Save This Manual for Future Reference

BILT HARD®





Inverter Generator

Operator's Manual

MODEL NUMBER :

TGA-0251

SERIAL NUMBER :

Both model number and serial number may be found on the main label. You should record both of them in a safe place for future use.

FOR YOUR SAFETY

READ AND UNDERSTAND THE ENTIRE MANUAL BEFORE OPERATING MACHINE

Customer Support (888) 680-2849, inquiry@bilthardusa.com

*We are always working to improve our products. Therefore, the enclosed product may differ slightly from the image on the cover.

TABLE OF CONTENTS

Introduction	1
Introduction	1
Portable Power Generator	1
This Booklet	1
Specifications	2
Manual Conventions	3
Safety Rules	4
Fuel Safety	6
Controls and Features	7
Inverter	7
Parts Included	7
Power Panel	8
Assembly	9
Remove the Generator from the Shipping Cartor	n9
Add Engine Oil	9
Add Fuel	10
Grounding	10
Operation	11
Before Starting the Generator	12
Starting the Engine	12
Connecting Electrical Devices	13
Connecting Electrical Loads	13
Do Not Overload Generator	13
Capacity	13
Power Management	13
Economy Control Switch	14
DC 12V Outlet	14
Battery charging	14
Stopping the Engine	14

Maintenance	15
Engine Maintenance	15
0il	15
Spark Plugs	15
Air Filter	16
Cleaning	16
Clean the Spark Arrestor	16
Adjustments	17
Maintenance Schedule	17
Generator Maintenance	17
Transportation and Storage	18
Transportation and Storage Transporting the Generator	18
Transportation and Storage Transporting the Generator Storing the Generator	18 18 18
Transportation and Storage Transporting the Generator Storing the Generator Product Disposal	18 18 18 18
Transportation and StorageTransporting the GeneratorStoring the GeneratorProduct DisposalTroubleshooting	18 18 18 18 18 19
Transportation and StorageTransporting the GeneratorStoring the GeneratorProduct DisposalTroubleshootingParts Diagram	18 18 18 18 19 20
Transportation and Storage.Transporting the Generator.Storing the Generator.Product Disposal.Troubleshooting.Parts Diagram.Parts List.	18 18 18 18 19 20 21
Transportation and Storage.Transporting the Generator.Storing the Generator.Product Disposal.Troubleshooting.Parts Diagram.Parts List.Engine Parts Diagram.	18 18 18 19 20 21 21

INTRODUCTION

Introduction

Congratulations on your purchase of Our inverter generator. designs and builds generators to strict specifications. With proper use and maintenance, this generator will bring years of satisfying service.

Portable Power Generator

This unit is a gasoline engine driven, alternating current (AC) generator. It is designed to supply electrical power for lighting, appliances, tools and similar equipment.

This Booklet

Every effort has been made to ensure the accuracy and completeness of the information in this manual. We reserve the right to change, alter and/or improve the product and this document at any time without prior notice.

Record the model and serial numbers as well as date and place of purchase for future reference. Have this information available when making technical or warranty inquiries.



SPECIFICATIONS

Generator	Output	120V AC, 60 Hz, 16.7 A, 1 Phase 12V DC, 8.3 A 2000 Running Watts 2500 Maximum Starting Watts		
	Receptacles	120V 20A Duplex (5-20R) 12V DC Automotive		
Displacement	•	80 cc		
Compression Ratio		9.1:1		
Engine Type		Horizontal Single Cylinder 4-stroke, OHV		
Cooling System		Forced air cooled		
Fuel	Туре	87+ octane, stabilizer-treated unleaded gasoline		
	Capacity	1.37 Gallon(5.2L)		
Engine Oil	Type SAE	10W-30		
	Capacity	13.5 fl. oz.(400ml)		
Run Time @ 25% Load with full tank		13 hr		
Sound Level at 23 feet,	75% load	65 dB		
Bore x Stroke		48.6 mm x 43 mm		
Spark Plug	Туре	EGRTC		
Sparking	Gap	0.024"-0.028"		
Valvo Cloaranco	Intake	0.004"-0.006"		
	Exhaust	0.004"-0.006"		
Engine Speed		4800 RPM		

The emissions control system for this Engine is warranted for standards set by the U.S. Environmental Protection Agency and by the California Air Resources Board (also known as CARB).For warranty information, refer to the last pages of this manual.

This manual uses the following symbols to help differentiate between different kinds of information. The safety symbol is used with a key word to alert you to potential hazards in operating and owning power equipment. Follow all safety messages to avoid or reduce the risk of serious injury or death.

\land DANGER

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

MWARNING

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

! CAUTION

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

CAUTION

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

\land WARNING

Read this manual thoroughly before operating your generator. Failure to follow instructions could result in serious injury or death.

🗥 WARNING

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

\land DANGER

Generator exhaust contains carbon monoxide, a colorless, odorless, poison gas. Breathing carbon monoxide will cause nausea, dizziness, fainting or death. If you start to feel dizzy or weak, get to fresh air immediately.

Operate generator outdoors only in a well ventilated area.

DO NOT operate the generator inside any building, including garages, basements, crawlspaces and sheds, enclosure or compartment, including the generator compartment of a recreational vehicle. DO NOT allow exhaust fumes to enter a confined area through windows, doors, vents or other openings.

DANGER CARBON MONOXIDE: using a generator indoors CAN KILL YOU IN MINUTES.

\land DANGER

Rotating parts can entangle hands, feet, hair, clothing and/or accessories.

Traumatic amputation or severe laceration can result.

Keep hands and feet away from rotating parts. Tie up long hair and remove jewelry. Operate equipment with guards in place. DO NOT wear loose-fitting clothing, dangling drawstrings or items that could become caught.

\land DANGER

Generator produces powerful voltage.

