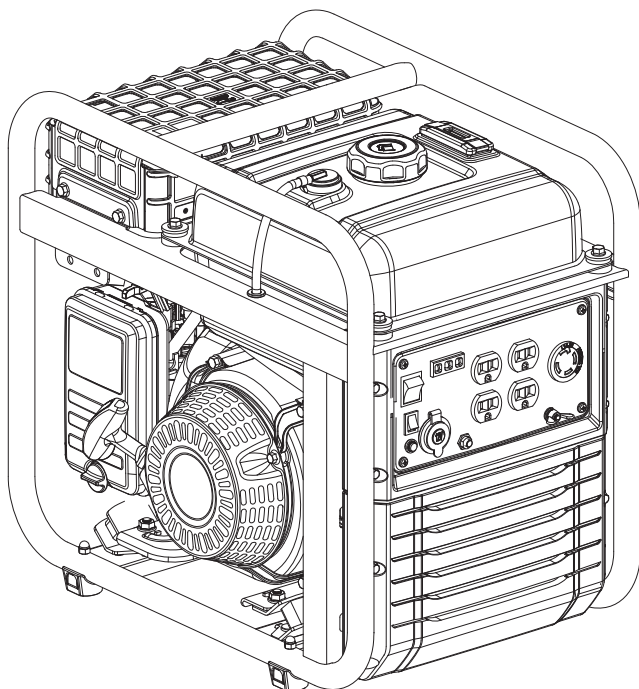


# LawnMaster®



## OPEN FRAME INVERTER GENERATORS

### SAFETY AND OPERATING MANUAL

PLEASE READ THIS MANUAL CAREFULLY BEFORE OPERATING THE UNIT

**BPB4000(E) / BPB4500(E) / BPB5000(E)**



A STEELFORT PRODUCT



PROUDLY  
NZ OWNED



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# I. OPERATOR SAFETY

## SAFETY RULES

This manual contains important safety information and instructions to operate the LawnMaster Inverter Generator.

### PLEASE READ THIS MANUAL CAREFULLY BEFORE USING THE UNIT.

Failure to adhere to the safety instructions could result in property damage and/or serious personal injury.

This manual should be considered a permanent part of the generator and should remain with the unit at all times. All information in this publication is based on the latest product information available at the time of printing.

Product Information and specifications can be altered and/or improved without notice. Content from this publication may not be reproduced without written consent.

## DANGER

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

## WARNING

Indicates a hazardous situation which, if not strictly complied with, may result in property damage

## CAUTION

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

The warnings and precautions discussed in this manual does not cover all possible conditions and or scenarios that may occur.

It must be understood by the operator that common sense and caution must be taken into consideration when operating this product, as these are factors which cannot be built into this manual.

## WARNING

This generator is intended for domestic consumer use only. Damage and faults created from commercial use may void warranty. These generators are designed for full time operation. No personal modifications should be made to any part of the unit.

## DANGER

### TOXIC FUMES

- The exhaust of the engine contains carbon monoxide, an odorless, colorless poison gas. Using the engine in confined/indoor spaces can be extremely dangerous and life threatening.
- DO NOT use the generator inside and or in enclosed spaces EVEN IF doors and windows are open. Only use the engine in well ventilated areas and consider wind and airflow when positioning the engine.

### KICKBACK

- Rapid retraction of the starter cord will pull hand and arm towards the engine faster than you can let go. Unintentional startup can result in serious injury.

### FIRE

- When operating the unit, the engine may create sparks that could trigger fires.
- When operating around dry vegetation such as agricultural crops, forest, bush, grass, or other similar environments please be careful.
- This engine may not be equipped with a spark arresting muffler. In some countries and regions, a spark arrester is required by law. Please contact your local council and or fire agency for laws and regulations relating to fire prevention requirements.
- Petrol is highly flammable and explosive. A fire and or explosion from petrol can cause severe burns or result in serious personal injury including death.
- Keep flammable items away while handling petrol. Fill fuel tank outdoors and in a well ventilated area with the engine stopped.
- Always wipe spilled fuel and wait until the fuel has dried before starting the engine.
- DO NOT operate the engine with known leaks in the fuel system. Use proper fuel storage and handling procedures.
- DO NOT store fuel or other flammable materials near the generator.

- Empty the fuel tank before storing or transporting the generator. Keep fire extinguisher handy at all times.

### **BATTERY**

- Lithium battery is maintenance free, if you have any question, please contact a local authorised dealer.

### **HOT SURFACE**

- Running the generator will produce heat and severe burns may occur upon contact. DO NOT touch the engine while under operation or just after stopping the unit.
- Avoid contact with hot exhaust gases and or hot surfaces.
- Maintain at least 1m of clearance on all sides to ensure adequate cooling. Combustible material can catch fire upon contact. Maintain at least 3m of clearance from combustible materials.

### **MOVING PARTS**

- Moving parts can cause severe injury. Keep hands and feet away from the unit.
- DO NOT operate engine with covers, shrouds, or guards removed.
- DO NOT wear loose-fitted clothing, dangling drawstrings or items that could become caught or entangled.
- Tie up long hair and remove jewelry. The moving parts may catch operator's hand, feet, hair and or loose clothing resulting in serious injury.

