

ITEM # GEN4

S

4000 Surge Watts / 3500 Running Watts

PORTABLE GASOLINE GENERATOR INSTRUCTION MANUAL



Thank you for your purchase! If you have questions or problems with your generator, CALL CUSTOMER SERVICE. If you experience a problem, have questions or need parts for this product, call Customer Service at **1-866-460-9436, Monday-Friday, 8 AM - 4 PM Central Time.** A copy of the sales receipt is required.

ATTENTION! This unit ships from our factory without oil. Fuel and oil must be added before operation.

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.

FOR CONSUMER USE ONLY – NOT FOR PROFESSIONAL USE.

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



To register your product warranty, please visit buffalotools.com or scan the QR code.

GEN4 Portable Gasoline Generator



FEATURES:

- 4000 Surge Watts / 3500 Running Watts
- 4-Stroke OHV Engine 212cc
- Recoil Start
- 7.0 HP Gasoline Engine
- 1 - 12V D/C Outlet
- 4 - 120V A/C Outlets
- 1 - 120V RV Outlet
- Engine Run Time: 10 Hours @ 50% Load
- Low Oil Shutdown
- AVR Automatic Voltage Regulation
- EPA Approved
- Noise Level: 69dB @ 0% Load
- Oil Capacity: 18.5 ounces
- Fuel Capacity: 3.6 gallon
- Fuel Type: Unleaded Gasoline Only 87 rating or higher
- 3,600 RPM
- Mobility Kit Available Separately
- If you are using a generator above sea level, the generator may not function properly because of air flow getting through the mixer
- High Altitude Use: This generator is not recommended for high altitude use above 3,000 feet.

AC Output

| | |
|----------------------|--------|
| Rated Voltage (V) | 120 |
| Running Watts (W) | 3500 |
| 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 |

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..... | 12 |
| Step 3 – Ground The Generator..... | 12 |
| Subsequent Use Of This Generator..... | 13 |
| Step 1 – Verify Oil Level..... | 13 |
| Step 2 – Verify Gas Level..... | 13 |
| Step 3 – Ground The Generator..... | 13 |
| STARTING THE GENERATOR..... | 14 |
| USING THE GENERATOR..... | 15 |
| AC Usage..... | 15 |
| DC Usage..... | 16 |
| STOPPING THE GENERATOR..... | 17 |
| MAINTENANCE/CARE..... | 17 |
| Recommended Maintenance Schedule..... | 17 |
| Cleaning The Generator..... | 17 |
| Checking The Oil Level..... | 18 |
| Changing/Adding Oil..... | 19 |
| Air Filter Maintenance..... | 19 |
| Changing Fuel Line..... | 19 |
| Spark Plug Maintenance..... | 19 |
| Emptying The Fuel Tank..... | 19 |
| STORAGE/TRANSPORT PROCEDURES..... | 20 |
| TROUBLESHOOTING..... | 21 |
| PARTS DIAGRAM..... | 23 |
| EMISSION CONTROL SYSTEM WARRANTY..... | 29 |

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 California and 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

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.

CAUTION

Usage: This generator is not intended to power sensitive electronic equipment such as TVs, DVD players, stereos, desktop computers or laptop computers without the use of an appropriate line conditioner and/or surge protector (both not included). Sensitive electronic equipment should be operated on approved inverter type generators or pure sine wave generators. For additional information consult the devices operation manual or call customer service at 1-866-460-9436 Monday - Friday, 8 AM - 4 PM Central Time.

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.

⚠ 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

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.

DANGER

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

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

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.

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.

⚠ 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.

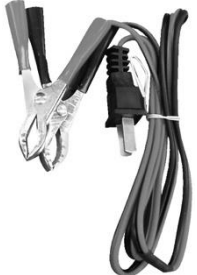
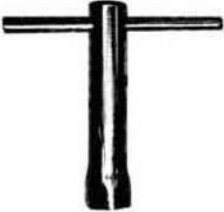
| | |
|--|---|
| | |
| NEVER use inside a home or garage. EVEN IF doors and windows are open. | Only use OUTSIDE and far away from windows, doors, and vents. |

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.