DO NOT touch bare wires or receptacles. DO NOT use electrical cords that are worn, damaged or frayed.

DO NOT operate generator in wet weather.

DO NOT allow children or unqualified persons to operate or service the generator

Use a ground fault circuit interrupter (GFCI) in damp areas and areas containing conductive material such as metal decking.

Use approved transfer equipment to isolate generator from your electric utility and Notify your utility company before connecting your generator to your power system.

🗥 WARNING

Sparks can result in fire or electrical shock.

When servicing the generator:

Disconnect the spark plug wire and place it where it cannot contact the plug.

DO NOT check for spark with the plug removed. Use only approved spark plug testers.

\land WARNING

Running engines produce heat. Severe burns can occur on contact. <u>Combustible material can catch</u> fire on contact.

DO NOT touch hot surfaces. Avoid contact with hot exhaust gases. Allow equipment to cool before touching. Maintain at least three feet of clearance on all sides to ensure adequate cooling. Maintain at least five feet of clearance from combustible materials.

\land WARNING

Medical and Life Support Uses.

In case of emergency, call 000 immediately. NEVER use this product to power life support devices or life support appliances.

NEVER use this product to power medical devices or medical appliances.

Inform your electricity provider immediately if you or anyone in your household depends on electrical euipment to live.

Inform your electrical provider immediately if a loss of power would cause you or anyone in your household to experience a medical emergency.

SAFETY RULES

\land WARNING

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

A spark arrestor may be required. The operator should contact local fire agencies for laws or regulations relating to fire prevention requirements.

🗥 WARNING

Rapid retraction of the starter cord will pull hand and arm towards the engine faster than you can let go. Unintentional startup can result in entanglement, traumatic amputation or laceration.

Broken bones, fractures, bruises or sprains could result.

When starting engine, pull the starter cord slowly until resistance is felt and then pull rapidly to avoid kickback.

DO NOT start or stop the engine with electrical devices plugged in.

! CAUTION

Exceeding the generator's running capacity can damage the generator and/or electrical devices connected to it.

DO NOT overload the generator.

Start the generator and allow the engine to stabilize before connecting electrical loads.

Connect electrical equipment in the off position, and then turn them on for operation.

Turn electrical equipment off and disconnect before stopping the generator.

DO NOT tamper with the governed speed.

DO NOT modify the generator in any way.

() CAUTION

Improper treatment or use of the generator can damage it, shorten its life and void your warranty.

Use the generator only for intended uses. Operate only on level surfaces. DO NOT expose generator to excessive moisture,

dust, or dirt.

DO NOT allow any material to block the cooling slots. If connected devices overheat, turn them off and disconnect them from the generator.

DO NOT use the generator if:

- Electrical output is lost
- Equipment sparks, smokes or emits flames
- Equipment vibrates excessively

Fuel Safety

\land DANGER

GASOLINE, GASOLINE VAPORS AND LIQUID PETROLEUM GAS (LPG) ARE HIGHLY FLAMMABLE AND EXPLOSIVE.

Fire or explosion can cause severe burns or death. Unintentional startup can result in entanglement, traumatic amputation or laceration.

Gasoline and Gasoline Vapors :

- GAS IS HIGHLY FLAMMABLE AND EXPLOSIVE.
- Gas can cause a fire or explosion if ignited.
- Gas is a liquid fuel but it's vapors can ignite.
- Gas is a skin irritant and needs to be cleaned up immediately if spilled on skin or clothes.
- Gas has a distinctive odor, this will help detect potential leaks quickly.
- In any gas fire, flames should not be extinguished unless by doing so the fuel supply valve can be turned OFF. This is because if a fire is extinguished and a supply of fuel is not turned OFF, then an explosion hazard could be created.
- Gas expands or contracts with ambient temperatures.
 Never fill the gas tank to full capacity, as gas needs room to expand if temperatures rise.

When adding or removing Gas:

Turn the generator off and let it cool for at least two minutes before removing the fuel cap. Loosen the cap slowly to relieve pressure in the tank.

Only fill or drain fuel outdoors in a well-ventilated area. DO NOT pump gas directly into the generator at the gas station. Use an approved container to transfer the fuel to the generator.

DO NOT overfill the fuel tank.

Always keep fuel away from sparks, open flames, pilot lights, heat and other sources of ignition. DO NOT light or smoke cigarettes.

When starting the generator:

DO NOT attempt to start a damaged generator.

Make certain that the gas cap, air filter, spark plug, fuel lines and exhaust system are properly in place.

Allow spilled fuel to evaporate fully before attempting to start the engine.

Make certain that the generator is resting firmly on level ground.

When operating the generator:

DO NOT move or tip the generator during operation. DO NOT tip the generator or allow fuel or oil to spill.

When transporting or servicing the generator:

Make certain that the fuel shutoff valve is in the off position and the fuel tank is empty. Disconnect the spark plug wire.

When storing the generator:

Store away from sparks, open flames, pilot lights, heat and other sources of ignition.

CONTROLS AND FEATURES

Read this owner's manual before operating your generator. Familiarize yourself with the location and function of the controls and features. Save this manual for future reference.

Inverter



- (1) Carrying Handle
- (2) Fuel Lever Vent Turn this valve to the "On" position to supply air to the tank.
- (3) Fuel Cap Remove to add fuel.

- (4) **Recoil Starter** Used to start the engine.
- (5) Maintenance Cover Oil filler, Air filter, and Carburetor access.
- (6) Muffler

Parts Included

Your Gasoline Powered Generator ships with the following parts:



Power Panel



- (1) Oil Warning Light Check oil level when this light turns on. Engine will not run when indicator is lit.
- (2) Overload Indicator Light This light turns ON when the generator is overloaded and will cut power to the receptacles.
- (3) Output Light Remains ON during normal operating conditions. Shuts OFF when generator is overloaded.
- (4) Economy Control Switch
- (5) Reset-When you've overloaded the generator, the overload light will stay on and cut off the output in 3 to 30 seconds, depending on the load. Reduce the load by turning off and disconnecting your electrical device(s) press the reset button to reset the circuit. If no power is produced after resetting, turn off and disconnect all electrical devices and restart your generator.