### **GENERAL WARNINGS**

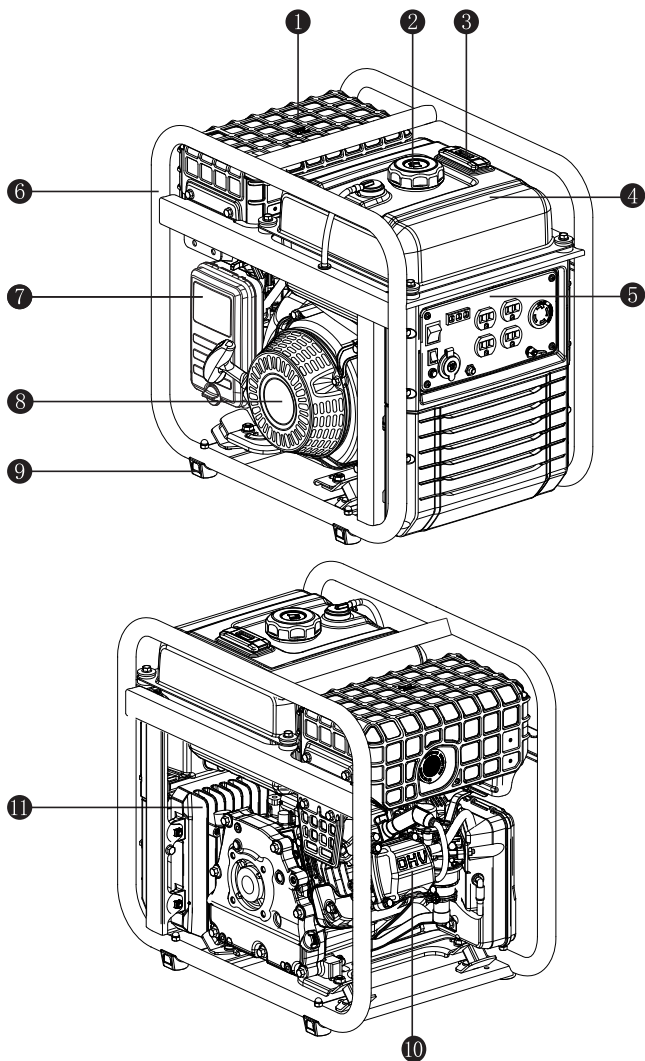
- Before use, check for loose or damaged parts, signs of oil or fuel leaks, and any other condition that may impact operation.
- Repair or replace all damaged and or defective parts immediately.
- Locate all operating controls and safety labels.
- Make sure all the safety instructions are in correct working condition.
- Operate only on level surfaces.
- DO NOT expose the generator to excessive moisture, dust, and or dirt.
- Keep all safety guards in place and in proper working order at all times.
- DO NOT allow any material to block the cooling slots.
- DO NOT allow children or untrained people to operate the unit.

- DO NOT leave the generator unattended when it is in operation. Always turn off the generator prior to leaving the area.

### **ELECTRIC SHOCK**

- The generator produces powerful voltage and the electricity and can be dangerous and cause serious life threatening injuries if an electric shock is received.
- Please ensure that the unit is properly connected to an appropriate ground to help prevent electric shocks.
- Failure to properly ground the unit can result in electrocution, especially if the generator is equipped with a wheel kit. Consult an electrician for local grounding requirements.
- Installation should be performed by a certified electrician. Improper Installation could result in serious injury.
- To reduce the risk of electric shocks. DO NOT use electrical cords that are worn, frayed, bare or otherwise damaged.
- DO NOT touch bare wires or receptacles.
- DO NOT operate the unit in wet weather.
- Keep the generator dry and DO NOT handle generator or electrical cords while standing in water, while barefoot, or while hands or feet are wet.
- Keep children or pets away.
- DO NOT plug the unit into a building electrical system without the proper use and installation of a transfer switch installed by a qualified electrician.
- When using the generator for backup power, notify your utility company.
- Use approved transfers to isolate generator from electric utility.
- Failure to isolate the unit from the power utility could result in serious injury to the staff and utility workers due to back-feed of electrical energy.

## II. FEATURES & CONTROLS



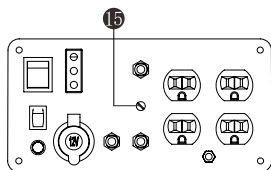
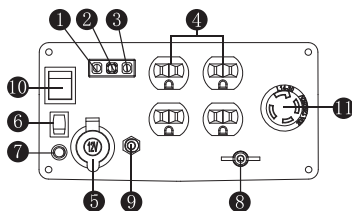
- 1. Muffler
- 2. Fuel Cap
- 3. Fuel Level Indicator
- 4. Fuel Tank

- 5. Control Panel
- 6. Frame
- 7. Air Filter Housing
- 8. Starter

- 9. Support Foot
- 10. Valve Cover
- 11. Inverter

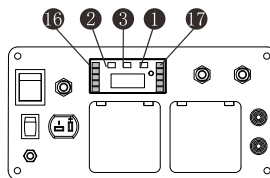
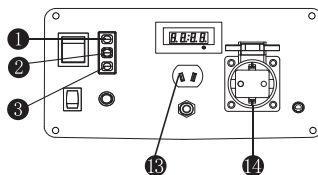
## CONTROL PANEL

BPB4500/BPB5000 recoil start



Dual-frequency  
manual start

BPB4000E  
Electric start

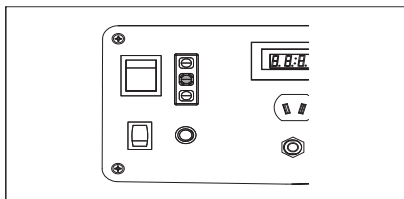
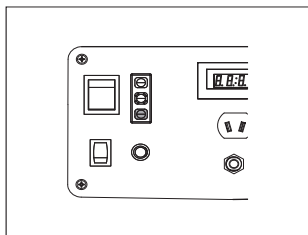


Multi-function display  
(if equipped)

- |                         |   |  |
|-------------------------|---|--|
| 1. Oil Alarm Indicator  | 7. Reset Button                         | 13. V-Type DC Output                   |
| 2. Overload Indicator   | 8. Ground Terminal                      | 14. Euro Receptacle                    |
| 3. Running Indicator    | 9. Overcurrent Protector                | 15. Frequency Transfer Switch          |
| 4. AC Output Receptacle | 10. Engine Switch                       | 16. Load Indicator                     |
| 5. 12V DC               | 11. American Type Quadruplex Receptacle | 17. Fuel Level Indicator (If Equipped) |
| 6. Energy Saving Switch | 12. Vft                                 |  |

### RUNNING INDICATOR (GREEN)

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



### OVERLOAD INDICATOR (RED)

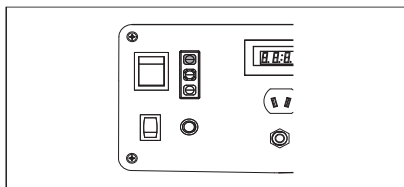
When the overload indicator is on, it indicates that the generator is overloaded and it may cause overheating of the frequency converter, or increase in AC voltage followed by the AC protector works. It will stop the output of the generator to protect the electrical components and the generator itself. During this time, if the running indicator (green) is off and the overload indicator (red) is on, the engine may continue to operate in a running state.

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

1. Lower the total power of the connected electric devices to the rated output range of the generator.
2. Check the air intake for impurities and check the controls for abnormal behaviour. Handle immediately if necessary.
3. Press the reset button.

### OIL ALARM LAMP (YELLOW)

When the oil level drops below the lower limit, the oil protection system will stop the engine automatically and oil alarm lamp will blink located next to the recoil starter. The engine will not run until the oil has been filled to the proper level.



