

ITEM # GEN85KIDF

Q

8750 Surge Watts / 7000 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.

HAVE QUESTIONS OR PROBLEMS? CONTACT CUSTOMER SERVICE

If you experience a problem or need parts for this product, visit our website <http://www.buffalotools.com> or call customer service at 1-866-460-9436, Monday-Friday, 8 AM - 4 PM Central Time. A copy of the sales receipt is required. IF THERE IS ANY QUESTION ABOUT A CONDITION BEING SAFE OR UNSAFE, DO NOT OPERATE THIS PRODUCT!

FOR CONSUMER USE ONLY – NOT FOR PROFESSIONAL USE.

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

WARNING

ATTENTION: OIL AND GASOLINE IS NOT INCLUDED WITH THE GENERATOR AND MUST BE ADDED BEFORE FIRST USE.

ATTENTION: THIS GENERATOR IS NOT INTENDED TO POWER MEDICAL DEVICES OR LIFE SUPPORT APPLIANCES.

ATTENTION: FOLLOW ENGINE BREAK-IN PROCEDURE FOR FIRST 20 HOURS OF USE.

ATTENTION: DO NOT EXCEED MAX WATTAGE CAPACITY, OTHERWISE DAMAGE CAN OCCUR TO GENERATOR AND/OR APPLIANCES. FOLLOW WATTAGE GUIDE TO DETERMINE PROPER STARTING & RUNNING WATTS.

GEN85KIDF Portable Dual Fuel Invertor Generator



FEATURES:

- 8750 Surge Watts / 7000 Running Watts*
- 4-Stroke OHV Engine 420cc
- Recoil / Electric Start
- 15 HP Dual Fuel Engine
- (Propane Tank Not Included)
- 1 - 12V D/C Outlet
- 4 - 120V A/C Outlets
- 1 - 120V/240V RV Outlet
- Engine Run Time: 10 Hours @ 50% Load Gasoline Fuel
- Engine Run Time: 6 Hours @ 50% Load on 20 lbs of LPG Fuel
- Low Oil Shutdown
- EPA Approved
- Noise Level: 70dB @ 0% Load at 23 ft
- Oil Capacity: 33.8 ounces
- Fuel Capacity: 7 gallon
- Fuel type - Liquid Propane Gas (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
- USB Port
- Battery Cable Included (Used for Electric Start) (Battery Power Pack sold separately)
- 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)	120/240
Rated Watts (W)	7000
Rated Frequency (Hz)	60
Phase	Single

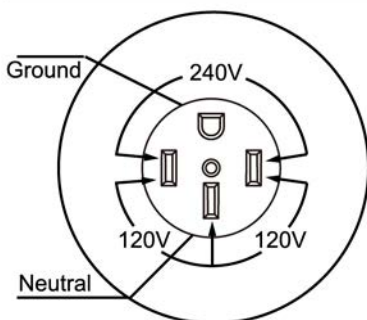
DC Output

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

Enlarged View of 120/240 Volt Outlet



⚠ DANGER

SEEK THE ADVICE OF A LICENSED ELECTRICIAN FOR 120V / 240V WIRING

TABLE OF CONTENTS

RECOGNIZE SAFETY SYMBOLS, WORDS AND LABELS.....	4
PACKAGE CONTENTS	
PACKAGE CONTENTS	9
COMPONENTS	10
PREPARING THE GENERATOR FOR USE	11
Using This Generator For The First Time.....	11
Step 1 – Add Oil	11
Step 2 – Add Gasoline / Propane	12
Step 3 – Ground The Generator	13
Subsequent Use Of This Generator	13
Step 1 – Verify Oil Level	13
Step 2 – Verify Gas Level.....	13
Step 3 – Ground The Generator.....	14
STARTING THE GENERATOR	15
USING THE GENERATOR.....	16
AC Usage.....	16
DC Usage.....	17
USB Usage	17
INVERTER GENERATOR	18
BREAK-IN PERIOD	18
STOPPING THE GENERATOR.....	20
MAINTENANCE/CARE	20
Recommended Maintenance Schedule	20
Cleaning The Generator.....	20
Checking The Oil Level	21
Changing/Adding Oil	21
Air Filter Maintenance	22
Spark Plug Maintenance	22
Changing Fuel Line	22
Emptying The Fuel Tank	22
STORAGE/TRANSPORT PROCEDURES	23
TROUBLESHOOTING	24
PARTS DIAGRAM	26
WIRING DIAGRAM	30
EMISSION CONTROL SYSTEM WARRANTY.....	31

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) 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: If this generator will be connected to a building electrical system, you must consult your local utility company or a qualified electrician. Connections must isolate generator power from utility power and must comply with all applicable laws and codes. You are responsible for ensuring that your generator's electricity does not feed back into the electric utility power lines. Do not plug the generator into any electric outlet in your home.

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: ONLY USE THIS GENERATOR 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

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.

⚠ 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.

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

! 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.

! WARNING

- This portable generator runs on either GASOLINE or LIQUID PROPANE. Constant, direct exposure to exhaust fumes containing carbon monoxide is toxic and could be fatal.
- Get to fresh air immediately if you feel dizzy, weak, nauseous or have a headache.
- Never run a portable generator indoors, including garages, basements, crawl spaces or any area indoors. Place outdoors in a dry area protected from rain, ice or snow.
- Place at least 20 Ft. from all activity. DO NOT SECURE THE GENERATOR WITH A CHAIN OR ROPE, AS THIS WILL MAKE IT DIFFICULT TO MOVE IN AN EMERGENCY.



NOTE: For proper long term operation, the spark arrestor should be cleaned thoroughly at least every 100 hours as described in the owner's manual.