- (6) Fuel Valve Knob
- (7) 12V DC Outlet*
- (8) **Ground Terminal** Consult an electrician for local grounding regulations.
- (9) 120 Volt AC, 20 Amp Duplex (NEMA 5-20R) May be used to supply electrical power for the operation of 120 Volt AC, 20 Amp, single phase 60 Hz electrical loads.
- (10) Parallel Outlets-used for parallel operation
- (11) Circuit Breaker (Push-button) The 20-amp AC circuit breaker will activate when the NEMA 5-20 outlets exceed 20A.The 8-amp DC circuit breaker will activate when the DC 12V and USB outlets exceed 8A. When the circuit breaker activates, turn off and disconnect the device from its respective outlet, and press the circuit breaker to reset.

*Warning: Prolonged exposure to engine exhaust can cause serious injury or death. While charging a device do no place on the exhaust side of the generator. Extreme heat caused by exhaust can damage the device, and cause a potential fire hazard.

Remove the Generator from the Shipping Carton

- 1. Set the shipping carton on a solid, flat surface.
- 2. Remove everything from the carton except the generator.
- 3. Using the handle of the unit, carefully remove the generator from the box.

Add Engine Oil

() CAUTION

DO NOT attempt to crank or start the engine before it has been properly filled with the recommended type and amount of oil. Damage to the generator as a result of failure to follow these instructions will void your warranty.

NOTE

The recommended oil type is 10W-30 automotive oil.

- 1. Place the generator on a flat, level surface.
- 2. Turn the knob from lock to open.Then remove the maintenance cover.



3. Remove oil fill cap/dipstick to add oil.



4. Add 0.4L of oil and replace oil fill cap/dipstick.

Add Engine Oil Cont'd.





5. Check engine oil level daily and add as needed.

CAUTION

The engine is equipped with a low-oil-shutoff and will stop when the oil level in the crankcase falls below the threshold level.

NOTE

We consider the first 5 hours of run time to be the break-in period for the unit. During the break in period stay at or below 50% of the running watt rating and vary the load occasionally to allow stator windings to heat and cool. Adjusting the load will also cause engine speed to vary and help seat piston rings. After the 5 hour break-in period, change the oil.

NOTE

Synthetic oil may be used after the 5 hour initial break-in period. Using synthetic oil does not increase the recommended oil change interval.

NOTE

Weather will affect engine oil and engine performance. Change the type of engine oil used based on weather conditions to suit the engine needs.

ASSEMBLY

Add Fuel

- Use clean, fresh, regular unleaded fuel with a minimum octane rating of 87 and an ethanol content of less than 10% by volume.
- 2. DO NOT mix oil with fuel.
- 3. Clean the area around the fuel cap.
- 4. Remove the fuel cap.
- Slowly add the fuel in the tank. DO NOT fill fully. Add fuel until reach the red line.
- 6. Screw on the fuel cap and wipe away any spilled fuel.

! CAUTION

Use regular unleaded gasoline with a minimum octane rating of 87.

Do not mix oil and gasoline.

Add fuel until reach the red line.

DO NOT pump gas directly into the generator at the gas station. Use an approved container to transfer the fuel to the generator.

DO NOT fill fuel tank indoors.

DO NOT fill fuel tank when the engine is running or hot. DO NOT overfill the fuel tank.

DO NOT light cigarettes or smoke when filling the fuel tank.

🗥 WARNING

Pouring fuel too fast through the fuel screen may result in blow back of fuel at the operator while filling.

NOTE

Our engines work well with 10% or less ethanol blend fuels. When using blended fuels there are some issues worth noting:

- Ethanol-gasoline blends can absorb more water than gasoline alone.
- These blends can eventually separate, leaving water or a watery goo in the tank, fuel valve and carburetor.
- With gravity-fed fuel supplies, this compromised fuel can be drawn into the carburetor and cause damage to the engine and/or potential hazards.
- There are only a few suppliers of fuel stabilizer that are formulated to work with ethanol blend fuels.
- Any damages or hazards caused by using improper fuel, improperly stored fuel, and/ or improperly formulated stabilizers, are not covered by manufacture's warranty.

It is advisable to always shut off the fuel supply, run the engine to fuel starvation and drain the tank when the equipment is not in use for more than 30 days.

Grounding

Your generator must be properly connected to an appropriate ground to help prevent electric shock.

🗥 WARNING

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

A ground terminal connected to the frame of the generator has been provided on the power panel. For remote grounding, connect of a length of heavy gauge (12 AWG minimum) copper wire between the generator ground terminal and a copper rod driven into the ground. We strongly recommend that you consult with a qualified electrician to ensure compliance with local electrical codes.

\land DANGER

Using a generator indoors **CAN KILL YOU IN MINUTES.** Generator exhaust contains carbon monoxide (CO). This is a poison gas you cannot see or smell. If you can smell the generator exhaust, you are breathing CO. But even if you cannot smell the exhaust, you could be breathing CO.

NEVER use a generator inside homes, garages, crawl spaces, or other partially enclosed areas. Deadly levels of carbon monoxide can build up in these areas. Using a fan or opening windows and doors does NOT supply enough fresh air. ONLY use a generator outside and far away from windows, doors, and vents. These openings can pull in generator exhaust.

Even if you use a generator correctly, CO may leak into the home. **ALWAYS** use a battery-powered or batterybackup CO alarm in the home. If you start to feel sick, dizzy, or weak after the generator has been running, move to fresh air **RIGHT AWAY**. See a doctor. You may have carbon monoxide poisoning.