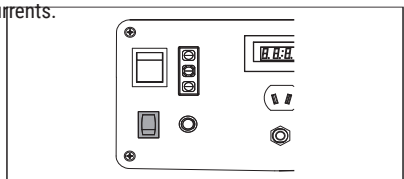
**Note:** If engine cuts out during operation and the oil alarm lamp lights up, it indicates that there is a lack of oil. Please add oil to the correct level before attempting to restart the engine. Ensure the engine switch is in the "ON" position and then pull the recoil starter/ or the starter button for electric start.

### ENERGY-SAVING SWITCH

When the energy-saving switch is in "ON" position, the energy saving features control the engine rotation speed according to the connected loads. During this process there will be good fuel consumption and low noise.

When the energy-saving switch is in "OFF" position, the engine will always run in rated rotation speed regardless of connection loads (See the parameter table for details).

**Note:** Please set the energy-saving switch to "OFF" position when connecting to air compressors, sinking pump etc. as these equipment require large starting currents.



## III. OPERATION

### 1. OPERATING CHECKLIST

#### OPERATING LOCATION

Only use this generator OUTSIDE and in well ventilated areas.

Only operate the generator on a flat, level surface and in a clean, dry operating environments. Only use the generator for applications within its operating scope. If you have any question regarding applicable scope, please speak to your nearest Service Agent.

In some locations and regions, the generator may require additional provisions and or regulations for operation, please consult with your nearest Service Agent.

#### DANGER

#### TOXIC FUMES

The exhaust of the generator contains carbon monoxide, using the engine indoors may cause serious personal injury including death. DO NOT use the generator inside any buildings or within enclosed spaces EVEN IF doors and windows are open. Place the generator in a well-ventilated and clean area. Note the wind direction and airflow when placing the generator.

#### HIGH ALTITUDE

This generator may require a high altitude carburetor kit to ensure correct operation at high altitudes. Consult with your local authorised dealer for high altitude kit information if you intend to operate the generator at altitudes above 5,000 feet (1,500 meters).

#### CAUTION

- Even with carburetor modification, generator horsepower will decrease by 3.5% for every 1,000 feet (300 meters) increase in altitude. The effect of altitude on horsepower will be greater than this if no carburetor modification is made.
- Operating the engine at altitudes below 5,000 feet (1,500 meters) with a modified carburetor may cause the generator to overheat and result in serious engine damage. Please restore factory specifications of the carburetor with your service dealer when using the engine in low altitude areas.

## 2. OPERATING CONDITION

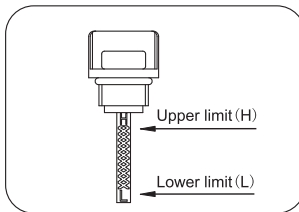
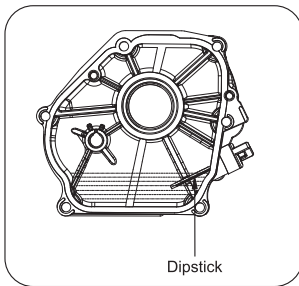
Check for loose or damaged parts, signs of oil or fuel leaks, and any other condition that may affect proper operation. Repair and or replace with genuine spart parts immediately.

### WARNING

- Failure to correct problem(s) before operation may result in property damage and or serious personal injury.
- Remove excessive dirt or debris, especially around the muffler and recoil starter.
- DO NOT move or tip the generator during operation.

## 3. ENGINE OIL

- Place the engine on a level surface with the engine stopped.
- Remove the dipstick and wipe it clean.
- Reinstall dipstick into tube; rest on oil fill neck, DO NOT thread cap into tube.



- Remove the dipstick again and check oil level. Level should be within the upper limit and lower limit range on dipstick.
- Fill to the upper limit (marked with "H") of the dipstick with the recommended oil if the oil level is low.
- Reinstall and fully tighten the dipstick.
- Refer to add oil instruction in MAINTENANCE section for more information.

Oil capacity (rated):

See parameters.

### WARNING

- Oil is a major factor affecting performance and service life.
- We recommend using LawnMaster 4-Stroke 10W30 Oil (PP01020005). You can find more information about this in the MAINTENANCE section of this manual.
- **OIL MUST BE PLACED IN ENGINE BEFORE STARTING.** This engine is not filled with oil at the factory. Any attempt to crank or start the engine before it has been properly filled with the recommended type and amount of oil may result in engine damage and void your warranty.

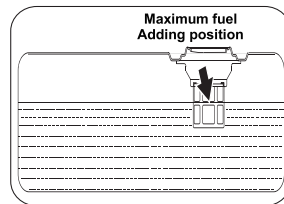
### CAUTION

Operate generator only on level surfaces. The engine is equipped with a low oil sensors (if applicable) that will automatically stop the engine when the oil level falls below safe threshold. To avoid the inconvenient unexpected shutdowns, fill to the upper limit and check oil levels regularly.

## 4. ENGINE FUEL

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

- Use clean, fresh, regular unleaded petrol.
- DO NOT mix oil with petrol.
- Always wipe up any spilled fuel.
- Be sure not to fill above the upper limit mark
- Always allow room for fuel expansion.



- DO NOT use engine and or carburetor cleaning products in the fuel tank as this could result in permanent damage.
- It is important to prevent gum deposits from forming in essential fuel system components, such as the carburetor, fuel filter, fuel hose or tank during longterm storage. Also, experience indicates that alcohol-blended fuels (gasohol, ethanol or methanol) can attract moisture, which could lead to separation and formation of acids during longterm storage.

- Acidic fuels can damage the fuel system while in storage. Be sure to review the instructions in the "Storage" section.
- Petrol/Alcohol Blends: up to 10% alcohol, 90% unleaded petrol by volume is approved as a fuel. Other forms of petrol/alcohol blends are not approved.
- Damage and faults caused by old, stale or contaminated fuel may void warranty.

#### **DANGER**

- Do not fill the fuel tank above the upper limit. Over filling will result in engine damage and may void warranty.
- Petrol is highly flammable and extremely explosive. Keep flammable items away while handling petrol as this could result in a fire.
- Fill fuel tank outdoors and well-ventilated areas with the generator stopped.
- Always wipe off spilled fuel and wait until the fuel has dried before starting the generator.

#### **CAUTION**

- To minimise gum deposits in your fuel system and to insure easy starting, do not use petrol that is left over from the previous seasons.
- Pressure can build up in the fuel tank. Allow the generator to cool for atleast two minutes before removing fuel cap. Loosen the fuel cap slowly to relieve any pressure in the tank.

### **5. ELECTRICAL DEVICES**

- Disconnect all electrical devices from the generator and switch off the AC circuit breaker before starting the engine.
- The generator may be hard to start with electrical devices.
- The connected electrical equipment must not exceed the maximum limit of the generator. Please refer to the specification table for details.