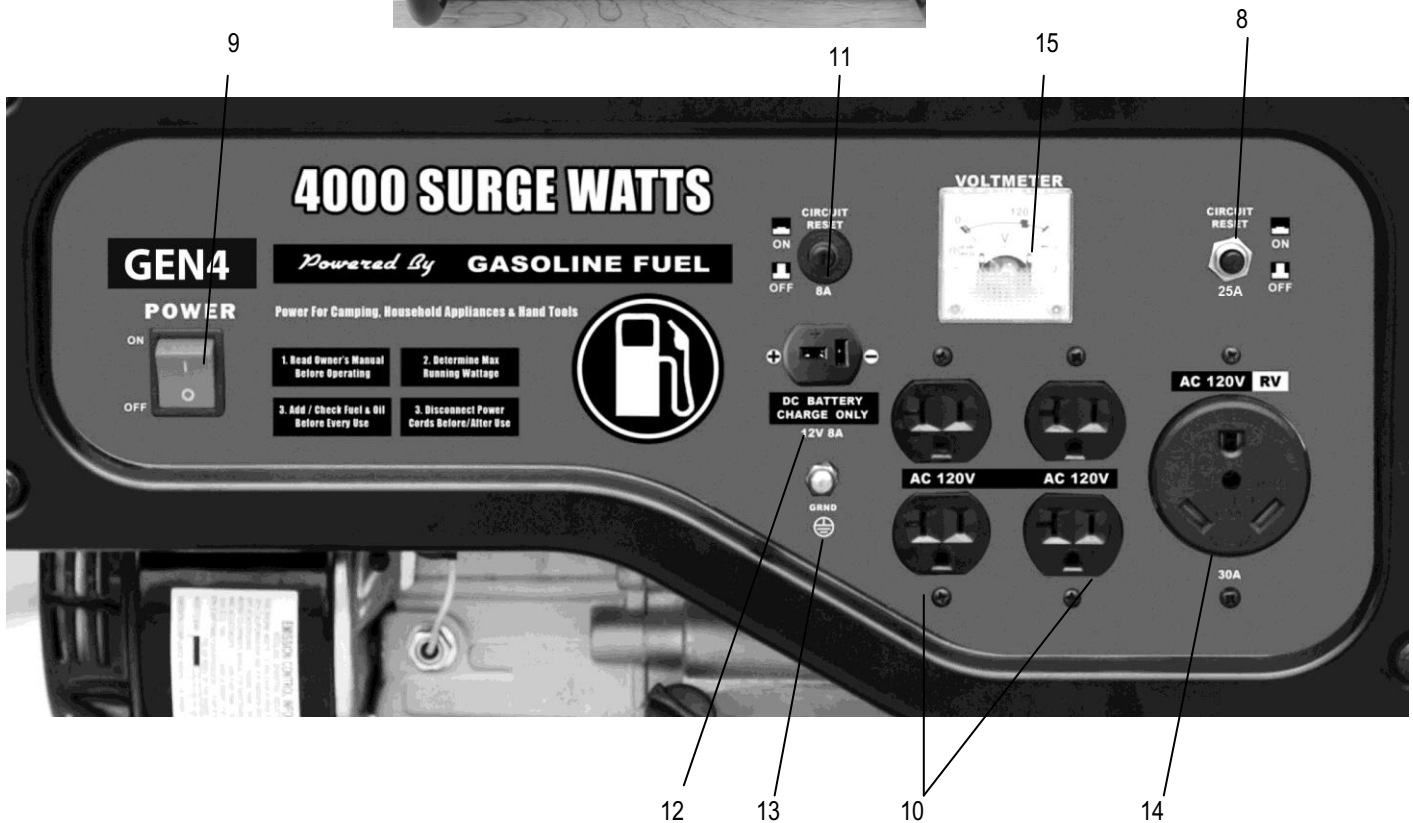
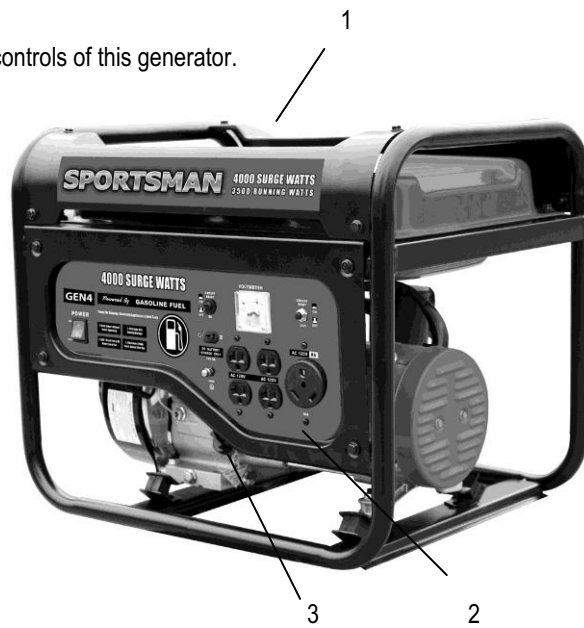
| Item List: | |
|---|---|
|  | DC connector wires for charging 12 Volt automotive-type batteries |
|  | Spark plug wrench |

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
- 5) Carburetor Choke Lever
- 6) Air Filter Cover
- 7) Recoil Starter

- 8) AC Circuit Protector
- 9) Engine Switch
- 10) 120 Volt AC Outlet
- 11) DC Circuit Protector
- 12) 12 Volt DC Outlet
- 13) Grounding Terminal
- 14) 120 Volt RV Outlet
- 15) Voltmeter



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. Unscrew the oil filler/dipstick cap from the engine as illustrated in Figure 1A below.
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 and close the oil access panel.

Figure 1 A – Unscrew the Dipstick Cap

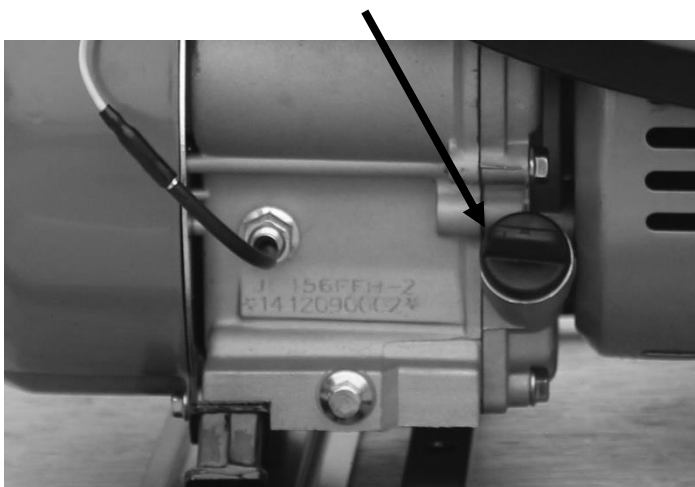


Figure 2 - Add Oil

Step 2 - Add Gasoline

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) | 3.6 |
| 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.

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

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) | 3.6 |
| 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.)
3. Turn the fuel valve to the “on” position.
4. Move the choke lever to the “Closed/Choke” position.
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 move the choke lever to the “Open/Run” position until the engine levels off. Then let the engine run approximately 5 minutes BEFORE adding appliances or tools.

Fuel Cock

The fuel cock is located between the fuel tank and carburetor. When the fuel cock is in the ON position, fuel is allowed to flow from the fuel tank to the carburetor. Be sure to return the fuel cock to the OFF position after stopping the engine.

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. Pull the rod out toward CLOSED to enrich the mixture for cold starting.

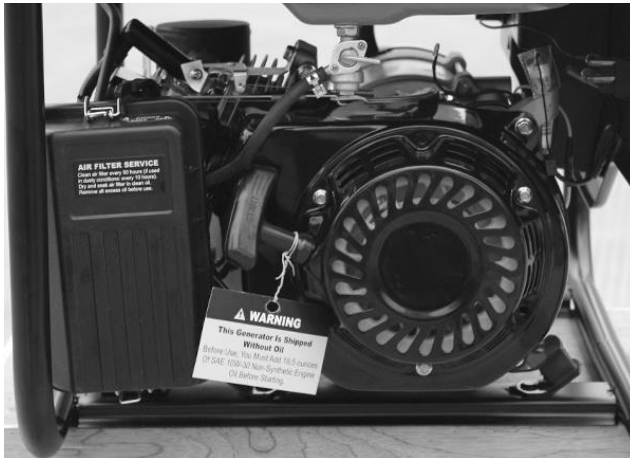


Figure 4
The Recoil Start is located on the left side of the generator.

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.

| | |
|-------------------------|------|
| Rated (Running) Wattage | 3500 |
| Surge Wattage | 4000 |

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 4000, do not attempt to draw more than 3500 Watts from the 120 Volt outlet. Draws higher than 3500 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.
4. 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.

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

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. Set the engine switch to the "OFF" position.
4. Turn the fuel valve to the "OFF" position.

