuel Pipe Clip $\phi 10$	1
22	36080423003000	Aluminium-foil Paper II	1
23	33010423003000	Inlet Hood	1
24	3X230457501000	Stainless Clamp	2
25	3X220457501000	Fuel Gas Hose 3/8*400	1
26	25040422003001	USB Socket	1
27	22030423003000	Ignition Set	1
28	B13080501227	Screw M5*12	1
29	B01310501726	Bolt M5*17	1
30	33040412300000	Rectifier KB2506	1
31	B07180005056	Lock Washer $\Phi 5$	3
32	B13080500827	Screw M5*8	3
33	32060421202000	Ground Connecting Symbol $\phi 5$	1
34	22180421202000	Parallel Connection Socket	2
35	B28421200010	AC Protector 20A	1
36	B04280400047	Nut M4	6
37	22070413200000	Standard Outlet	1
38	B02210601627	Screw M6*16	2
39	22010423003120	Panel	1
40	B05210401207	Screw ST4*12	2
41	B04010600048	Nut M6	1
42	B02210401227	Screw M4*12	6
43	31780422401020	Ground Nut	1
44	B13080400827	Screw M4*8	2
45	35270422003002	USB Rubber Holder	1
46	22030410900000	Ignition Switch(Black)	1
47	22020411200000	Ignition Switch	1
48	3X210457501000	Gas Inlet Cap	1
49	22080422003000	Choke Lever	1
50	3X190457501000	Gas Inlet Connector	1
51	3X200457501000	Nut G1/4	1
52	B07180006056	Lock Washer $\Phi 6$	1
53	B01310601628	Bolt M6*16	1
54	32150422003800	Choke Lever Mounting Plate	1
55	B28421080010	DC Protector 8A	1

NO.	PART NO.	DESCRIPTION	QTY
56	22060411500000	T-Socket	1
57	22030414502002	RV Socket	1
58	22020423003000	Control Cable	1
59	22040423003000	Output Cable	1
60	22050423003000	DC Output Cable	1
61	22060423003000	Ground Cable	1
62	32010423003000	Bottom Shell	1
63	B02210601427	Screw M6*14	2
64	B01310602066	Bolt M6*20	2
65	22060423001000	Inverter Unit	1
66	36040416500000	Damping Pad	4
67	B04280800046	Nut M8	16
68	26010423003120	Frame Welding Components	1
69	B01310803566	Bolt M8*35	2
70	26020423003000	Shockproof Mounting Feet	2
71	26020412300000	Right Shockproof Mounting Feet	2
72	36010423003120	Engine Mounting Plate	2
73	B02210601026	Screw M6*10	2
74	24040423003120	Recoil Handle Ornament Comp.	1
75	31710422401800	Pull Start Handle	1
76	31720422401120	Pull Start Handle Cover	1
77	21020411503000	Fuel Cock	1
78	34220422003800	Fuel Switch Handle	1
79	30040422001670	Screw(Black)	1
80	B02210401227	Screw M4*12	2
81	36020423003750	Left Decorative	1
82	36070423003000	Aluminium-foil Paper I	1
83	36090423003000	Insulating Foam, Rear Cover	1
84	36060423003000	Rear Cover(Black)	1
85	B02210601627	Screw M6*16	4
86	36040423003000	Fuel Tank Decoration Cover	1
87	25010423003000	Muffler	1
88	35020412300000	Muffler Gasket	1
89	35050423003000	Muffler Wind Scooper Protector I	1
90	35060423003000	Muffler Wind Scooper Protector II	1
91	B01310601666	Bolt M6*16	1
92	35020423003000	Muffler Wind Scooper I	1
93	30220421202000	Reed Nut M5	3
94	B01310801666	Bolt M8*16	2
95	23010423003000	Fan Fixed Seat	1
96	33020423003000	Fan	1
97	B01310601666	Bolt M6*16	2
98	35090423003000	Insulating Foam, Muffler	1
99	B13080501627	Screw M5*16	3
100	35030423003000	Muffler Wind Scooper II	1
101	35070423003000	Muffler Wind Scooper Protector III	1
102	35080423003000	Muffler Wind Scooper Protector IV	1
103	B01310802066	Bolt M8*20	1
104	38160410900000	Pilot Spanner	1
105	38150410900000	Screwdriver	1
106	38060411500020	Bar, Plug Wrench	1
107	20210042100001	T-type Plug Wire	1
108	38120411501000	Funnel	1
109	24020457500000	Low Pressure Regulator	1

# EMISSION CONTROL SYSTEM WARRANTY

## BUFFALO CORPORATION

### **Your Warranty Rights and Obligations:**

The California Air Resources Board, U.S. EPA and Buffalo Corp are pleased to explain the Emission Control System Warranty on your 2018 model year outdoor power equipment engine.

### **California**

In California, new spark-ignited small off-road equipment engines must be designed, built and equipped to meet the State's stringent anti-smog standards.

### **Other States, U.S. Territories**

In other areas of the United States, your engine must be designed, built and equipped to meet the U.S. EPA emission standards for spark-ignited engines at or below 19 kilowatts.

### **All of the United States**

Buffalo Corp must warrant the emission control system on your power equipment engine for the periods of time listed below provided there has been no abuse, neglect or improper maintenance of your power equipment engine. Where a warrantable condition exists, Buffalo Corp will repair your power equipment engine at no cost to you including diagnosis, parts and labor.