WARNING

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

MWARNING

Do not operate generator near open flame or flammable materials. This generator may emit highly flammable and explosive gasoline vapors, which can cause severe burns or even death if ignited. A nearby open flame can lead to explosion even if it isn't directly in contact with gasoline.Do not smoke near the generator.

MARNING

This generator produces powerful voltage, which can result in electrocution.

MARNING

Do not use in rainy or wet conditions. Do not touch bare wires or receptacles (outlets). Do not allow children or non-qualified persons to operate.

MARNING

Generator should only be connected to electrical devices, either directly or with an extension cord. NEVER connect to a building electrical system without a qualified electrician and connected to a transfer switch as a separately derived system. Such connections must comply with local electrical laws and codes.Failure to comply can create a back-feed, which may result in serious injury or death to utility workers.

To maximize safety, **ALWAYS** ground the generator before using it. See section "Grounding".

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.

! CAUTION

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

Follow the instructions on the next page to start your generator.

Before Starting the Generator

- 1. Verify that generator is outside on a dry, level surface with at least two feet of clearance on all sides.
- 2. To maximize safety, check that the generator is properly grounded.
- 3. Check there is sufficient level of oil in the crankcase. Add oil if necessary.
- 4. Make sure there is sufficient level of gasoline in the fuel tank. Add fuel if necessary.
- 5. Make sure all electrical devices are unplugged from the generator during ignition. Otherwise it will be difficult for the engine to start.

Starting the Engine

- 1. Make certain the generator is on a flat, level surface.
- Disconnect all electrical loads from the generator. Never start or stop the generator with electrical devices plugged in or turned on.
- 3. Turn the fuel cap vent lever to the "ON" position.



4. Turn the fuel valve to the "CHOCK" position.



5. Pull the starter cord slowly until resistance is felt and then pull rapidly.



6. Turn the fuel valve to the "ON" position.



NOTE

When the heat engine starts, turn the fuel valve to ON, then pull the starter cord to start.

NOTE

If the engine starts but does not stay running make certain that the generator is on a flat, level surface. The engine is equipped with a low oil sensor that will prevent the engine from running when the oil level falls below a critical threshold.

Connecting Electrical Devices

When the rated wattage requirement of each electrical device has been determined, add these numbers to find the total rated wattage needed. If this number exceeds the rated wattage of the generator, DO NOT connect all these devices. Select a combination of electrical devices with a total rated wattage lower than or equal to the rated wattage of the generator.

Connecting Electrical Loads

- 1. Let the engine stabilize and warm up for a few minutes after starting
- 2. Plug in and turn on the desired 120 Volt AC single phase, 60 Hz electrical loads.
- DO NOT connect 3-phase loads to the generator.
- DO NOT overload the generator.

NOTE

Connecting a generator to your electric utility company's power lines or to another power source may be against the law. In addition this action, if done incorrectly, could damage your generator and appliances and could cause serious injury or even death to you or a utility worker who may be working on nearby power lines. If you plan to run a portable electric generator during an outage, please notify your electric utility company immediately and remember to 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.

If the generator will be connected to a building electrical system, 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.

Do Not Overload Generator

Capacity

Follow these simple steps to calculate the running and starting watts necessary for your purposes.

- 1. Select the electrical devices you plan on running at the same time.
- 2. Total the running watts of these items. This is the amount of power you need to keep your items running.
- 3. Identify the highest starting wattage of all devices identified in step 1. Add this number to the number calculated in step 2. Surge wattage is the extra burst of power needed to start some electric driven equipment. Following the steps listed under "Power Management" to make sure start ONLY one device each time.

Power Management

Use the following formula to convert voltage and amperage to watts:

Volts x Amps = Watts

To prolong the life of your generator and attached devices, follow these steps to add electrical load:

- 1. Start the generator with no electrical load attached
- 2. Allow the engine to run for several minutes to stabilize.
- 3. Plug in and turn on the first item. It is best to attach the item with the largest load first.
- 4. Allow the engine to stabilize. Check the power indicator light (green).
- 5. Plug in and turn on the next item.
- 6. Allow the engine to stabilize. Check the power indicator light (green).
- 7. Repeat steps 5-6 for each additional item.

NOTE

Never exceed the specified capacity when adding loads to the generator.

Economy Control Switch

The Economy Control switch can be activated in order to minimize fuel consumption and noise while operating with an output less than 75% of the rated watts of the generator. Allowing the engine speed to idle during periods of non-use. The engine speed returns to normal when an electrical load is connected. When the economy switch is off, the engine runs at normal speed continuously.

MARNING

For periods of high electrical load or momentary fluctuations, the Economy Control Switch should be turned OFF.

DC 12V Outlet (For charging ONLY)

The 12V DC outlet can be used with the supplied charge cable and USB charger and other commercially available 12V DC automotive style plugs. The DC output is unregulated.Please make sure your device input voltage range among 12-24V DC. Meanwhile, the 12V DC outlet is designed for charging use ONLY. DO NOT operate your device while charging via this outlet.When using the DC outlet turn the Economy mode switch to the "OFF" position.

\land WARNING

"DO NOT operate a device while charging via the 12V DC outlet"

Prolonged exposure to engine exhaust can cause serious injury or death.

MARNING

While charging a device do not place on the exhaust side of the generator. Extreme heat caused by exhaust can damage the device, and cause a potential fire hazard.

Battery Charging

The DC receptacle should ONLY be used for charging 12V automotive type batteries. The DC charging output is not regulated. When using the DC output, turn the Economy Control Switch to the "OFF" position

! CAUTION

Do not start the vehicle while the battery charging cable is connected and the generator is running. The vehicle or the generator may be damaged.

NOTE

Be sure all electric devices including the lines and plug connections are in good condition before connection to the generator.