! WARNING

HOT EXHAUST
CONTACT MAY CAUSE BURN
DO NOT TOUCH

! WARNING

Stop generator before refueling. Do not operate near open flame. IF YOU SMELL GAS- EXTINGUISH ALL FLAMES & SPARKS! 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.

! DANGER

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





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

PACKAGE CONTENTS

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

STOP!

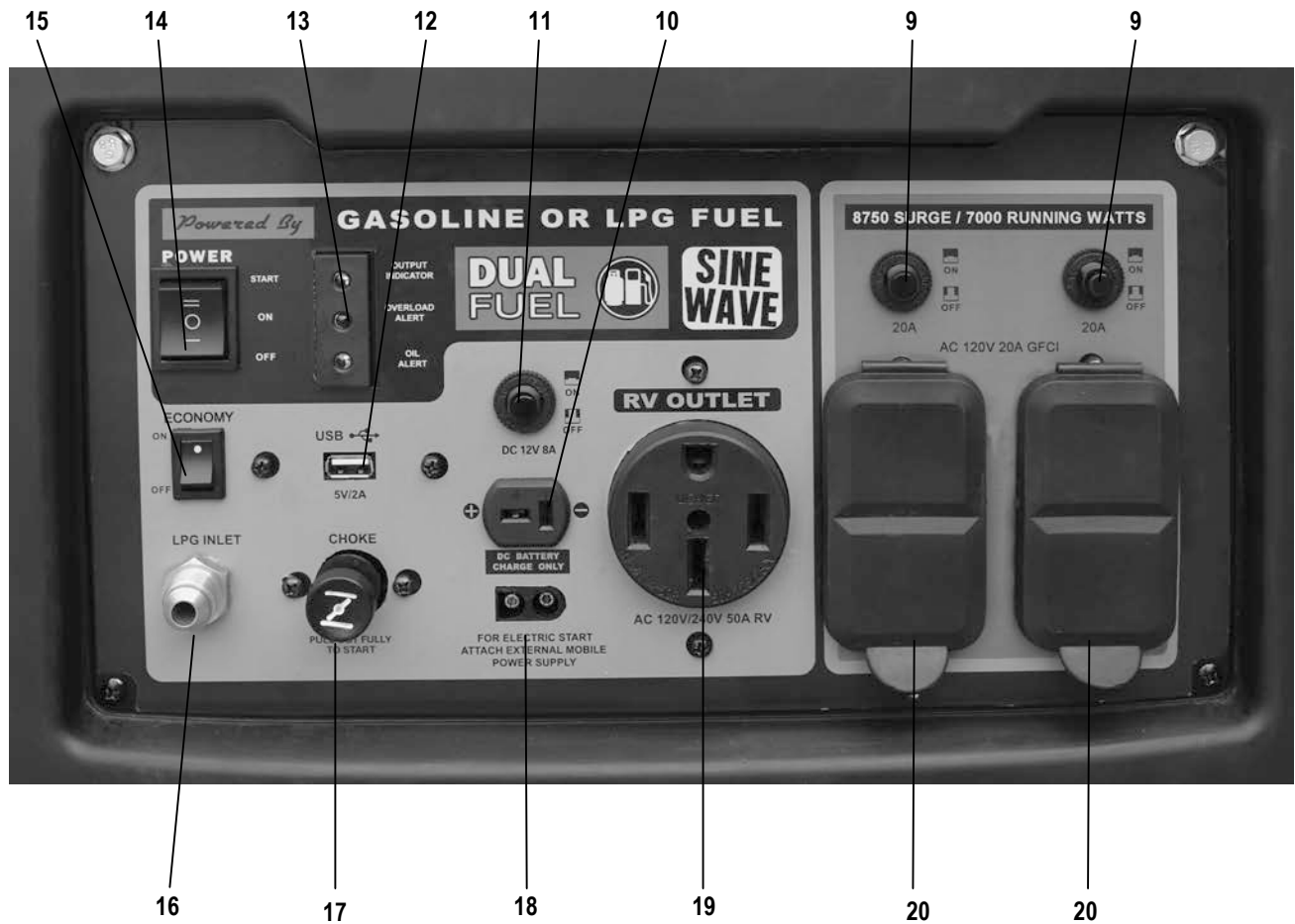
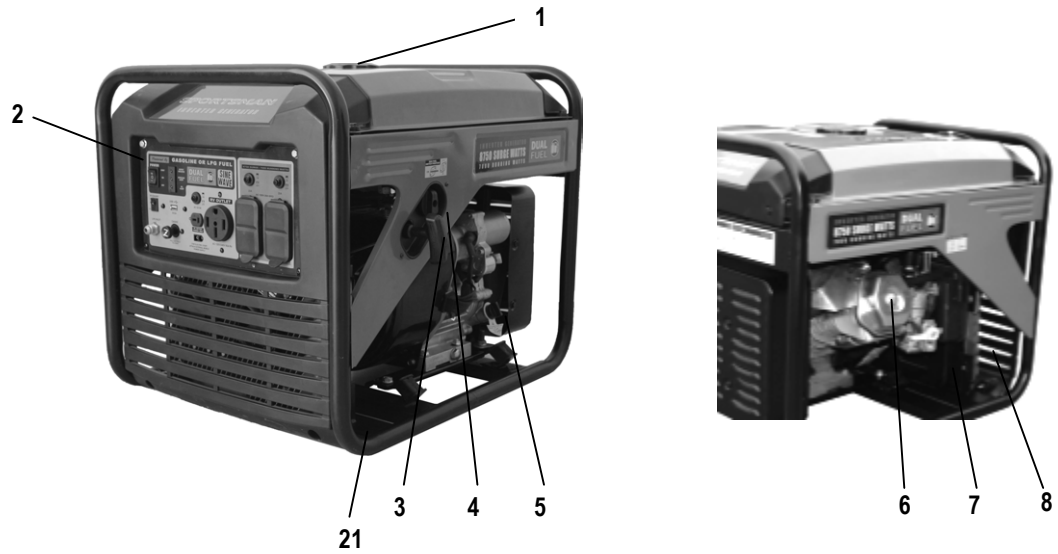
If there are missing items, call 1-866-460-9436, Monday - Friday, 8 AM - 4 PM Central Time for customer service.