⚠ 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 10 mm hex wrench. Figure 8A
3. Allow all the oil to drain from this generator.
4. Replace the oil drain plug and tighten using 10 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 8A – Use 10mm 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.

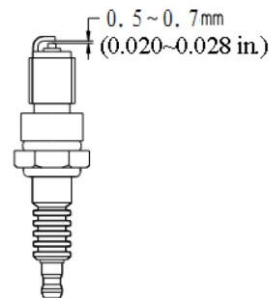
To clean the air filter, remove the foam filter element from the generator and wash it in warm water and household dish detergent. Thoroughly rinse and dry. Pour a small amount of motor oil onto the filter, ring out ALL excess oil, and reinstall the foam filter element in the generator.

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. A F7RTC spark plug, such as NGK BPR7ES 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. Place a receptacle underneath the generator to catch gasoline as it drains.
3. Unscrew the drain bolt of the carburetor.
4. Empty the fuel in the carburetor.
5. Unplug the fuel hose from the carburetor.
6. Turn the fuel valve to the "on" position. Empty the fuel in the tank.
7. Turn the fuel valve to the "off" position and replugin the fuel hose to the carburetor.
8. Tighten the drain bolt of the carburetor.
9. 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 generator with gasoline in fuel tank 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.

| 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.

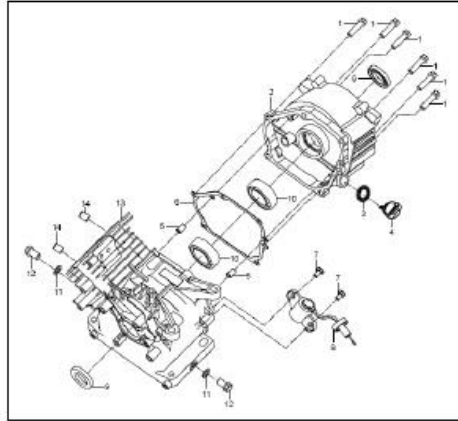
| Symptom | Cause | Solution |
|---|--|---|
| Engine will not start. | Engine switch is set to "off." | Set engine switch to "on." |
| | Fuel valve is turned to "closed." | Turn fuel valve to "open." |
| | Choke is set to "Open/Run". | Set the choke to "Closed/Choke" |
| | Engine is out of gasoline. | 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. |
| | 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>Governor screw needs adjusting.</p> | <p>Plug in voltmeter on VAC. See what the volts are. The reading should be 110 to 120. If it is too high or too low, adjust the governor screw, which is located above the pull start (on the green metal shroud). WARNING – DO NOT ADJUST THE GOVERNOR SCREW WITHOUT USING A VOLTMETER. ONLY ATTEMPT THIS IF YOU HAVE A VOLTMETER AND ARE FAMILIAR WITH USING IT. IT COULD CAUSE DAMAGE TO PERSONAL PROPERTY. Turn it clockwise to turn volts up and kick the idle up. You may have to compensate for the increased idle from the governor screw with the idle screw.</p> |
|--|--|---|

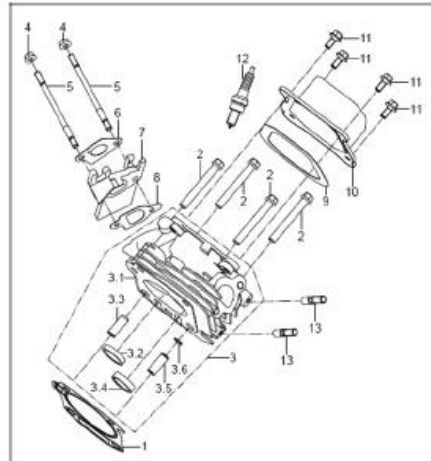
PARTS DIAGRAM

| NO. | PART NO. | DESCRIPTION | QTY |
|-----|------------------|---|-----|
| 1 | GB/T16674.1-2004 | Bolt M8x30 | 6 |
| 2 | QJ168QDJ.01-01B | Cover, Crankcase | 1 |
| 3 | JF142F.8-5 | Oil Seal, Dipstick | 1 |
| 4 | QJ168QDJ .01-04 | Dipstick | 1 |
| 5 | 157.3-8 | Guide Dowel $\phi 8 \times 14$ | 2 |
| 6 | QJ168QDJ .01-02 | Gasket, Crankcase | 1 |
| 7 | GB/T16674.1-2004 | Bolt M6x12 | 2 |
| 8 | QJ168FJH-3.01.02 | Oil level sensor components | 1 |
| 9 | QJ168QDJ.01.01 | Oil Seal $\phi 25 \times \phi 41.25 \times 6$ | 2 |
| 10 | GB/T276-94 | Bearing 6205/P53 | 2 |
| 11 | QJ166QDK.01-07 | Washer, Drain Plug | 2 |
| 12 | QJ166QDK.01-06 | Drain Plug | 2 |
| 13 | JF170FLH.01.01 | Crankcase Body | 1 |
| 14 | 157.4-6 | Guide Dowel $\phi 10 \times 14$ | 2 |