Stopping the Engine

- 1. Turn off and unplug all electrical loads. Never start or stop the generator with electrical devices plugged in or turned on.
- 2. Let the generator run at no-load for several minutes to stabilize internal temperatures of the engine and generator.
- 3. Turn the engine switch/fuel valve to the "OFF" position.



- 4. Allow the generator to cool down completely to room temperature.
- 5. Turn the fuel cap lever vent to the "OFF" position after the generator has cooled down completely.

! CAUTION

Unplugging running devices can cause damage to the generator. Never stop the engine with electrical devices connected and running.

MAINTENANCE

The owner/operator is responsible for all periodic maintenance.

MARNING

Never operate a damaged or defective generator.

MWARNING

Tampering with the factory set governor will void your warranty.

WARNING

Improper maintenance will void your warranty.

NOTE

Maintenance, replacement, or repair of emission control devices and systems may be performed by any non-road engine repair establishment or individual.

Complete all scheduled maintenance in a timely manner. Correct any issue before operating the generator.

Engine Maintenance

To prevent accidental starting, remove and ground spark plug wire before performing any service.

0il

Change oil when the engine is warm. Refer to the oil specification to select the proper grade of oil for your operating environment.

- 1. Loosen the cover screws and remove the maintenance cover.
- 2. Remove the oil filler cap.
- 3. Tilt the generator on its side and allow the oil to drain completely.
- 4. Add 0.4L of oil and replace oil fill cap/dipstick.
- 5. Reinstall the maintenance cover and tighten the cover screws.
- 6. Dispose of used oil at an approved waste management facility.

Oil Cont'd.



Spark Plugs



- 1. Remove the maintenance cover.
- 2. Remove the spark plug cable from the spark plug.
- Use the spark plug tool (not included) to remove the plug. Remove the spark plug access cap and insert the spark plug tool through this hole.
- 4. Remove the spark plug.
- 5. Inspect the electrode on the plug. It must be clean and not worn to produce the spark required for ignition.
- Make certain the spark plug gap is 0.6 0.7 mm (0.024 - 0.028 in.).



- 7. Carefully thread the plug into the engine.
- 8. Use the spark plug tool to firmly install the plug.
- 9. Attach the spark plug cap to the plug.
- 10. Reinstall the spark plug access cap, and maintenance cover.

Air Filter



- 1. Remove the maintenance cover.
- 2. Locate the air filter plastic cover. Remove the screw using a Phillips head screwdriver.
- 3. Remove the foam element.
- 4. Wash in liquid detergent and water. Squeeze thoroughly dry in a clean cloth.
- 5. Saturate in clean engine oil.
- 6. Squeeze in a clean, absorbent cloth to remove all excess oil.
- 7. Place the filter in the assembly.
- 8. Reattach the air filter cover.
- 9. Reinstall the maintenance cover and tighten the cover screw securely.

Cleaning

! CAUTION

DO NOT spray engine with water.

Water can contaminate the fuel system.

Use a damp cloth to clean exterior surfaces of the engine. Use a soft bristle brush to remove dirt and oil. Use an air compressor (25 PSI) to clear dirt and debris from the engine.

Clean the Spark Arrestor

- 1. Allow the engine to cool completely before servicing the spark arrestor.
- 2. Remove the 6 screws holding the cover plate on the muffler side of the generator.
- 3. Remove the clamp(C) and cap(B) which retain the spark arrestor(A) to the muffler.



- 4. Remove the spark arrestor screen.
- 5. Carefully remove the carbon deposits from the spark arrestor screen with a wire brush.



- 6. Replace the spark arrestor if it is damaged.
- 7. Position the spark arrestor on the muffler and attach by reversing the steps from above.

! CAUTION

Failure to clean the spark arrester will result in degraded engine performance.

Adjustments

The air-fuel mixture is not adjustable. Tampering with the governor can damage your generator and your electrical devices and will void your warranty.

Maintenance Schedule

Follow the service intervals indicated in the following maintenance schedule.

Service your generator more frequently when operating in adverse conditions.

	Every 8 hours or daily		
	Check oil level		
	Clean around air intake and muffler		
	First 5 Hours		
	Change oil		
	Every 50 hours or every season		
	Clean air filter		
	Change oil if operating under heavy load or in hot environments		
	Every 100 hours or every season		
	Change oil		
	Clean/Adjust spark plug		
	Check/Adjust valve clearance *		
	Clean fuel tank and filter *		
Every 3 years			
	Replace fuel line		

*To be performed by knowledgeable, experienced owners or Power Equipment certified dealers.

Generator Maintenance

Make certain that the generator is kept clean and stored properly. Only operate the unit on a flat, level surface in a clean, dry operating environment. DO NOT expose the unit to extreme conditions, excessive dust, dirt, moisture or corrosive vapors.

! CAUTION

DO NOT use a garden hose to clean the generator.

Water can enter the generator through the cooling slots and damage the generator windings.

Use a damp cloth to clean exterior surfaces of the generator. Use a soft bristle brush to remove dirt and oil.

Use an air compressor (25 PSI) to clear dirt and debris from the generator.

Generator Maintenance Cont'd.

Inspect all air vents and cooling slots to ensure that they are clean and unobstructed.

Transporting the Generator

To prevent fuel spillage when transporting, be sure to perform the following:

- 1. Tighten the fuel cap.
- 2. Flip the engine switch to the OFF position.
- 3. Drain the fuel tank if possible.
- 4. Keep the generator upright. Never place the generator on its side or upside down - doing so could damage the internal components of the generator and make it difficult to start.

WARNING

Avoid direct sunlight inside a vehicle. If the generator is left in an enclosed vehicle for many hours, the high temperature could cause the fuel to vaporize and result in a possible explosion.

Storing the Generator

Shut off the generator and allow the unit to cool to room temperature before storing it. NEVER place any type of storage cover on the generator while it is still hot. Do not obstruct any ventilation openings.