### **6. GROUNDING**

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

#### **DANGER**

#### **ELECTRICAL SHOCK**

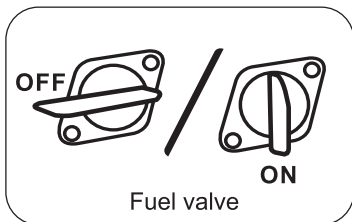
Failure to properly ground the generator could result in electric shocks.

A ground terminal on the frame of the generator has been provided and can be found on the end of the generator. For remote grounding, connect a (4 mm<sup>2</sup>) length of heavy gauge copper wire between the generator ground terminal and the copper rod driven into the ground.

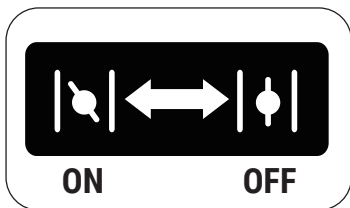
The National Electrical Code requires that the frame and external electrically conductive parts of this generator be properly connected to an approved earth ground. Local electrical codes may also require proper grounding of the unit. We strongly recommend that you consult with a qualified electrician for grounding requirements in your area.

## IV. STARTING THE GENERATOR

1. Perform operating checklist.
2. Turn Fuel valve to the "ON" position.



3. Pull the choke valve switch to "ON" position.



When in cold engine status, turn the choke valve to "ON" position, or turn it to "half-open" position when in hot engine status. If the engine fails to start after two attempts, fully open the choke then operate the switch or recoil.

### CAUTION

Choke plate should be setting in different width due to temperature and other factors.

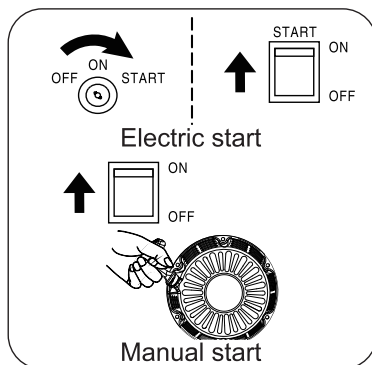
### 4. Starting Functions.

#### Electric Start

Turn and keep the key to "START" position till the engine is started. After the engine is started, release the key to return to "RUN" position

#### Manual Start

Turn the switch to "RUN" position. and then seize the starter handle and slow pulling until there is a sense of resistance, then quickly pull to start. If the starter fails to start the engine, immediately turn "OFF" the starter. Do not attempt to restart the engine until the failure cause is identified. Do not restart the engine by replacement of other storage batteries without authorisation.



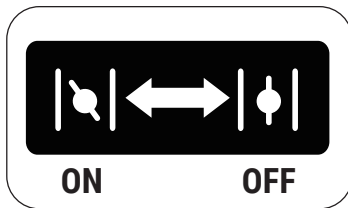
### DANGER

Beware of KICKBACK. Rapid retraction of the starter cord will pull hand and arm towards the engine faster than you can let go. Unintentional startup may result in serious personal injury.

### IMPORTANT

- If the engine fails to start after 3 attempts or flames out after starting, inspect and ensure that the generator is placed on a flat horizontal surface and that enough engine oil is at correct level.
- During starting, do not keep the starting switch at "start" position for more than 5 seconds, otherwise this may cause possible damage to the starter motor. If the unit fails to start after the first attempt, restart only after 10seconds has passed.
- During the operation of the unit, the storage battery supplies power to the solenoid valve of the carburettor. For this, when the unit is turned off, make sure that the starting switch is in "OFF" position, otherwise the storage battery voltage is reduced due to the operating solenoid valve of the carburettor, impacting on starting for next time.
- If the engine is equipped with an engine oil alarm, it is possible that low oil will prevent the engine from starting as it maybe lower than the minimum level.
- During running-in, routinely inspect the engine oil. See maintenance section for recommended maintenance period.

5. When starting, slowly turn choke lever to "OFF" position as temperature rises. If engine runs unstable (with shakes), shift the lever to "half-open" position until the engine runs in a stable manner before resting the lever in "OFF" position.



### WARNING

During the engine warm up, a partly open choke is necessary until the temperature reaches a certain level.

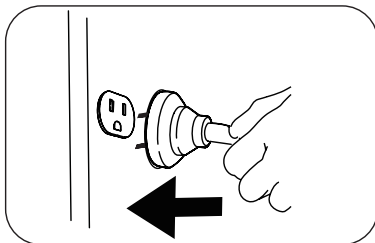
6. The generator may be normally loaded.

### WARNING

Connect the output terminal of the generator with the electric equipment. Do not start or stop the engine when the electric equipment is in "ON" status.

## V. CONNECT TO ELECTRICAL DEVICES

Inspect power cord for damage before using. A hazard is electrical shocks from crushing, cutting or heat damage.



1. Allow the engine to stabilise and warm up for a few minutes after starting.
2. Make sure the electrical devices are in "OFF" position and the load current is not higher than the maximum withstanding current of the single socket.

## DANGER

### ELECTRICAL SHOCK

- To reduce the risk of electrical shock, DO NOT use electrical cords that are worn, frayed, bare or otherwise damaged.
- DO NOT touch bare wires or receptacles.
- DO NOT handle generator or electrical cords while standing in water, while barefoot, or while hands or feet are wet.

### CAUTION

If the current of single load is higher than the maximum withstanding current of single socket, please connect the load with the terminal.

### 3. BEARING CAPACITY

You must make sure your generator can supply enough rated (running) and surge (starting) watts for the electrical devices you plan to power at the same time. Follow these simple steps to calculate the running and starting watts that are necessary for your purposes.

### WARNING

- DO NOT overload the generator.
- Exceeding the generator's capacity can damage the generator and/or electrical devices connected to it. Faults and damaged caused by overloading may void warranty.

1. Select the electrical devices you will power at the same time.
2. The amount of power you need to run all the devices is the total rated (running) watts of these items.
3. Identify how many surge (starting) watts you will need. Surge wattage is the short burst of power needed to start electric power tools and or appliances. Because not all motors start at the same time, total surge watts can be estimated by adding only the electrical device(s) with the highest additional surge watts to the total rated watts from step 2.