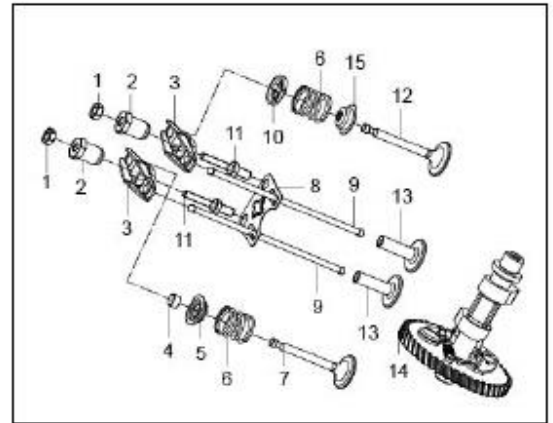
CYLINDER HEAD

| NO. | PART NO. | DESCRIPTION | QTY |
|-----|--------------------|-----------------------------|-----|
| 1 | JF170FLH.02-01 | Gasket, Cylinder Head | 1 |
| 2 | GB/T16674.1-2004 | Bolt, Cylinder Head M8x60 | 4 |
| 3 | QJ168QDL.02.01B | Cylinder Head Assembly | 1 |
| 3.1 | QJ168QDL.02.01B-01 | Cylinder Head | 1 |
| 3.2 | QJ168QDJ.02.01B-05 | Ring, Intake Valve | 1 |
| 3.3 | QJ168QDJ.02.01-06 | Canal, Intake Valve | 1 |
| 3.4 | QJ168QDJ.02.01B-02 | Ring, Exhaust Valve | 1 |
| 3.5 | QJ168QDJ.02.01-03 | Canal, Exhaust Valve | 1 |
| 3.6 | QJ168QDJ.02.01-04 | Washer, Stop | 1 |
| 4 | GB/T6177.1-2000 | Nut M6 | 2 |
| 5 | JF152FFH.02-06 | Double End Stud | 2 |
| 6 | QJ168QDJ.02-05 | Gasket, Intake 1 | 1 |
| 7 | QJ168QDJ.02-02 | Spacer, Heat Insulating | 1 |
| 8 | QJ168QDJ.02-04 | Gasket, Intake 2 | 1 |
| 9 | QJ168QDJ.02-06 | Gasket, Cylinder Head Cover | 1 |
| 10 | JF168FJH-15.02.01B | Cylinder Head Cover | 1 |
| 11 | GB/T5789-1986 | Bolt M6x14 | 4 |
| 12 | QJ1E50FMG.1.2 | Spark Plug | 1 |
| 13 | QJ168QDJ.02-07 | Double End Stud | 2 |



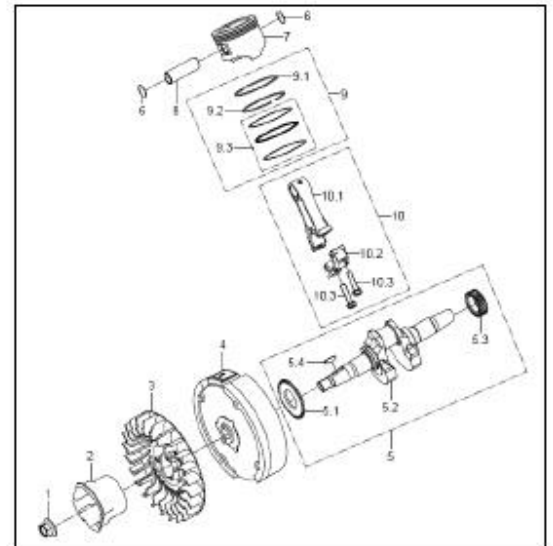
VALVE ASSEMBLY

| NO. | PART NO. | DESCRIPTION | QTY |
|-----|-----------------|--------------------------------------|-----|
| 1 | QJ166QDK.03-11 | Nut, Valve Clearance Adjustment | 2 |
| 2 | QJ182QDP.03-07 | Buttonhead, Arm | 2 |
| 3 | QJ168QDJ.03-09 | Arm | 2 |
| 4 | QJ168QDJ.03-02 | Cap, Exhaust Rod | 1 |
| 5 | QJ168QDJ.03-10 | Upper Retainer, Exhaust Valve Spring | 1 |
| 6 | QJ168QDJ.03-07 | Spring, Valve | 2 |
| 7 | QJ168QDJ.03-05B | Valve, Exhaust | 1 |
| 8 | QJ168QDJ.03.04 | Guide Plate, Connecting Stud | 1 |
| 9 | QJ168QDJ.03.02 | Rod, Connecting | 2 |
| 10 | QJ168QDJ.03-08 | Upper Retainer, Intake Valve Spring | 1 |
| 11 | QJ182QDP.03-04 | Adjusting Stud, Valve Clearance | 2 |
| 12 | QJ168QDJ.03-06B | Valve, Intake | 1 |
| 13 | QJ168QDL.03-01 | Stud, Connecting | 2 |
| 14 | JF170FLH.03.01C | Camshaft | 1 |



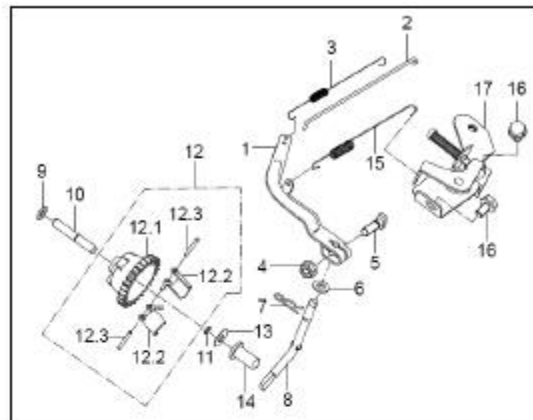
CRANKSHAFT ASSEMBLY

| NO. | PART NO. | DESCRIPTION | QTY |
|------|--------------------|-------------------------|-----|
| 1 | QJ168QDJ.04-06 | Nut, Clamp | 1 |
| 2 | QJ168QDJ.04-10 | Start-Up Ratchet Gear | 1 |
| 3 | QJ168QDJ.04-11 | Fan Wheel | 1 |
| 4 | QJ168QDJ.04.03 | Fly Wheel | 1 |
| 5 | JF170FLH.04.02 | Crankshaft | 1 |
| 5.1 | QJ168QDJ.04-09 | Drive Gear | 1 |
| 5.2 | JF170FLH.04.02-01 | Crankshaft | 1 |
| 5.3 | QJ168QDJ.04-08 | Crankshaft Timing Gear | 1 |
| 5.4 | QJ182QDP.04-03 | Key | 1 |
| 6 | QJ168QDJ.04-05 | Circlip, Piston Pin | 2 |
| 7 | JF170FLH.04-01B | Piston | 1 |
| 8 | QJ168QDJ.04-04 | Pin, Piston | 1 |
| 9 | JF170FLH.04.01B | Piston Ring Assembly | 1 |
| 9.1 | JF170FLH.04-02B | Ring, First | 1 |
| 9.2 | JF170FLH.04-03B | Ring, Second | 1 |
| 9.3 | JF170FLH.04.01.01B | Oil Ring | 1 |
| 10 | QJ168QDJ.04.02 | Connecting Rod Assembly | 1 |
| 10.1 | QJ168QDJ.04.02-01 | Connecting Rod Body | 1 |
| 10.2 | QJ168QDJ.04.02-02 | Connecting Rod Cover | 1 |
| 10.3 | QJ166QDK.05.02-03 | Connecting Rod Bolt | 2 |