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)
	Cable for Portable Jump Starter Battery Power Pack

GENERATOR COMPONENTS

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

- 1) Fuel Tank Cap
- 2) Control Panel
- 3) Recoil Starter
- 4) Fuel Cock (not shown)
- 5) Oil Access
- 6) Spark Plug
- 7) Fuel Selector
- 8) Air Filter Cover
- 9) AC Circuit Protector
- 10) 12 Volt DC Outlet
- 11) DC Circuit Protector
- 12) USB Port
- 13) Alert Indicator
- 14) Engine Power Switch
- 15) Economy Switch
- 16) LP gas inlet
- 17) Carburetor Choke Lever
- 18) Power Supply Port
- 19) 120/240 Volt RV Outlet
- 20) 120 Volt AC GFCI Outlet
- 21) Grounding Terminal



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 33.8 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 33.8 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. Unscrew the oil filler/dipstick cap from the (Figure 1).
3. 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.
4. Replace the oil filler/dipstick cap.



Figure 1



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.

Fuel Tank Capacity (gallons)	7
Fuel Type	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

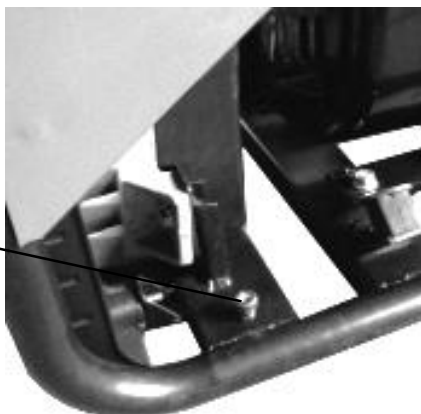


Failure to properly ground this generator can result in electrocution.

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 base of the generator frame.



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)	7
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 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 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.

A Power Pack Cable Is Included. Portable Jump Starter Battery Power Pack Is Not Included

Use a multi-function Portable Jump Starter Battery Power Pack with a capacity of at least 6,000 mAh. (Sold separately. Call 1-866-460-9436 for additional information.)

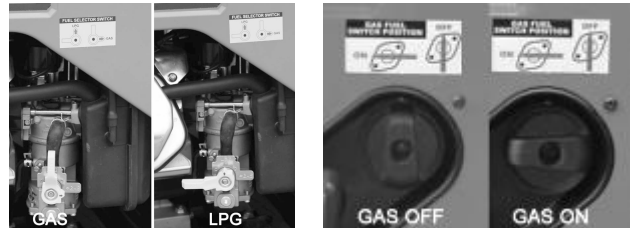
This generator includes one Power Pack Cable. Insert one end of Red (Positive) cable into the Positive receptacle of Battery Power Pack, then insert one end of Black (Negative) cable into the Negative receptacle of Battery Power Pack. Then insert the Red (Positive) end into Positive receptacle of generator and Black (Negative) into the Negative receptacle of generator.

Press the POWER switch on the Battery Power Pack, then press the generator POWER switch to the START position, until the generator has started. DO NOT CONNECT electrical devices until AFTER the generator is started.



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, select GAS/LP switch to GAS, then turn the fuel switch to the "on" position.
- 3B. If using propane, select GAS/LP switch to LPG, then turn the fuel switch to the "off" position.
4. Pull the choke lever towards you.
5. Set the engine switch to the "on" position.



6A. For recoil start: 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.

6B. For electric start: Push the Power Switch rocker to START position and hold until engine starts. If the engine fails to start within five seconds, release and wait at least 5 seconds before attempting to start the engine again.

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. DO NOT CONNECT electrical devices until AFTER the generator is started.

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



Choke Rod

Figure 4
The Recoil Start is located on the right 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.

Rated (Running) Wattage	7000
Surge Wattage	8750
	* 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 8750, do not attempt to draw more than 7000 Watts from the 120 Volt outlet. Draws higher than 7000 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 3,600 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.

INVERTER GENERATOR WITH SINE WAVE

This inverter generator eliminates power fluctuations like the ones you see in standard generators. It offers stable, consistent power.

Power from inverter generators is ultra-clean, and comes in a form that is useful for sensitive electronic equipment. It is clean enough to run even the most sensitive electronic equipment.

Inverter generators can reduce fuel consumption, and they are often quieter than a traditional generator.

ENGINE BREAK-IN PROCEDURE

You can avoid small engine problems if you follow the break-in procedure below. Because the pistons and rings wear into the engine's walls, small pieces of metal can flake off into the oil. It's important to flush these pieces out of your generator by frequently changing the oil. Maintain at least a 50-75 percent load on your generator for the first 20 hours (Do not operate the engine at full load during the first 20 hours of operation.) Varying the load will help seat the rings.