# WATTAGE REFERENCE CHART

Electric equipment		Rate power(W)	Starting power(W)
Appliances	Tablet computer27"	80	100
	Energy saving lamp	5-50	5-50
	Electric cooker	1000	1000
	Computer	250	250
	Electric fan	50	100
	Washing machine	250	500
	Refrigerator	50	300
	Air-conditioner	1600	3200
Electric tooling	Electric hammer	1000	1500
	Impact Hammer	3000	6000
	Water pump	2200	5000
	Electric welding machine	5000	7500
	Air compressor	5000	10000

## WARNING

You must isolate the generator from electric utility by opening the electrical system's main circuit breaker or main switch if the generator is being used for backup power. Failure to isolate the generator from the power utility may result in serious personal injury to staff and workers at the utility station and due to backfeed of electrical energy, this could also result in damage to the unit.

# VI. LITHIUM-ION BATTERY

The lithium battery on the generator is strictly prohibited from being used for other purposes. If the generator is malfunctioning due to the battery, please contact your nearest Service Dealer or a qualified professional for service.

## CHARGING

When there is no current in the lithium battery, start the generator with recoil. The lithium battery is in a state of charge while the generator is running.

## TEMPERATURE

Ambient temperature: -10 to 60 °C

Operation temperature: 0 to 40°C

## MAINTENANCE

Disconnect the battery if you do not intend to use the unit for a long time to prevent battery leakage. Regularly check that the battery post is clean and the connection is secure.

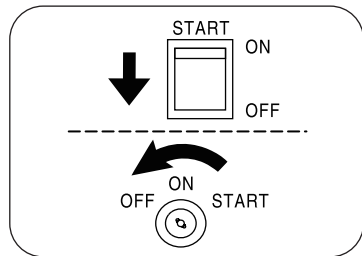
When storing, please charge over time if the voltage is lower than 12.8V.

## WARNING

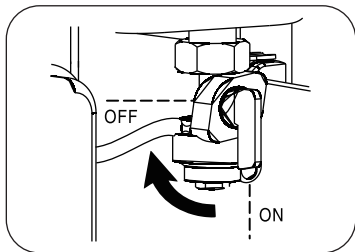
- Smoking, open flames, sparks or any other source of heat around lithium battery is dangerous. Wear protective goggles, rubber aprons and rubber gloves when working around a lithium battery.
- The lithium battery has highly corrosive electrolytes that can cause severe corrosive burns. If leakage occurs, wash the area with clean water immediately.

# VII. STOPPING THE ENGINE

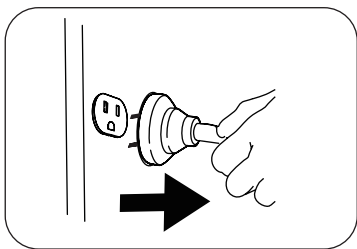
- Remove all the load on generator.
- Allow the generator run at no load for a few minutes to stabilize internal temperatures of the engine and generator.
- Turn off the flameout switch (turn the engine switch to "OFF" position).



4. Turn the fuel valve to "OFF" position



5. Remove the plug of all electric equipment from the generator panel.



#### **WARNING**

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

## **VIII. PARALLEL OPERATION**

Only applicable to some models.

Make sure that the generator is in a good running state before connecting it to other similar generator units. The total power of electric devices should not exceed rated power of the generator.

When the electric motor starts, the overload indicator (red) will light up and will normally stop within 4 seconds. If it cannot stop, please consult your Service Dealer.

During parallel operation, energy-saving switches of generator should be in the same position.

1. Connecting one generator to other generator set(s) in parallel. Use the parallel kit to make the parallel connection (the parallel kit needs to be purchased separately).

2. Start the engine in proper order and make sure that the running indicator (green) is normal.
3. Connect the plug of electric devices to the AC receptacle of parallel kit.
4. Run the electrical devices.

#### **WARNING**

- Beware of the overload indicator (red), this will blink continuously if the generator is being overloaded.
- Continuous overloading will damage the generator and shorten the service life of the unit. When running the generator for long periods of time, ensure the power does not exceed the rated power of the unit.
- The total power from all electric devices cannot exceed the rated power of the generator. Most manufacturers of electric devices, appliances and or tools list their rated power, please refer to the product manual or find details from similar models and or serial numbers.

## **IX. MAINTENANCE**

It is the operator's responsibility to complete all scheduled maintenance and or servicing in a timely manner. Always correct any issues before operating the generator. Follow all inspection and maintenance recommendations that are listed in the manual.

#### **WARNING**

Improper maintenance and or failure to correct problems prior to operating the unit may cause the unit to malfunction and result in property damage and or serious personal injury. Improper maintenance and servicing may void warranty.

#### **DANGER**

Accidental starts can cause serious personal injury. Remove and ground the spark plug wire before performing any service.

#### **CAUTION**

The filter element may contain PAHs, PAHs that is harmful for your health. Please wear gloves for protection during air filter maintenance.

## 1. MAINTENANCE SCHEDULE

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

Follow the service intervals indicated in the chart below. Service your generator more frequently when operating in adverse conditions. Contact your local Service Dealer if the generator requires maintenance.

		Each time before use	10 hours or the first month <sup>Note2</sup>	50 hours or every three months <sup>Note2</sup>	100 hours or every six months <sup>Note2</sup>	300 hours or every year <sup>Note2</sup>
Engine oil	Inspection	√				
	Replacement		√		√	
Air filter	Inspection	√				
	Cleaning			√ <sup>Note3</sup>		
Spark plug	Inspection and adjustment				√	
	Replacement					√
Spark Arrester <sup>Note1</sup>	Cleaning				√	
Idle speed	Inspection and adjustment					√ <sup>Note4</sup>
Valve clearance	Inspection and adjustment					√ <sup>Note4</sup>
Low permeability oil tube <sup>Note1</sup>	Inspection	Every two years <sup>Note4</sup>				
Oil tube	Inspection	Every two years <sup>Note4</sup>				

Note 1: Applicable types (if available).

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

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

Note 4: To be performed by knowledgeable and or experienced owners. However, we recommend using an authorised service agent to conduct all maintenance and servicing need for the purpose of voiding issues with warranty.