Follow the procedures below for properly storing your generator.We highly recommend running your generator once a month for 20 to 30 minutes. Plug in a small load in to ensure there is proper power output.

For Short Periods (30 to 60 Days):

- Drain the carburetor.
- Add fuel stabilizer: Follow the suggested portions and instructions of your preferred stabilizer. Run the engine for 15 to 20 minutes, allowing the fuel stabilizer to mix with the gasoline and circulate through the carburetor, and then top off with fuel. Filling the fuel tank full reduces the amount of air in the tank and helps fight deterioration of fuel.a small load in to ensure there is proper power output.

For Extended Periods (Over 60 Days):

- Drain the fuel tank and carburetor.Never store generator with fuel in the tank for more than two months.
- Change the engine oil .

MWARNING

Store the generator upright in a cool and dry location, away from sources of heat, open flames, sparks or pilot lights.

Product Disposal

Do not dispose of a used generator or parts with your household waste. This product contains electrical or electronic components that should be recycled. Please take this product to your local recycling facility for responsible disposal to minimize its environmental impact.Do not dispose of used oil or fuel in the trash or down a drain. Please contact your local recycling center or auto garage to arrange proper oil/fuel disposal.

RECYCLE

Please recycle the packaging and electronic components where facilities exist. Please contact your local auto garage or recycling facility to properly dispose of oil/fuel.

TROUBLESHOOTING

Problem	Cause	Solution	
	No fuel.	Add fuel.	
	Faulty spark plug.	Clean and adjust spark plug or replace.	
		Fill crankcase to the proper level.	
	Low oil level.	Place generator on a flat, level surface.	
	Spark plug wire loose.	Attach wire to spark plug.	
Engine will not start.	Fuel valve is closed.	Open fuel valve.	
	Fuel knob Start dial OFF.	Turn Fuel knob Start dial CHOKE.	
	Old fuel or water in fuel.	Drain fuel and replace with fresh fuel.	
	Flooded with fuel.	Let unit stand for 10 mins.	
	Choke lever in the wrong position.	Move Fuel knob Start Dial to the ON position.	
	Dirty air filter.	Clean or replace air filter.	
Engine starts but runs roughly.	Dirty fuel valve.	Clean the fuel valve.	
	Clogged spark arrestor.	Clean spark arrestor.	
	Out of fuel.	Fill fuel tank.	
Engine shuts down during operation.		Fill crankcase to the proper level. Place generator	
	Low on level.	on a flat, level surface.	
	Clogged spark arrestor.	Clean spark arrestor.	
Generator cannot supply enough power	Generator is overloaded.	Review load and adjust.	
or overheating.	Dirty air filter.	Clean or replace air filter.	
	Choke lever in the wrong position.	Move Fuel knob Start Dial to the ON position.	
	Poor cord connection.	Check all connections.	
	Circuit breaker is open.	Reset circuit breaker. Check all circuit breakers.	
Engine is running but no AC output	Loose wiring.	Inspect and tighten wiring connections.	
Lingine is running but no Ao output.	AC Overload: Button illuminated red	Reduce AC load and press Overload Reset Button	
	AC Overload. Button munimated red	until illuminated green.	
	Other.	Contact the help line.	
	Engine governor defective.	Contact the help line.	
Engine hunte er feltere	Dirty fuel valve.	Clean the fuel valve.	
	Carburetor is dirty and running lean.	Contact the help line.	
	Choke lever in the wrong position.	Move Fuel knob Start Dial to the ON position.	
	Overload.	Review load and adjust.	
Repeated circuit breaker tripping.	Faulty power cords or device.	Check for damaged, bare or frayed wires. Replace defective device.	
	Circuit breaker still too hot.	Let unit sit for 5 mins.	



PARTS LIST

#	Part Number	Description	Qty
1	62.070100.00	Fuel Tank Cap	1
2	63.070300.00	Fuel Filter, Wire Mesh	1
3	32.200902.00	Spillway, Fuel Tank	1
4	1.818.0516	Screw M5 x 16	14
5	32.071000.00	Fuel Tank,5.2L	1
6	21.070600.03	Fitting, Fuel Filter	1
7	2.06.016	Clamp, Ø8.7 x b8	2
8	32.070011.01	Pipe, Fuel	1
9	2.06.006	Clamp, Ø7ר1	2
10	YFA1900i	Engine	1
11	1.5789.0615	Flange Bolt, M6 x 15	7
12	81.200605.00	Motor Mount	4
13	1.6177.1.06	Lock Nut M6, Flange	4
14	1.6674.0616	Flange Bolt, M6 x 16	1
15	2.02.010	Cage Nut, M5	14
16	32.200700.00	Base Setting Component	1
17	2.02.037	T nut (M6×7)	8
18	32.200704.00	Mount, Base Setting	4
19	32.220001.00	Rubber blanker	1
20	32.200502.01	Anechoic sponge, Right cover support cover	1
21	1.845.2995	Screw, ST2.9 x 9.5	13
22	32.200501.00.34	Right cover support cover, blue	1
23	2.08.075.1	Bolt, M6 x 20, Black	6
24	32.200401.00.34	Right cover, blue	1
25	32.200403.00	Protector, Front Cover	1
26	32.061200.00	Guide Plate, Rope, Black	1
27	1.823.0408.1	Screw, M4 x 8, Black	2
28	32.200302.04	Anechoic sponge 1, Left cover support cover	1
29	32.200302.05	Anechoic sponge 2, Left cover support cover	1
30	32.200802.01	Anechoic sponge, The tally cover	1
31	32.200302.06	Anechoic sponge 3, Left cover support cover	1
32	32.200801.00.29	The tally cover, blue	1
33	32.200301.00.29	Left cover support cover, blue	1
34	81.200102.00	Rotundity Jacket	2
35	32.200202.01	Anechoic sponge , Left cover	1
36	1.845.4213	Screw, ST4.2 x 13	1
37	32.200204.00	Knob pressure plate	1
38	32.200201.00.34	Left cover, blue	1