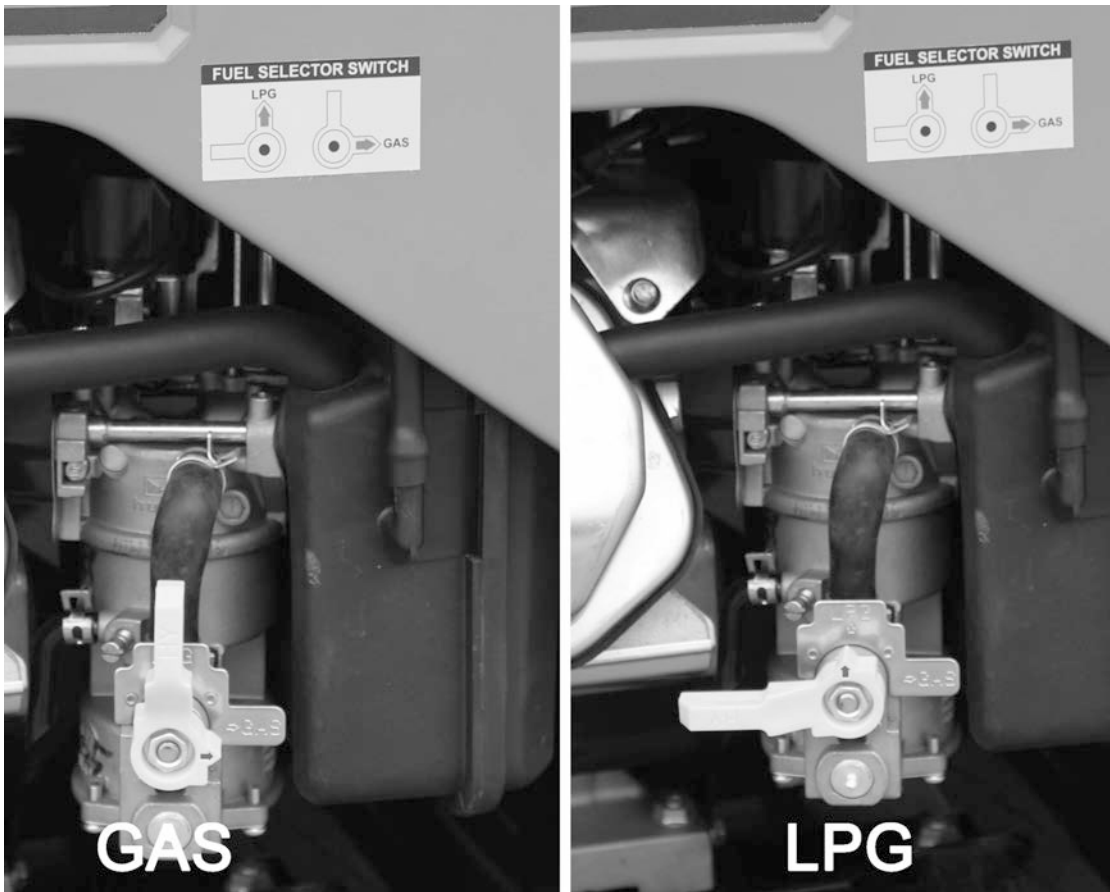
1. Allow the engine to run for 5 minutes before adding any load.
2. Change the break-in oil within the first 5 hours of use
3. Do not operate the engine at full load during the first 20 hours of operation.
4. Read and follow the Maintenance/Care section of this Generator manual.

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 turn the propane tank to ON.

Then select the FUEL SELECTOR SWITCH to LPG. If using propane and you want to switch to gasoline, turn the gas Fuel Switch to ON and select the FUEL SELECTOR SWITCH to GAS. Then turn the propane tank OFF.

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 break-in oil should be changed after the first 5 hours of operation, then the oil should be changed following 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 17 mm hex wrench. Figure 8A
3. Allow all the oil to drain from this generator.
4. Replace the oil drain plug and tighten using 17 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 33.8 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 33.8 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.

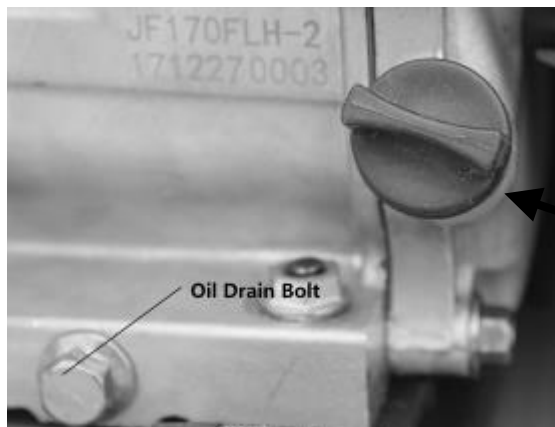


Figure 8A – Use 17mm hex wrench to REMOVE bolt and drain oil



Figure 8B – Adding 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. F6RTC spark plug, such as NGK BPR6ES is recommended.
4. Measure the spark plug electrode gap with a gauge. The gap should be 0.031-0.037in (0.78-0.94mm). (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.

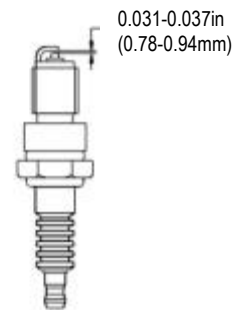


Figure 9
Measuring the spark plug gap

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.

To store the generator for extended time, drain 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



Do not store gasoline for more than 3 months.



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.