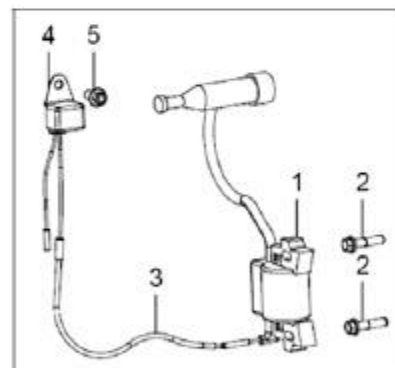
CENTRIFUGAL ADJUSTMENT (GOVERNOR)

| NO. | PART NO. | DESCRIPTION | QTY |
|------|-------------------|------------------------------|-----|
| 1 | QJ168QDJ.05-01 | Arm | 1 |
| 2 | QJ168QDJ.05-07 | Rod, Tension | 1 |
| 3 | QJ168QDJ.05-06 | Spring 2, Tension | 1 |
| 4 | GB/T6177.1-2000 | Nut | 1 |
| 5 | QJ182QDP.06-03 | Bolt, Square | 1 |
| 6 | QJ168QDJ.05-09 | Spacer 2 | 1 |
| 7 | QJ182QDP.06-02 | Hair Pin | 1 |
| 8 | QJ168QDJ.05-03 | Governor Crank | 1 |
| 9 | QJ168QDJ.05-09 | Spacer 2 | 1 |
| 10 | QJ168QDJ.05-04 | Pin | 1 |
| 11 | QJ166QDK.01-02 | Circlip | 1 |
| 12 | QJ168QDJ.05.02 | Centrifugal Timing Implement | 1 |
| 12.1 | QJ168QDJ.05.02-01 | Body, Centrifugal Governer | 1 |
| 12.2 | QJ168QDJ.05.02-03 | Pawl | 2 |
| 12.3 | QJ168QDJ.05.02-02 | Pin | 2 |
| 13 | QJ168QDJ.05-08 | Spacer 3 | 1 |
| 14 | QJ168QDJ.05-02 | Cover, Push Rod | 1 |
| 15 | QJ168QDJ-2.02-01 | Spring 1, Tension | 1 |
| 16 | GB/T5789-1986 | Bolt | 2 |
| 17 | QJ168QDJ-2.02.01 | RPM Adj Mechanism | 1 |



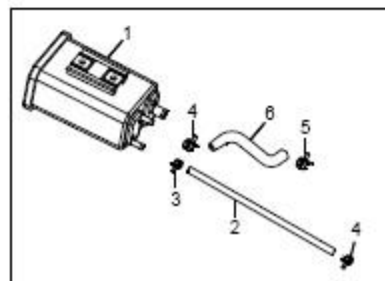
IGNITION SYSTEM

| NO. | PART NO. | DESCRIPTION | QTY |
|-----|-----------------|----------------------|-----|
| 1 | QJ168QDJ.11.03B | Ignition Coil | 1 |
| 2 | GB/T5789-1986 | Bolt M6x25 | 2 |
| 3 | QJ168QDJ.11.02 | Connecting Wire Assy | 1 |
| 4 | QJ182QDP.01.05 | Electronic Switch | 1 |
| 5 | GB/T5789-1986 | Bolt M6X10 | 1 |



CARBON CANISTER ASSEMBLY

| NO. | PART NO. | DESCRIPTION | QTY |
|-----|--------------------|----------------------|-----|
| 1 | JF168FJH-15.05.01B | Carbon Canister | 1 |
| 2 | JF170FLH-2.10-01 | Rubber Pipe 5*Φ8*530 | 1 |
| 3 | JF1P64FJV-S.14-05 | Spring Clamps Φ7 | 1 |
| 4 | JF168FJH-15.05-08 | Spring Clamps Φ8 | 2 |
| 5 | JF168FJH-15.05-09 | Spring Clamps Φ12 | 1 |
| 6 | KE3500D.01-01 | Rubber Pipe | 1 |



CARBURETOR

| NO. | PART NO. | DESCRIPTION | QTY |
|-----|-------------------|---------------------|-----|
| 1 | QJ168FLH-4.04.01 | Carburator Assembly | 1 |
| 2 | JF168FJH-15.05-08 | Clamp, Fuel Line, | 2 |
| 3 | QJ168QDJ.10.03-01 | Hose, Fuel | 1 |

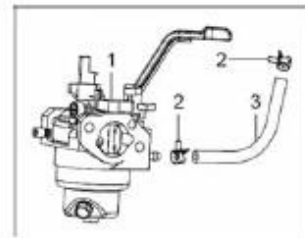
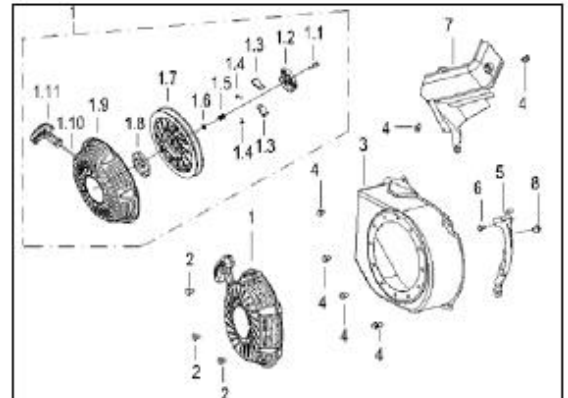


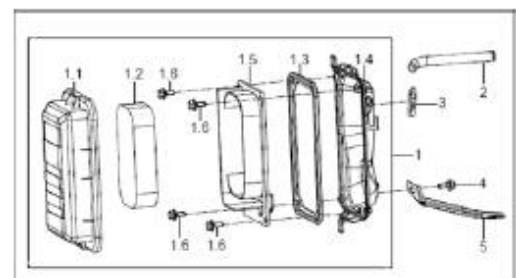
PLATE VENTILATION HOOD COMPONENTS

| NO. | PART NO. | DESCRIPTION | QTY |
|------|----------------------|-------------------------|-----|
| 1 | JF168FJH-M.06.01D | Starter Assembly | 1 |
| 1.1 | JF168FLH-M.06.01-06 | Screw | 1 |
| 1.2 | JF168FLH-M.06.01-08 | Guide Pan | 1 |
| 1.3 | JF168FLH-M.06.01-07 | Ratchet | 2 |
| 1.4 | JF168FLH-M.06.01-05 | Return Spring | 2 |
| 1.5 | JF168FLH-M.06.01-04 | Spring | 1 |
| 1.6 | JF168FLH-M.06.01-03 | Gasket | 1 |
| 1.7 | JF168FLH-M.06.01-02 | Spool | 1 |
| 1.8 | JF168FLH-M.06.01-01 | Wind Spring | 1 |
| 1.9 | JF168FLH-M.06.01.01 | Starter Cover | 1 |
| 1.10 | QJ168QDJ.06-08 | Starter Rope | 1 |
| 1.11 | JF168FJH.06.01.02C | Handle, Recoil Starter | 1 |
| 2 | GB/T5789-1986 | Bolt M6x8 | 3 |
| 3 | QJ168QDJ.06.02.02B | Engine Side Cover Assy. | 1 |
| 4 | GB/T5789-1986 | Bolt M6x10 | 6 |
| 5 | QJ168QDJ.06.02.01 | Shield 1 | 1 |
| 6 | GB/T5789-1986 | Bolt M6x20 | 1 |
| 7 | QJ168QDJ.06.02-01 | Shield 2 | 1 |
| 8 | QJ168QDJ.06.02.01-03 | Stem | 1 |