#	Part Number	Description	Qty
39	32.200203.00	Knob	1
40	2.03.070	Retaining Ring, M6	4
41	32.200603.00	Rear Cover muffler sealing ring	1
42	32.200602.01	Anechoic sponge, Rear Cover	1
43	32.200601.00	Rear Cover, Black	1
44	1.818.0520	Screw M5 x 20	2
45	32.070011.02	Pipe, Fuel	1
46	1.818.0512	Screw M5 x 12	4
47	32.221000.00	Control Unit, 1.9KW, 120V/60Hz, With Wireless Parallel	1
48	32.070400.00	Fuel Valve	1
49	1.845.4213	Screw, ST4.2 x 13	3
50	32.200101.02	Front Cover,Black	1
51	1.818.0414.1	Screw M4 x 14	4
52	32.070406.02	Knob	1
53	1.818.0410.1	Screw M4 x 10	1
54	1.845.4216	Screw ST4.2 x 16	1
55	5.1800.009	Rectifier, Filter capacitor	1
56	5.1200.308	8Amp Circuit Breaker, Push Button	1
57	5.1870.014	Waterproof cap	2
58	5.1210.920	15Amp Circuit Breaker, Push Button	1
59	5.1040.004	Remote Program Button	1
60	5.1010.003.1	Switch, Economy,black	1
61	32.01.7.2	Control Panel, Black	1
62	5.1110.005	Receptacle, DC 12V	1
63	1.5783.0514.1	Bolt M5 x 14, Black	1
64	1.862.05	Lock Washer Ø6,Toothed	1
65	1.97.1.05.1	Washer Φ5, Black	1
66	1.6170.05.1	Nut M5, Black	2
67	1.818.0514.1	Screw M5 x 14	2
68	81.126000.03	Ignition Assembly	1
69	5.1870.032.1	Waterproof cap	1
70	5.1870.032.3	Waterproof cap	1
71	83.210001.01.1	Connect Port, 125V/30A, Black	1
72	83.210001.01.3	Connect Port, 125V/30A, Red	1
73	1.6177.1.04.1	Lock Nut M4, Flange, Black	2
74	5.1120.010	Receptacle 5-20R, Duplex	1
75	5.1870.031	Waterproof cap	1



ENGINE PARTS LIST

#	Part Number	Description	Qty	#	Part Number	Description	Qty
1	1.5782.06100	Flange Bolt M6 x 100	2	45	32.130001.00	Insulator, Carburetor	1
2	1.6177.1.06	Flange Lock Nut M6	8	46	81.130003.00	Gasket, Carburetor	1
3	32.101000.00	Muffler Assembly	1	47	32.130000.00	Carburetor Assembly	1
4	81.100001.00	Gasket, Exhaust Pipe	1	48	81.130004.00	Gasket, Air Cleaner	1
5	32.030007.00	Cover, Crankcase	1	49	32.090004.00	Pipe, Air Cleaner	1
6	1.5789.0608	Flange Bolt M6 x 8	1	50	81.090003.00	Joint, Breather Pipe	1
7	32.031000.00	Oil Dipstick Assembly	1	51	81.090005.00	Pressure Plate, Air Filter Tube	1
8	32.127000.00	Oil Level Sensor	1	52	81.030009.01	Gasket, Cylinder Head	1
9	1.5789.0612	Flange Bolt M6 x 12	7	53	32.010100.01	Cylinder Head	1
10	81.040100.01	Camshaft	1	54	1.5789.0655	Flange Bolt M6 x 55	4
11	32.030008.00	Gasket, Crankcase Cover	1	55	81.040013.00	Lifter, Valve	2
12	2.04.002	Dowel Pin Ø8 × 14	4	56	81.040005.00	Push Rod	2
13	32.050100.00	Crankshaft	1	57	81.040002.01	Valve, Intake	1
14	81.050200.00	Connecting Rod Assembly	1	58	83.040003.01	Spring, Valve	2
15	81.050005.02	Piston	1	59	81.040017.00	Oil Seal, Valve	1
16	81.050303.02	Ring Assembly, Oil	1	60	83.040014.01	Valve Collet	2
17	81.050302.02	Piston Ring, Second	1	61	81.040016.00	Shaft, Rocker Arm	1
18	81.050301.02	Piston Ring, First	1	62	81.040012.00	Screw, Valve Adjustm ent	2
19	81.050003.00	Wrist Pin, Piston	1	63	62.020002.00	Gasket, Cylinder Head Cover	1
20	2.09.007	Circlip Ø13.5 x Ø1	2	64	2.01.017	Stud Bolt M6 x 32	4
21	2.14.013	Woodruff Key 3 x 5 x 13	1	65	32.021100.00	Cover, Cylinder Head	1
22	1.5789.0620	Flange Bolt M6 x 20	9	66	81.020001.00	Breather Tube	1
23	32.123000.00	Ignition Coil	1	67	2.06.010	Clamp, Ø10.5 x Ø1	2
24	32.080300.00	Up Shield, Crankcase	1	68	2.15.005	Spark Plug E6RTC	1
25	32.030032.00	Sheath Wire	1	69	32.080103.00	Rubber Seal Sleeve	1
26	1.5789.0610	Flange Bolt M6 x 10	3	70	2.02.009	Nut M5 x 0.5, Lock	2
27	82.080009.00	Mustache Clip	3	71	81.040009.00	Rocker Arm, Intake Valve	2
28	2.11.031	Oil Seal Ø20 x Ø32 x 6	1	72	83.040001.01	Retainer, Valve Spring	2
29	32.030100.00	Crankcase	1	73	81.040006.00	Valve, Exhaust	1
30	32.122000.00	Trigger Assembly	1	74	2.01.027	Stud Bolt M6 x 27	2
31	32.191200.00	Stator Component	1	75	32.080600.00	Down Shield, Crankcase	1
32	1.5789.0635	Flange Bolt M6 x 35	2	76	32.030035.00	Oil Nipple	1
33	32.191100.00	Rotor Component	1	77	1.823.0306.1	Screw M3 x 6	2
34	2.02.018	Nut M12 x 1.25	1	78	32.132200.00	Stepper Motor	1
35	32.080001.00	Cooling Fan, Rotor	1	79	1.9074.1.0408	Screw M4 x 8	2
36	32.060001.00	Pulley, Starter	1	80	81.132100.00	Stepper Motor Base	1
37	1.5789.0615	Flange Bolt M6 x 15	6	81	1.9074.4.0512	Screw M5 x 12	2
38	32.080100.00	Fan Cover	1	82	32.130005.00	Support, Stepper Motor	1
39	32.061000.00	Recoil Assembly	1	83	81.130010.00	Spring, Connecter	1
40	32.091003.00	Element, Air Cleaner	1	84	81.130008.00	Connecter, Choke Valve Axis	1
41	32.091200.00	Cover, Air Cleaner	1	85	32.131000.00	Carburetor	1
42	2.08.053	Bolt M6 x 20	1	86	1.276.6204	Bearing 6204	1
43	2.01.049	Stud Bolt M6 x 99	2	87	2.02.037	Cage Nut M6 x 7	2
44	32.130002.00	Gasket, Insulator	1				