Storage Time	Recommended Storage Procedure (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

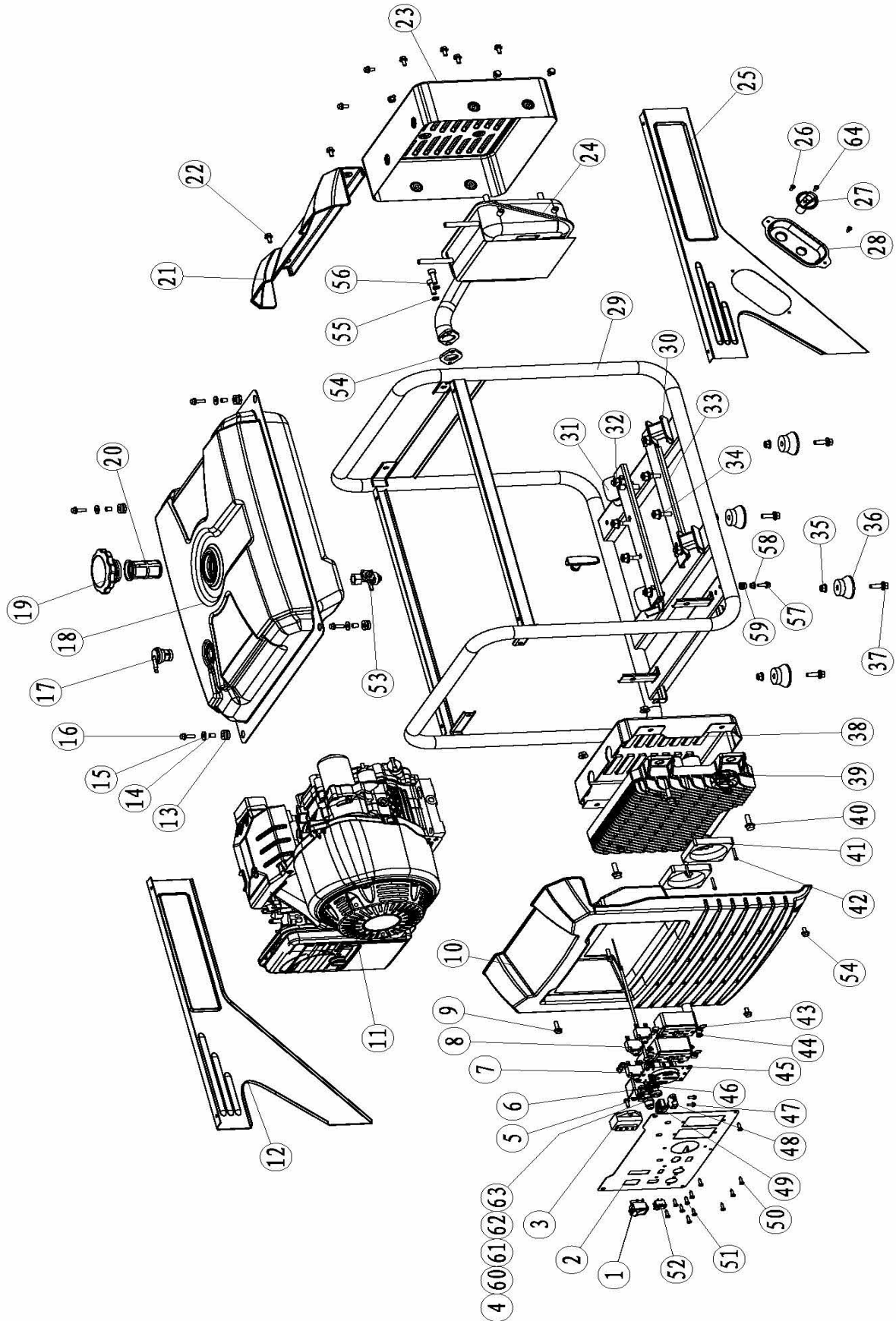
IMPORTANT: If trouble persists, call our customer help line at 1-866-460-9436, Monday - Friday, 8 AM - 4 PM Central Time.

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.
Engine will not start.	Oil is low.	The oil level should almost OVERFLOW. If it is not, add more oil.
	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

If the engine starts and runs, but does not produce power, or power is too low.	AVR needs adjusting.	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.
	Carbon brushes need replacing	Inspect carbon brushes. Are either of carbon brushes broke? Is one carbon brush shorter than the other? Replace carbon brushes if broken.