Your emission control system may include parts such as: carburetors or fuel injection system, ignition system, catalytic converters, fuel tanks, valves, filters, clamps, connectors, and other associated components. Also, included may be hoses, belts, connectors, sensors, and other emission-related assemblies.

### **Manufacturer's Warranty Coverage:**

The emission control system is warranted for two years. If any emissions-related part on your engine is defective, the part will be repaired or replaced by Buffalo Corp.

### **Owner's Warranty Responsibility**

As the power equipment engine owner, you are responsible for the performance of the required maintenance listed in your owner's manual. Buffalo Corp recommends that you retain all receipts covering maintenance on your power equipment engine, but Buffalo Corp cannot deny warranty solely for the lack of receipts or for your failure to ensure the performance of all scheduled maintenance.

As the power equipment engine owner, you should however be aware that Buffalo Corp may deny your warranty coverage if your power equipment engine or a part has failed due to abuse, neglect, improper maintenance or unapproved modifications. You are responsible for presenting your power equipment engine to distribution center or service center authorized by Buffalo Corp as soon as the problem exists. The warranty repairs should be completed in a reasonable amount of time, not to exceed 30 days. If you have any questions regarding your warranty rights and responsibilities, you should contact a customer service representative at 1-866-460-9436 or write to [info@buffalotools.com](mailto:info@buffalotools.com).

### **DEFECTS Warranty Coverage:**

Adopted by the Air Resources Board, Buffalo Corp warrants to the ultimate purchaser and each subsequent purchaser that the small off-road engine (SORE) (1) has been designed, built and equipped so as to conform with all applicable regulation; and (2) is free from defects in materials and workmanship that cause the failure of a warranted part to conform with those regulations as may be applicable to the terms and conditions stated below.

(a) The warranty period begins on the date the engines is delivered to an ultimate purchaser or first placed into service. The warranty period is two years.

(b) Subject to certain conditions and exclusions as stated below, the warranty on emissions related parts is as follows:

(1) Any warranted part that is not scheduled for replacement as required maintenance in your Owner's Manual is warranted for the warranty period stated above. If the part fails during the period of warranty coverage, the part will be repaired or replaced by Buffalo Corp according to Subsection (4) below. Any such part repaired or replaced under warranty will be warranted for the remainder of the period.

(2) Any warranty part that is scheduled only for regular inspection in your Owner's Manual is warranted for warranty period stated above. Any such part repaired or replaced under warranty will be warranted for the remaining warranty period.

(3) Any warranted part that is scheduled for replacement as required maintenance in your Owner's Manual is warranted

for the period of time before the first scheduled replacement date for that part. If the part fails before the first scheduled replacement, the part will be repaired or replaced by Buffalo Corp. according to the Subject (4) below. Any such part repaired or replaced under warranty will be warranted for the remainder of the period prior to the first scheduled replacement point for the part.

(4) Repair or replacement of any warranted part under the warranty provisions herein must be performed at a warranty station at no charge to the owner.

(5) Notwithstanding the provisions herein, warranty services or repair will be provided at all of our distribution centers that are franchised to service the subject engines.

(6) The engine owner must not be charged for diagnostic labor that leads to the determination that a warranted part is in fact defective, provided that such diagnostic work is performed at a warranty station.

(7) Buffalo Corp. is liable for damages to other engine components proximately caused by a failure under warranty of any warranted part.

(8) Throughout the engine warranty period stated above, Buffalo Corp. will maintain a supply of warranted parts sufficient to meet the expected demand for such parts.

(9) Any replacement part may be used in the performance of any warranty maintenance or repairs and must be provided without charge to the owner. Such use will not reduce the warranty obligations of Buffalo Corp.

(10) Add-on or modified parts that are not exempted by the Air Resources Board may not be used. The use of any non-exempted add-on or modified parts by the ultimate purchaser will be grounds for disallowing a warranty claims. Buffalo Corp will not be liable to warrant failures of warranted parts caused by the use of a non-exempted add-on or modified part.

(11) The manufacturer issuing the warranty shall provide any documents that describe that manufacturer's warranty procedures or policies within five working days of request by the Air Resources Board.

## **EMISSION WARRANTY PARTS LIST**

(1) Fuel Metering System:

(a) Gasoline carburetor assembly and its internal components (b) Carburetor gaskets

(c) Fuel line (d) Clamps (e) Fuel tank

(f) Fuel line fittings (g) pressure regulator (if equipped)

(h) Mixer assembly and its internal components (if equipped)

(2) Air induction system including:

(a) Intake pipe/manifold (b) Air cleaner

(3) Ignition system including:

(a) Spark plug (b) Ignition coil

(4) Catalytic muffler assembly including:

(a) Muffler gasket (b) Exhaust manifold (c) Catalytic converter (if available)

(5) Crankcase breather assembly including

(a) Breather connection tube

(6) Fuel tank evaporative emissions control system including:

(a) Purge valves (b) Carbon canister (c) canister Mounting Brackets

(d) Fuel Cap (e) Fuel Tank

(7) Miscellaneous items used in above systems including:

(a) Switches (b) Hoses, belts connectors, and assemblies

(8) Air injection system

(a) Pulse valve