## 2. GENERATOR MAINTENANCE

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

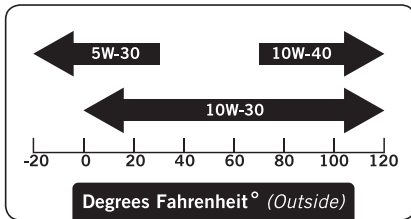
### WARNING

- DO NOT use water to clean the generator. Water can enter the generator through the cooling slots and damage the generator windings.
- DO NOT modify the generator in any way.
- DO NOT tamper with governed speed. Generator supplies correct rated frequency and voltage when running at factory set.
- Tampering with the factory reset governor will void your warranty

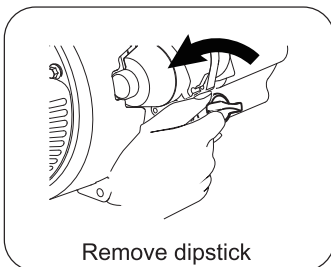
## 3. ENGINE MAINTENANCE

### 3.1 ENGINE OIL

LawnMaster 10W30 Oil (PP01020005) is recommended. Other viscosities shown in the chart may be used when the average temperature in your area is within the indicated range. **OIL MUST BE PLACED IN ENGINE BEFORE STARTING.**

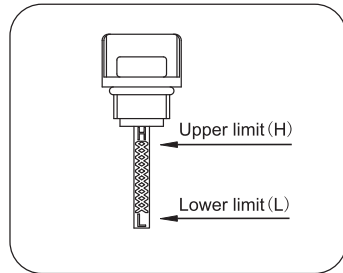


Ambient temperature  
Oil capacity (rated):  
See Parameters.



## 3.2 ADDING OIL

1. Place the engine on a level surface.
2. Remove the dipstick and wipe it clean.
3. Add recommended oil to the upper limit.



### CAUTION

#### OIL LEVEL CHECK

Reinstall dipstick into tube; rest on oil fill neck, DO NOT thread cap into tube.

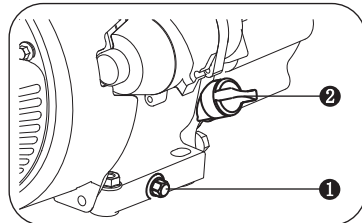
4. Fully tighten the dipstick.
5. Dispose of used oil at an approved waste management facility.

## 3.3 CHANGING OIL

### CAUTION

Change the oil when in hot engine state. The oil can reach up to 140 °C under that condition. Careful operation should be taken to prevent burns.

1. Place the engine on a level surface.
2. Clean area around dipstick and drain plug.
3. Remove the oil drain plug and allow the oil to drain completely.



- 1 Oil drain plug 2 Dipstick
4. Tightening the drain bolts.
5. Remove oil dipstick.

6. Add recommended oil to the upper limit (see add oil instruction above).
7. Reinstall and fully tighten the dipstick.
8. Dispose of used oil at an approved waste management facility.

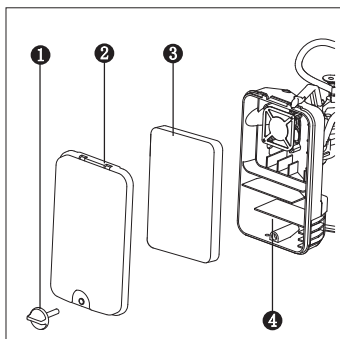
### WARNING

The engine is not filled with oil at the factory.

**PLEASE FILL WITH OIL BEFORE STARTING.** Any operation before it has been properly filled with the recommended type and amount of oil may result in engine damage and void your warranty.

### AIR FILTER

1. Loosen the filter fix bolt and remove the cover of the air filter.



- 1 Filter fix bolt
- 2 Air filter cover
- 3 Foam filter element
- 4 Air filter body

2. Remove the foam filter element.
3. Wash in liquid detergent and warm water
4. 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. Fasten the air filter cover with the fix bolt, and the mounting it back to the air filter body.

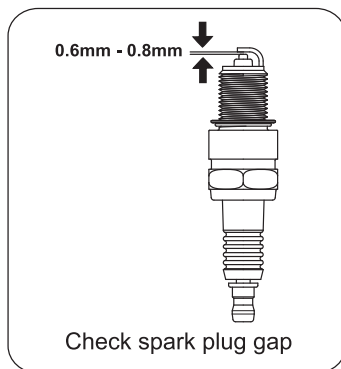
### WARNING

DO NOT run the engine without the air filter as this is dangerous can result in personal injury and or damage.

### SPARK PLUG

1. Clean any dirt from the spark plug cap and spark plug base.
2. Remove the spark plug cap.
3. Using socket wrench to loose and remove the spark plug.
4. Inspect the spark plug and spark plug washer, if it's damaged or worn, replace with new one. Clean the spark plug with wire brush if reuse it.
5. Check spark plug gap. Carefully bend side electrode to adjust the gap if necessary.

### SPARK PLUG GAP: 0.6MM - 0.8MM



6. Carefully thread the plug into the engine by hand.
7. After the spark plug is in position, use spark plug wrench to tighten the plug.

### SPARK PLUG TIGHTEN TORQUE: 15-20 N.M

8. Attach the spark plug wire to the plug.

### WARNING

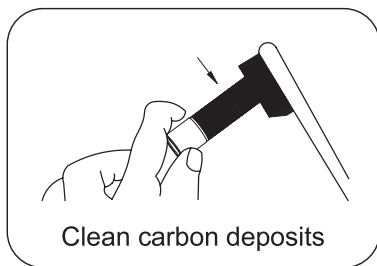
Only use the recommended spark plug or equivalent. DO NOT use spark plugs that have improper heat range.

### MAINTAIN SPARK ARRESTER

APPLICABLE TO SOME MODELS.

1. Allow the engine to cool completely before servicing the spark arrester.
2. Remove the two bolts holding the cover plate which retains the end of the spark arrester to the muffler.
3. Remove the spark arrester screen.
4. Carefully remove the carbon deposits from the

spark arrester screen with a wire brush.



5. Replace the spark arrester if it is damaged.
6. Reinstall the spark arrester in the muffler and attach with the two screws.

### **SPEED**

The speed has been pre-set during manufacturing and should not require readjustment. Consult your local Service Dealer and or a professional to enquire about this.

### **WARNING**

Unapproved adjustments to the unit may damage your engine and or electrical devices that are plugged into the generator. Any famage and or faults from unapproved adjustments will void warranty.

### **ADJUSTMENT**

- There are no other service and/or adjustment needs for your generator.
- Unapproved adjustments or tampering can damage the generator and the electrical devices that may be plugged into the unit
- Contact your local service dealer for further information.

### **WARNING**

Tampering with the factory set governor will damage the generator and void warranty.

## **X. STORAGE & TRANSPORT**

### **STORAGE**

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

### **DANGER**

#### **FIRE OR EXPLOSION**

Petrol is highly flammable and extremely explosive. Empty the fuel tank and shut off the fuel valve before storing and or transporting the generator.

1. Allow the generator to cool completely before putting it away for storage.
2. Clean the generator according to the instructions in the Maintenance section.
3. Drain all fuel completely from the fuel hose and carburetor to prevent gum deposits from forming.
4. Turn off the fuel supply at the fuel valve.
5. Change the oil.
6. Remove the spark plug and pour 15 ml of oil into the cylinder. Crank the engine slowly to distribute the oil and lubricate the cylinder.
7. Reattach the spark plug.
8. Store the unit in a clean, dry area out of direct sunlight.