PARTS DIAGRAM

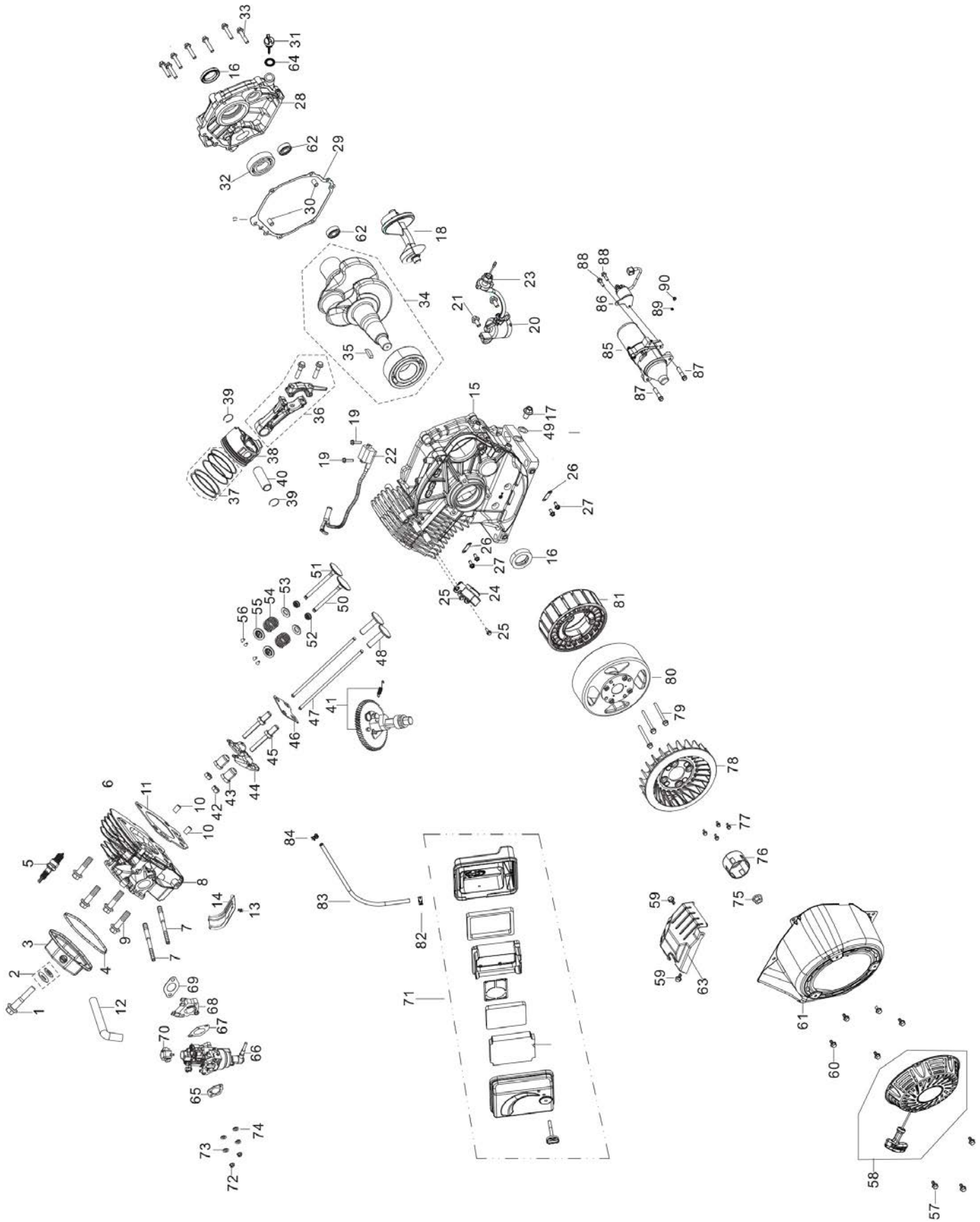


PARTS LIST

NO.	PART NO.	DESCRIPTION	QTY
1	22030427001000	Rocker Switch	1
2	22010427001120	Panel	1
3	22030423003000	Ignitor	1
4	3X190457501000	Gas Inlet Connector	1
5	B13080501227	Assemble Screw M5*16	1
6	25040422003001	USB 5V/2A	1
7	B28421080010	Circuit Protector 8A	1
8	B28421200010	Circuit Protector 20A	2
9	B01310602067	Flange Bolt M6*20	2
10	32010427001000	Panel Bed	1
11	101290330001000	Engine 420CC	1
12	36030427001750	Decorative Laminates	1
13	31010412600000	Fuel Tank Rubber	4
14	31020412600010	Fuel Tank Rubber Hose	4
15	B07020006047	Washer Φ6	4
16	B01310602067	Flange Bolt M6*20	4
17	21010412900001	Oil Overflow Valve	1
18	21010427001750	Fuel Tank	1
19	21050412600000	Carb Tank Cap	1
20	31040412600001	Filtering Net	1
21	36040427001000	Decorative Tank covers	1
22	B01310601066	Flange Bolt M6*10	12
23	35010427001120	Muffler Cover	1
24	25010427001000	Muffler	1
25	36020427001750	Handle Mounting Plate	1
26	B02210401227	Screw M4*12	2
27	34050427001120	Decorative Circle	1
28	31010427001000	Recoil Handle Ornament Comp.	1
29	26010427001120	Frame	1
30	26030427001000	Shockproof Small Mounting Feet	2
31	26020427001000	Shockproof Big Mounting Feet	2
32	B04291012546	Flange Nut M10*1.25	4
33	36010427001120	Engine Mounting Plate	2
34	B01310804066	Flange Bolt M8*40	4
35	B04280800046	Flange Nut M8	12

NO.	PART NO.	DESCRIPTION	QTY
36	36041043201800	Shock Pad	4
37	B01310802066	Flange Bolt M8*40	4
38	33010427001000	Inverter Cover	1
39	20420457001010	Inverter	1
40	B01310802066	Flange Bolt M8*20	4
41	20430427001000	DC Fun	2
42	B02210402526	Screw M4*25	4
43	22030457501000	GFCI	2
44	B04280400047	Flange Nut M4	8
45	22220422401000	Receptacle (20A-125V)(GFCI)	2
46	22080422003000	Receptacle NEMA 14-50)	1
47	B13080400827	Assemble Screw M4*8	6
48	32030427001000	EC5 Plug	1
49	22060411500000	T-type Socket	1
50	B02210401227	Screw M4*25	8
51	B05210401607	Screw ST4*16	3
52	22030410900000	Switch	1
53	21020427001000	Fuel Tank	1
54	35010416500000	Muffler Gasket	1
55	B07000008045	Spring Washer	2
56	B02040802091	Hexagon Socket Screw M8*20	2
57	B01310601628	Flange Bolt M6*16	1
58	B04010600048	Nut M6	1
59	31780422401020	Knurled Nut	1
60	35020452005010	Fixed Support	1
61	3X200457501000	Nut 1/4-19	1
62	3X220457501000	Rubber Hose 3/8"	0.4
63	3X230457501000	Hold Hoop	2
64	30040422001670	Screw M4*11	1