23

CALIFORNIA AND FEDERAL EXHAUST AND EVAPORATIVE EMISSIONS CONTROLWARRANTYSTATEMENT

YOUR WARRANTY RIGHTS AND OBLIGATIONS

The California Air Resources Board, the United States Environmental Protection Agency and DU DU GROUP (DU DU) are pleased to explain the exhaust and evaporative emissions ("emissions") control system warranty on your 2023 model year small off-road engine/equipment. In the United States and California, new equipment that use small off-road engines must be designed, built, and equipped to meet the State's stringent anti-smog standards.DU DU must warrant the emissions control system on your small off-road engine/equipment for the periods of time listed below provided there has been no abuse, neglect or improper maintenance of your small offroad 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, DU DU will repair your small off-road engine/equipment 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/equipment is warranted for two years. If any emissions-related part on your small off-road engine/equipment is defective, the part will be repaired or replaced by DU DU.

OWNER'S WARRANTY RESPONSIBILITIES:

- As the small off-road engine/equipment owner, you are responsible for the performance of the required maintenance listed in your owner's manual. DU DU recommends that you retain all receipts covering maintenance on your small off-road engine/equipment, but DU DU 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/equipment owner, you should however be aware that DU DU may deny you warranty coverage if your small off-road engine/equipment 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/equipment to a DU DU 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 DU DU GROUP at (888)680-2849 or inquiry@bilthardusa.com.

DEFECTS WARRANTY REQUIREMENTS:

(a) The warranty period begins on the date the engine/equipment is delivered to an ultimate purchaser.

(b) General Emissions Warranty Coverage. DU DU warrants to the ultimate purchaser and each subsequent owner that the engine/equipment is:

(1) Designed, built, and equipped so as to conform with all applicable regulations adopted by the Environmental Protection Agency and California Air Resources Board.

(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 emission-related parts will be interpreted as follows:

(1) Any warranted part that is not scheduled for replacement as required maintenance in the written instructions 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 DU DU according to Subsection (4) below. Any such part repaired or replaced under the warranty must be warranted for the remaining warranty period.

(2) Any warranted part that is scheduled only for regular inspection in the written instructions 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 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 the remaining warranty period.

(3) Any warranted part that is scheduled for replacement as required maintenance in the written instructions 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 DU DU according to Subsection (4) below. Any such part repaired or replaced under warranty must be warranted for the remainder of the period prior to the first scheduled replacement point for the first scheduled replacement point.

(4) Repair or replacement of any warranted part under the warranty provisions 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 distribution centers that are franchised to service the subject engine/equipment.

(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) DU DU is liable for damages to other engine/equipment components proximately caused by a failure under warranty of any warranted part.

(8) Throughout the emissions control system's warranty period set out in subsection (b)(2), DU DU 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.

(9) Manufacturer-approved replacement parts that do not increase the exhaust or evaporative emissions of the engine or emissions 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 DU DU.

(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 will be grounds for disallowing a warranty claim. DU DU will not be liable to warrant failures of warranted parts caused by the use of a non-exempted add-on or modified part.

(11) DU DU issuing the warranty shall provide any documents that describe that warranty procedures or policies within five working days of request by the Executive Officer.

(d) Emission Warranty Parts List for Exhaust

- (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.
- (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) Exhaust Gas Recirculation (EGR) System
 - (i) EGR valve body, and carburetor spacer if applicable.
 - (ii) EGR rate feedback and control system.
- (5) Air Injection System
 - (i) Air pump or pulse valve.
 - (ii) Valves affecting distribution of flow.
 - (iii) Distribution manifold.
- (6) Catalyst or Thermal Reactor System
 - (i) Catalytic converter.
 - (ii) Thermal reactor.
 - (iii) Exhaust manifold.
- (7) Particulate Controls

(i) Traps, filters, precipitators, and any other device used to capture particulate emissions.

- (8) Miscellaneous Items Used in Above Systems
 - (i) Electronic controls.
 - (ii) Vacuum, temperature, and time sensitive valves and switches.
 - (iii) Hoses, belts, connectors, and assemblies.
- (e) Emission Warranty Parts List for Evap

- (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. DU DU will furnish with each new engine/equipment written instructions for the maintenance and use of the engine/equipment by the owner.