### **TRANSPORTATION**

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

### **WARNING**

#### **WHEN TRANSPORTING:**

- Do not overfill the tank.
- Do not operate the generator while it is on or inside any vehicle. Take the generator out off the vehicle and use it in a well-ventilated area.
- Avoid placing the unit in exposed direct sunlight, especially inside vehicles. If the generator is left in an enclosed vehicle for many hours, high temperatures could cause fuel to vaporise resulting in a possible explosion.
- Do not drive on rough roads for extended periods with the unit on board. If you must transport the unit through rough roads, drain the fuel beforehand.

# XI. TROUBLESHOOTING

Failure	Cause	Removal method
Engine won't start.	Engine switch is "OFF".	Turn engine switch to the "ON" position.
	No Fuel.	Fill tank per instructions in this manual.
	Inadequate engine oil.	Check oil level. This engine is equipped with a low oil sensor. The engine cannot be started unless the oil level is above the prescribed lower limit.
	No ignition.	<p>Remove the spark plug cap. Clean any dirt from around the plug base, then remove the spark plug. Install the spark plug in the plug cap. Turn the engine switch "ON". Grounding the electrode to any engine ground, pull the recoil starter to see if sparks jump across the gap. If there is no spark, replace the plug.</p> <p>Reinstall the plug and start engine according to instructions in this manual.</p> <p>Consult Customer Service if necessary.</p>
Generator has no output.	Overload protection	Disconnect the load and push the reset button.
	Inadequate cord sets or extension cords.	<p>Check cord sets or extension cords capabilities in section Controls; Cable Size in this manual.</p> <p>Consult Customer Service if necessary.</p>

# XII. SPECIFICATIONS & WIRING DIAGRAMS

## 1. SPECIFICATION (SINGLE PHASE)

Feature \ Model		BPB4000(E)		BPB4500(E)		BPB5000(E)	
Engine parameter	Engine model	GB225		GB270B(E)-2		GB270B(E) -2	
	Style	OHV, forced cooling, four stroke, single cylinder					
	Displacement (cm <sup>3</sup> )	224		272		272	
	Ignition system	TCI		TCI		TCI	
	Start style	recoil start or electric starting					
	Oil capacity(L)	0.6		1.0		1.0	
Series parameter	Voltage(V)	230/240	110/220/120(120/240)	230	110/220/120(120/240)	230	110/220/120(120/240)
	Frequency(Hz)	50	60	50	60	50	60
	Rated power(kW)	3.5	3.5	4.2	4.2	4.5	4.5
	Maximum power(kW)	3.8	3.8	4.6	4.6	4.8	4.8
	Power factor	1.0		1.0		1.0	
	Insulation rate	F		F		F	
	Fuel capacity(L)	9.6		9.6		9.6	
	operating temperature(℃)	-5-40		-5-40		-5-40	
	Max. site altitude of installation(m)	1500		1500		1500	
	Measured sound pressure level(dB(A))	≤74		≤74		≤74	
	Measurement uncertainty(dB(A))	≤1.5		≤1.5		≤1.5	
	Guaranteed sound power level(dB(A))	≤97		≤97		≤97	
	Net weight(kg)	BPB4000: 33 BPB4000E: 34		BPB4500: 38 BPB4500E: 39		BPB5000: 38 BPB5000E: 39	

The air-fuel ratio will be more rich in higher altitude areas, which will led to lower performance of engine, and higher consumption of fuel. The output of the generator should be measured according to the real operation condition such as temperature, pressure and humidity etc.

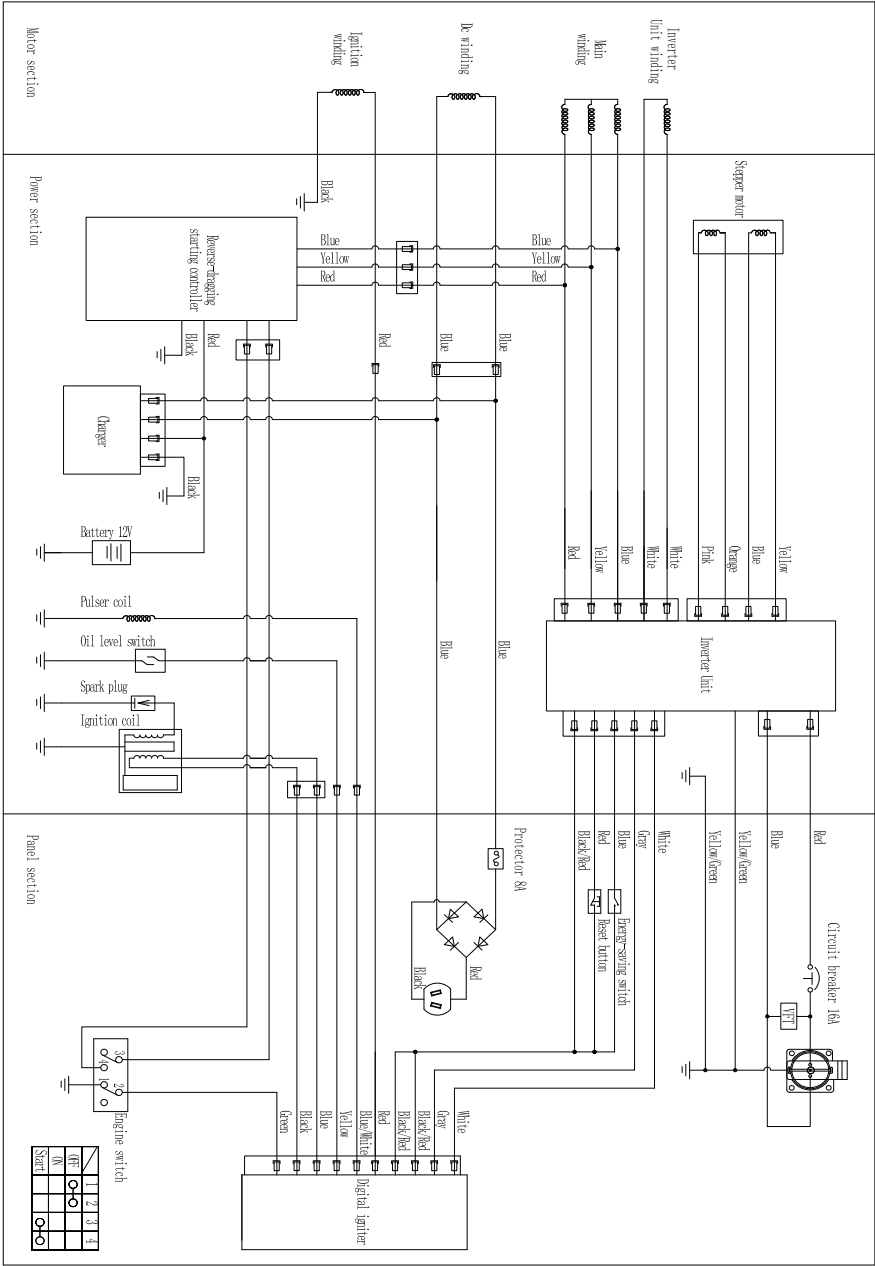
Notes: Generator with different specifications and configurations may have different parameters.  
Specifications for LawnMaster generators may change at any time without notice. Please consult your local Service Dealer for detailed information.