ENGINE PARTS DIAGRAM

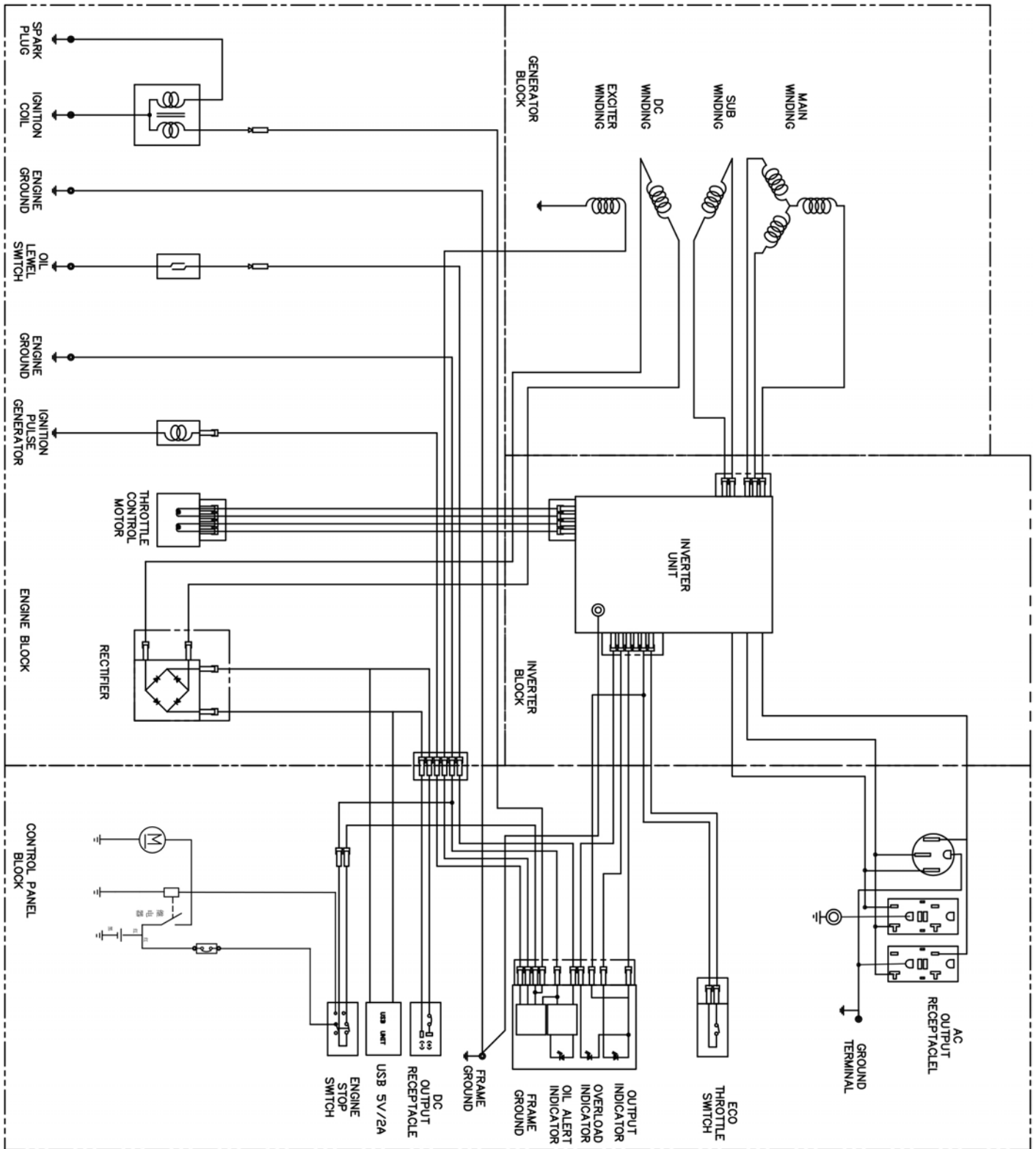


PARTS DIAGRAM

NO.	PART NO.	DESCRIPTION	QTY
1	32020127002000	Bolt	1
2	32040127002000	Clamp	1
3	32030127002000	Spacer, Seal	1
4	22030128001020	Cylinder head cover	1
5	32180127002000	Washer, Cylinder Head	1
6	22060127002000	Spark Plug	1
7	32050127002000	Bolt, Intake Pipe	2
8	22020129001000	Cylinder Head Assembly	1
9	32010127002000	Bolt, Cylinder Head	4
10	31080127002000	Dowel Pin	2
11	22030129001000	Gasket, Cylinder Head	1
12	37130127002000	Breather Tube	1
13	B0133060126B	Flange Bolt M6*12	1
14	32060127002000	Cowling	1
15	21010129029000	Crankcase assy.	1
16	21020127002001	Oil Seal	2
17	31150127002001	Bolt, Drain	1
18	34010127002000	Balance Shaft	1
19	B01330502065	Flange Bolt M5*20	2
20	21050127002000	Oil Level Sensor	1
21	B0133060166B	Flange Bolt M6*16	2
22	24010423003000	Ignition Coil	1
23	B04281015026	Flange Nut M10*1.5	1
24	23050427000000	Trigger	1
25	B0131060106B	Flange Bolt M6*10	2
26	31010129029000	Magneto Wiring Clamp	2
27	B0133060126B	Flange Bolt M6*12	4
28	31010127001000	Crankcase Cover	1
29	31020127002000	Gasket, Crankcase	1
30	31140127002000	Dowel Pin	2
31	31040112001000	Oil Dipstick	1
32	B12016020700	Deep Groove Ball Bearing 6207	1
33	B0133080406B	Flange Bolt M8*40	7
34	24020129002002	Crankshaft	1
35	34030127002000	Woodruff Key	1
36	24060129001000	Connecting Rod Assembly	1
37	24040129001000	Piston Ring Assembly	1
38	34020129001000	Piston	1
39	34130127002000	Circlip, Piston Pin	2
40	34120127002000	Pin, Piston	1
41	23020129001000	Camshaft	1
42	33100124001000	Adjusting, Nut, Valve Clearance	2
43	33050127002000	Button head, Arm	2
44	33040127002000	Arm	2
45	33020127002000	Adjusting Stud, Valve Clearance	2