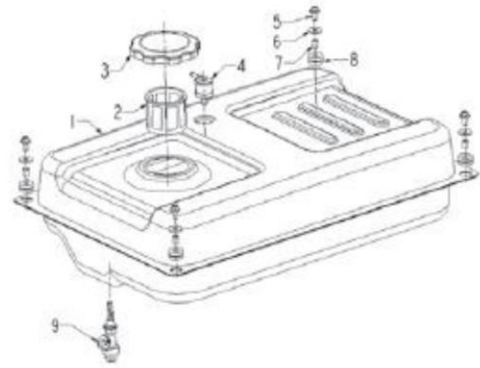
AIR CLEANER

| NO. | PART NO. | DESCRIPTION | QTY |
|-----|---------------------|---------------------|-----|
| 1 | JF168FJH-15.04B.01 | Air Filter Assembly | 1 |
| 1.1 | JF168FJH-15.04-01 | Air Filter Cover | 1 |
| 1.2 | QJ168FJH-3.05.01-02 | Air Cleaner Element | 1 |
| 1.3 | QJ168FJH-3.05.01-04 | Seal Spacer | 1 |
| 1.4 | QJ168FJH-3.05.01.01 | Air Cleaner Case | 1 |
| 1.5 | QJ168FJH-3.05.01-03 | Support Plate | 1 |
| 1.6 | GB/T9074.11 | Bolt Assembly M5x14 | 4 |
| 2 | QJ168FJH-3.05-01 | Breather Tube | 1 |
| 3 | QJ168QDJ.07.03 | Spacer | 1 |
| 4 | GB/T16674.1-2004 | Bolt M6x12 | 1 |
| 5 | QJ168FJH-3.05-02 | Air Filter Bracket | 1 |



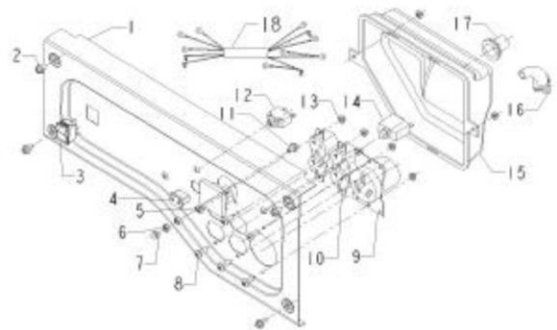
GAS TANK ASSEMBLY

| NO. | PART NO. | DESCRIPTION | QTY |
|-----|----------------|------------------------|-----|
| 1 | KE3500D.01.01A | Fuel Tank Comp | 1 |
| 2 | QJ950.13-02 | Filtering Net | 1 |
| 3 | QJ6000.01.04 | Sump Cover Subassembly | 1 |
| 4 | QJ2900.08.02A | Overflow Valve | 1 |
| 5 | GB/T5789-1986 | Bolt M6x20 | 4 |
| 6 | GB/T96-2002 | Washer φ6 | 4 |
| 7 | QJ2600.01-02 | Fuel Tank Rubber Hose | 4 |
| 8 | QJ2600.01-01 | Fuel Tank Rubber | 4 |
| 9 | QJ2600.01.02 | Fuel Petcock | 1 |



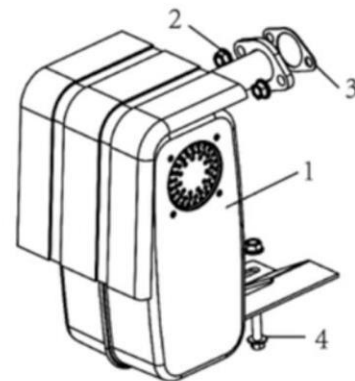
PANEL

| NO. | PART NO. | DESCRIPTION | QTY |
|-----|------------------|------------------------|-----|
| 1 | FG3000.02.01C | Panel | 1 |
| 2 | GB/T5789-1986 | Bolt M6x10 | 4 |
| 3 | QJ1200.02.04 | Engine Switch | 1 |
| 4 | GFH3000L.02.04 | V- Socket | 1 |
| 5 | QJ2600.02.05B | Voltmeter | 1 |
| 6 | GB/T6170-2000 | Nut M6 | 2 |
| 7 | GB/T923-1988 | Nut M6 | 1 |
| 8 | GB/T818-2000 | Screw M4x12 | 6 |
| 9 | KE4500E.02.03B | RV-socket | 1 |
| 10 | QJ3200.01.04 | Socket of USA Standard | 2 |
| 11 | GB/T5789-1986 | Bolt M6x16 | 1 |
| 12 | QJ6500.02.05 | DC Protector 8A | 1 |
| 13 | GB/T6177.1-2000 | Nut M4 | 8 |
| 14 | QJ2900.01.04 | AC Protector 20A | 1 |
| 15 | KE3500D.02-01 | Bottom Shell | 1 |
| 16 | QJ6000.02-02 | Jacket | 1 |
| 17 | QJ1200.02-02A | Sheath | 1 |
| 18 | FG3000NCX.02.02C | Cable | 1 |



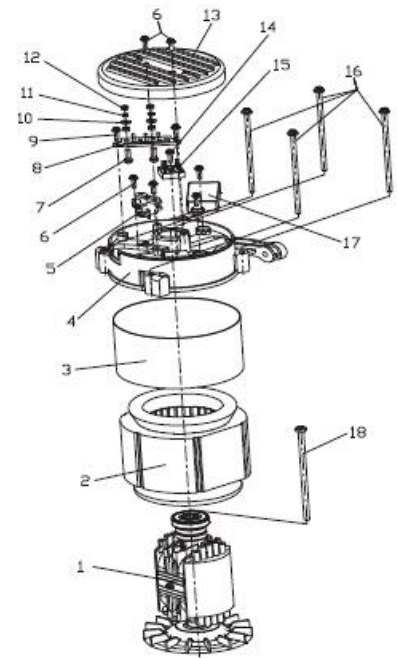
MUFFLER

| NO | PART NO. | DESCRIPTION | QTY |
|----|-----------------|----------------|-----|
| 1 | QJ3500.05.01C | Muffler(CARB) | 1 |
| 2 | GB/T6177.1-2000 | NUT M8 | 3 |
| 3 | QJ2500.05-01 | Muffler Gasket | 1 |
| 4 | GB/T5789-1986 | BOLT M8x35 | 1 |