NO.	PART NO.	DESCRIPTION	QTY
46	23060127002000	Guide Plate, Connecting Stud	1
47	23040127002000	Rod, Connecting	2
48	33010127002000	Stud, Connecting	2
49	31160127002001	Spacer, Drain	1
50	33020129001001	Intake Valve	1
51	33010129001001	Exhaust Valve	1
52	23050127002000	Oil Seal, Intake valve	1
53	33070127002000	Lower Retainer	2
54	33030127002001	Valve Spring	2
55	33080127002000	Lower Retainer	2
56	33090127002000	Lock Clamp	4
57	B0133060086B	Flange Bolt M6*8	3
58	26030127002091	Starter Cover Assy.	1
59	B0133060126B	Flange Bolt M6*12	2
60	B01310601266	Flange Bolt M6*12	5
61	36010129029000	Cowling Assy., cylinder	1
62	B12016020200	Deep Groove Ball Bearing 6202	2
63	26050127002000	Cylinder Board Shroud	1
64	31050112001000	Sealing Pad	2
65	37020126002000	Air Cleaner Gasket	2
66	27030129002004	Carburetor Assy.	1
67	37020128001000	Carburetor Gasket	1
68	37010128001000	Carburetor Insulator Plate	1
69	32070127002000	Spacer, Intake Pipe	1
70	32050422003800	Cap, Stepping Motor	1
71	27050129002000	Air Filter Assembly	1
72	B04280600026	Flange Nut M6	2
73	B07000006046	Spring Washer 6	2
74	B07010006046	Washer 6	2
75	34020127002000	Flywheel Nut	1
76	36010127002000	Starter Pulley	1
77	B0133060126B	Flange Bolt M6*12	4
78	36020129029000	Impeller	1
79	B01310607066	Flange Bolt M6*70	3
80	20410457001000	Rotor	1
81	20400457001000	Stator	1
82	37200121001000	Clamp, Fuel Line,φ8	1
83	37530121001000	Hose φ5×φ8*400	1
84	37060132018000	Clamp, Fuel Line,φ7	1
85	21070129029000	Motor	1
86	28030128004000	Relay Comp.	1
87	B0133080356B	Flange Bolt M8*35	2
88	B01330502065	Bolt M5*20	2
89	B07000004001	SPRING WASHER 4	1
90	B02210400665	SCREW M4*6	1

WIRING DIAGRAM



EMISSION CONTROL SYSTEM WARRANTY

Buffalo Corp.

Your Warranty Rights and Obligations

The California Air Resources Board, The United States Environmental Protection Agency(US EPA) and Buffalo Corp. are pleased to explain the exhaust and evaporative emissions control system warranty on your 2019 model year small off-road engine. In California, new equipment that use small off-road engines must be designed, built, and equipped to meet the State's stringent anti-smog standards. Buffalo Corp. must warrant the emissions control system on your small off-road engine for the periods of time listed below provided there has been no abuse, neglect or improper maintenance of your small off-road engine or equipment leading to the failure of the emissions control system.

Your emissions control system may include parts such as the carburetor or fuel-injection system, the ignition system, catalytic converter, fuel tanks, fuel lines (for liquid fuel and fuel vapors), fuel caps, valves, canisters, filters, clamps and other associated components. Also included may be hoses, belts, connectors, and other emission-related assemblies.

Where a warrantable condition exists, Buffalo Corp. will repair your small off-road engine at no cost to you including diagnosis, parts and labor.

Manufacturer's Warranty Coverage:

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

Owner's Warranty Responsibility

As the small off-road 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 small off-road engine, but Buffalo Corp. cannot deny warranty coverage solely for the lack of receipts or for your failure to ensure the performance of all scheduled maintenance.

As the small off-road engine owner, you should however be aware that Buffalo Corp. may deny you warranty coverage if your small off-road engine or a part has failed due to abuse, neglect, or improper maintenance or unapproved modifications.

You are responsible for presenting your small off-road engine to a Buffalo Corp. distribution center or service center as soon as the problem exists. The warranty repairs shall 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 Buffalo Corp. customer service representative at 1-866-460-9436 or write to 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 regulations; 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 engine 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 periods.

(2) Any warranted part that is scheduled only for regular inspection in your owner's manual is warranted for the 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 Subsection (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 part sufficient to meet the expected demand for such parts.
- (9) Any replacement 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 lines (for liquid fuel and fuel vapors)
- (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

(5) Crankcase breather assembly including:

- (a) Breather connection tube

(6) Fuel tank evaporative emissions control system including:

- (a) Purge valves (b) Fuel cap
- (c) Fuel tank (d) fuel lines (for liquid fuel and fuel vapors)

(7) Miscellaneous items used in above systems including:

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

(8) Air injection system

- (a) Pulse valve

Please Note:

For this warranty, Buffalo Corp. shall warrant the Evaporative and Exhaust combined emission control system on your products.

201907