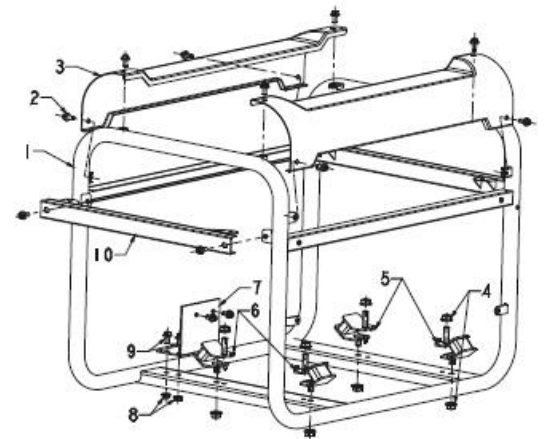
GENERATOR

| NO | PART NO | DESCRIPTION | QTY |
|----|----------------|------------------------|-----|
| 1 | QJ3200.03.02 | Rotor Assy | 1 |
| 2 | QJ3200.03.01 | Stator Assy | 1 |
| 3 | QJ3200.01-01A | Alternator Cover | 1 |
| 4 | QJ2500.03-01 | Motor Casing (End Cap) | 1 |
| 5 | QJ2300.03.03 | Brush Module | 1 |
| 6 | GB/T5789-1986 | Bolt M5x8 | 3 |
| 7 | GB/T5781-2000 | Bolt M5x20 | 2 |
| 8 | QJ6000.03-03 | Connecting Block | 1 |
| 9 | GB/T5789-1986 | Bolt M5x12 | 4 |
| 10 | GB/T6170 -2000 | Spring Washer ϕ 5 | 4 |
| 11 | GB/T93-1987 | Plate Washer ϕ 5 | 4 |
| 12 | GB/T6170 -2000 | Nut M5 | 4 |
| 13 | QJ2500.03-02 | Right Side Cover | 1 |
| 14 | GB/T5789-1986 | Bolt M5x17 | 2 |
| 15 | QJ2500.03-04 | Rectifier KB2506 | 1 |



FRAME

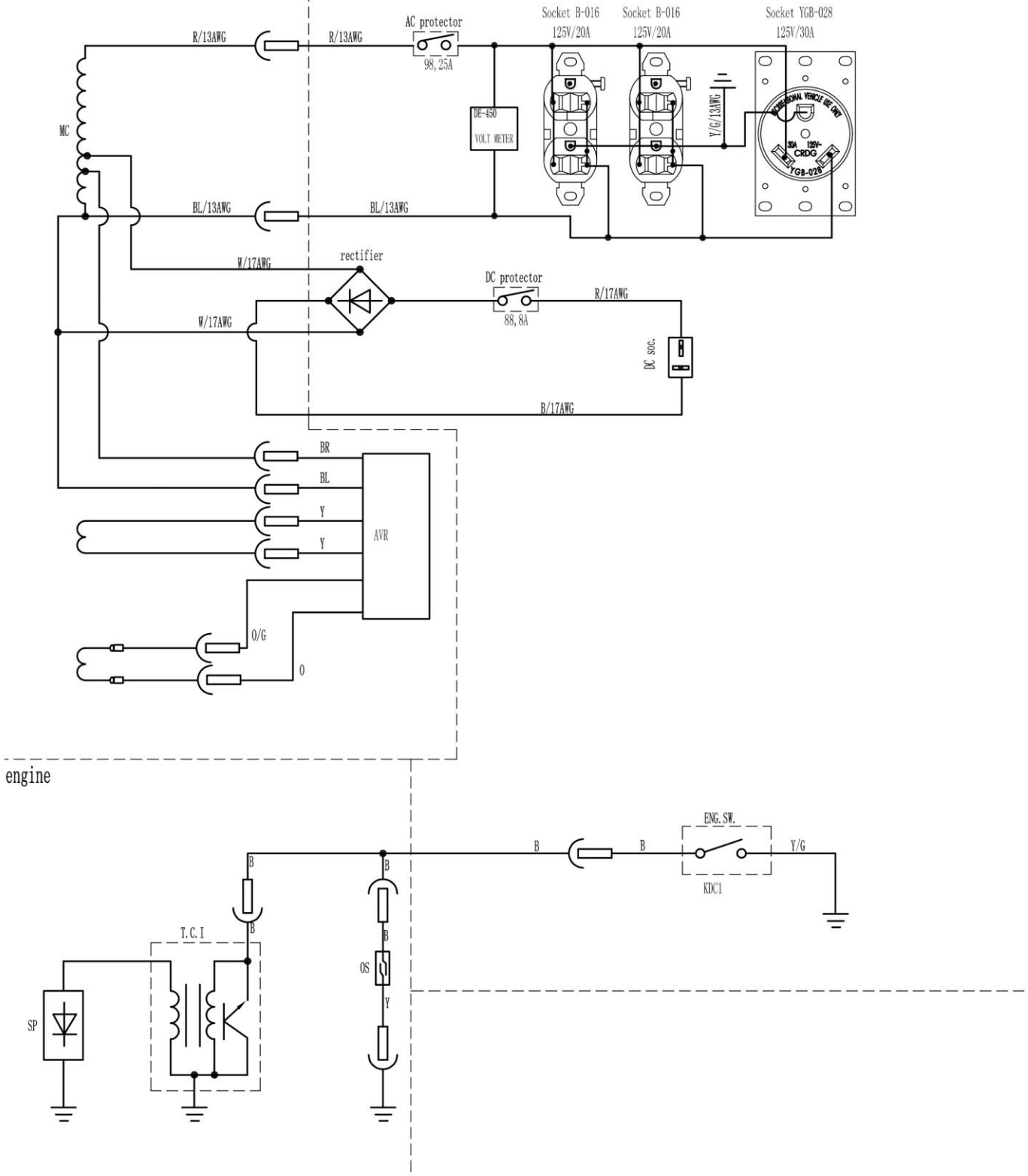
| NO. | PART NO. | DESCRIPTION | QTY |
|-----|-----------------|---------------------------------------|-----|
| 1 | KE3500D.06.01E | Frame Welding Components | 1 |
| 2 | GB/T5789-1986 | Bolt M6x10 | 12 |
| 3 | KE3500D.06-01 | Fuel Tank Protecting Plate | 2 |
| 4 | GB/T6177.1-2000 | Nut M8 | 8 |
| 5 | QJ2500.06.03 | Right Shockproof Mounting Feet | 2 |
| 6 | QJ2600.08.02 | Left & Right Shockproof Mounting Feet | 2 |
| 7 | QJ3200.04-01 | Regulator Mounting Bracket | 1 |
| 8 | GB/T6177.1-2000 | Nut M6 | 2 |
| 9 | GB/T5789-1986 | Bolt M6x12 | 2 |
| 10 | KE3500D.04.02 | Rail Welded Components | 1 |



WIRING DIAGRAM

generator

control box



EMISSION CONTROL SYSTEM WARRANTY

Buffalo Corp.

YOUR WARRANTY RIGHTS AND OBLIGATIONS

The U.S. Environmental Protection Agency (EPA), California Air Resources Board and Buffalo Corp are pleased to explain the emissions control system warranty on your (current model year) 2022 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 emission control systems.

Your emission control systems may include parts such as the carburetors or the fuel injection system, the ignition system, catalytic converters, 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 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 RESPONSIBILITIES:

- 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 a question regarding your warranty rights and responsibilities, you should contact at 1-866-460-9436 or email info@buffalotools.com.

DEFECTS WARRANTY REQUIREMENTS:

(a) The warranty period begins on the date the engine or equipment is delivered to an ultimate purchaser and extends for a period of Two Years.

(b) General Emissions Warranty Coverage.

The small off-road engine or equipment must be warranted to the ultimate purchaser and any subsequent owner the emission control system when installed was:

- (1) Designed, built, and equipped so as to conform with all applicable regulations adopted by the US EPA & California Air Resources Board,; and
 - (2) Free from defects in materials and workmanship that causes the failure of a warranted part for a period of two years.
- (c) The warranty on emissions-related parts will be interpreted as follows:
- (1) Any warranted part that is not scheduled for replacement as required maintenance in the written instructions required by subsection (e) must be warranted for the warranty period defined in Subsection (b)(2). If any such part fails during the period of warranty coverage, it must be repaired or replaced by

Buffalo Corp according to Subsection (4) below. Any such part repaired or replaced under the warranty must be warranted for a time not less than the remaining warranty period.

- (2) Any warranted part that is scheduled only for regular inspection in the written instructions required by subsection (e) must be warranted for the warranty period defined in Subsection (b)(2). A statement in such written instructions to the effect of "repair or replace as necessary" shall advise owners of the warranty coverage for evaporative emissions related parts. Replacement within the warranty period is covered by the warranty and will not reduce the period of warranty coverage. Any such part repaired or replaced under warranty must be warranted for a time not less than the remaining warranty period.
 - (3) Any warranted part that is scheduled for replacement as required maintenance in the written instructions required by subsection (e) must be warranted for the period of time prior to the first scheduled replacement point for that part. If the part fails prior to the first scheduled replacement, the part must be repaired or replaced by the engine manufacturer according to Subsection (4) below. Any such part repaired or replaced under warranty must be warranted for a time not less than 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 of this article must be performed at no charge to the owner at a warranty station.
 - (5) Notwithstanding the provisions of Subsection (4) above, warranty services or repairs must be provided at all manufacturer distribution centers that are franchised to service the subject engines.
 - (6) The 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) Throughout the emissions control system's warranty period defined in Subsection (b)(2), Buffalo Corp must maintain a supply of warranted parts sufficient to meet the expected demand for such parts and must obtain additional parts if that supply is exhausted.
 - (8) Manufacturer-approved replacement parts that do not increase the exhaust or evaporative emissions of the engine or evaporative emission control system must 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.
 - (9) The use of add-on or modified parts may be grounds for disallowing a warranty claim made in accordance with this Article. Buffalo Corp. will not be liable under this Article to warrant failures of warranted parts caused by the use of an add-on or modified part.
 - (10) Buffalo Corp shall provide any documents that describe that Buffalo Corp.'s warranty procedures or policies within five working days of request by the Executive Officer.
- (d) A list of all emission warranty parts list must be included with each new engine or equipment subject to this Article, The emission warranty parts list shall include all parts whose failure would increase exhaust and evaporative emissions, and contains the following parts

Exhaust Emission Warranty Parts List.

- (1) Fuel Metering System
 - (i) Carburetor and internal parts (and/or pressure regulator or fuel injection system).
 - (ii) Air/fuel ratio feedback and control system.
 - (iii) Cold start enrichment system.
 - (iv) Fuel Tank.
- (2) Air Induction System
 - (i) Controlled hot air intake system.
 - (ii) Intake manifold.
 - (iii) Air filter.
- (3) Ignition System
 - (i) Spark Plugs.
 - (ii) Magneto or electronic ignition system.
 - (iii) Spark advance/retard system.
- (4) Air Injection System
 - (i) Air pump or pulse valve.
 - (ii) Valves affecting distribution of flow.
 - (iii) Distribution manifold.

- (5) Catalyst or Thermal Reactor System
 - (i) Catalytic converter.
 - (ii) Thermal reactor.
 - (iii) Exhaust manifold.
- (6) Particulate Controls
 - (i) Traps, filters, precipitators, and any other device used to capture particulate emissions.
- (7) Miscellaneous Items Used in Above Systems
 - (i) Electronic controls.
 - (ii) Vacuum, temperature, and time sensitive valves and switches.
 - (iii) Hoses, belts, connectors, and assemblies.

Evaporative Emission Warranty Part List

- (1) Fuel Tank
- (2) Fuel Cap
- (3) Fuel lines (for liquid fuel and fuel vapors)
- (4) Fuel Line Fittings
- (5) Clamps*
- (6) Pressure Relief Valves*
- (7) Control Valves*
- (8) Control Solenoids*
- (9) Electronic Controls*
- (10) Vacuum Control Diaphragms*
- (11) Control Cables*
- (12) Control Linkages*
- (13) Purge Valves*
- (14) Gaskets*
- (15) Liquid/Vapor Separator
- (16) Carbon Canister
- (17) Canister Mounting Brackets
- (18) Carburetor Purge Port Connector

*Note: As they relate to the evaporative emission control system.

(e) Written instructions for the maintenance and use of the evaporative emissions control system by the owner shall be furnished with each new engine or equipment subject to this Article. The instructions must be consistent with this Article and applicable regulations contained herein.

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