## BPB4000 RECOIL START

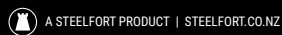


## 2. WIRING DIAGRAMS

### BPB4000 ELECTRIC START

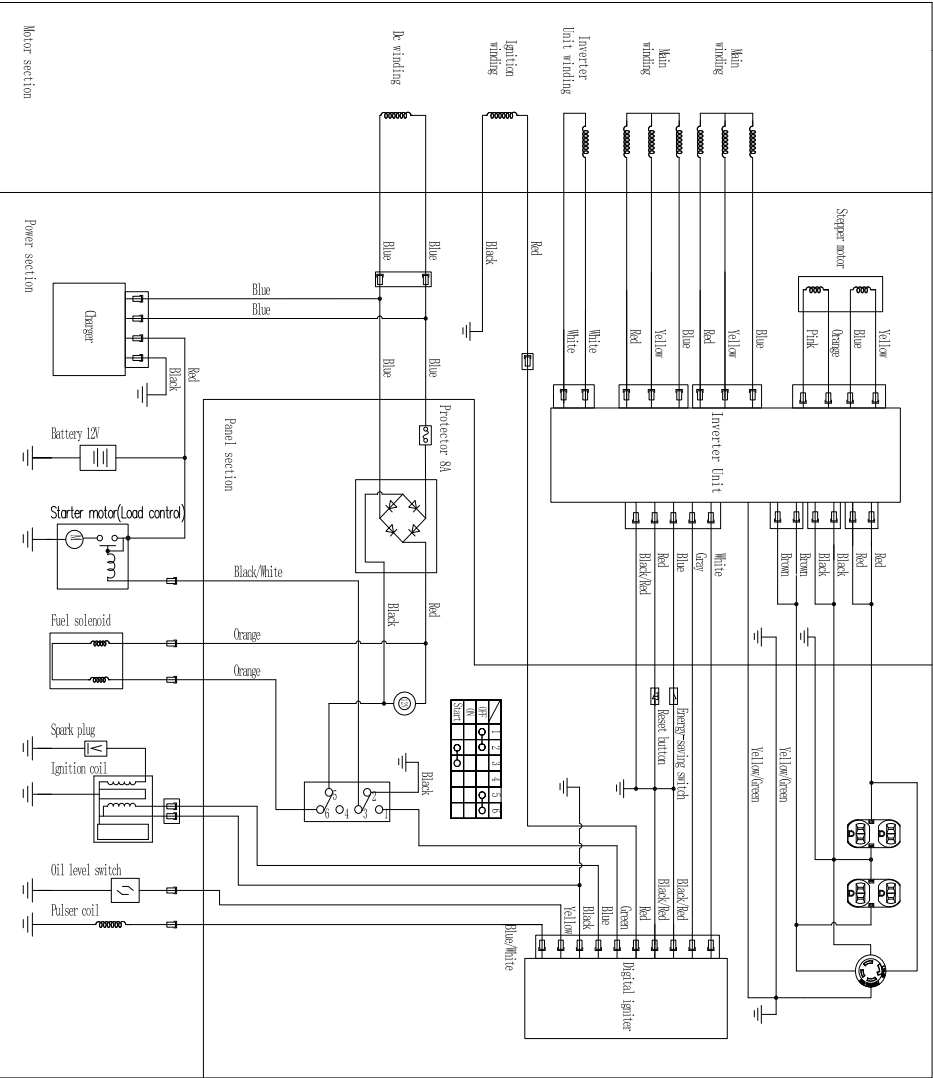


## BPB4500/ BPB5000 RECOIL START



# 2. WIRING DIAGRAMS

## BPB4500E / BPB5000 ELECTRIC START



Note: Because of the difference in generators, the wiring diagram is only for reference.

## **XIII. WARRANTY**

### **3-YEAR DOMESTIC CONDITIONAL WARRANTY**

#### **UP TO 90 DAYS FOR COMMERCIAL USE.**

LawnMaster Dealer extended warranty period for items that are:

- Registered at the time of sale.
- Serviced by an Authorised LawnMaster Service Dealer in accordance with the service schedule using Genuine parts and oils (proof required).
- Meeting all other warranty requirements.

### **LAWNMASTER LIMITED WARRANTY**

The warranty applies to all new LawnMaster products that are identified by their unit serial number.

In order to be eligible for the LawnMaster limited warranty, you must have, maintenance performed according to the schedule contained in the relevant owner's manual that is supplied with the product, and ongoing maintenance performed by an authorised LawnMaster dealer.

Steelport will recognise your statutory rights under the Consumers Guarantee Act 1993. To ensure the safe operation of this product, we strongly recommend that you only use an authorised LawnMaster dealer for all maintenance and servicing requirements. Authorised LawnMaster

Dealers have access to special tools, training, and genuine parts that are required to maintain your LawnMaster product for peak operating conditions. The purchaser must keep an accurate record of all service and maintenance. This may be requested when assessing any future warranty claims.

To qualify for the LawnMaster extended Warranty, a warranty registration must be completed online through the Steelport website ([www.steelport.co.nz](http://www.steelport.co.nz)) within ten (10) days following the date of purchase.

Proof of purchase documentation are required and must include the engine serial number and frame serial number as appropriate for all warranty claims.

Authorised LawnMaster dealers are able to repair and or replace parts that are defective within the limits of this warranty at no expense to the owner, and this includes the cost for replacement parts and or labour. Consumable items such as, but not limited to, oils, coolants, filters and spark plugs maybe an additional charge at the expense of the owner. All defective parts will be replaced and become the property of Steelport.

Transportation costs related to freight and or delivery of replacement parts, and or whole goods maybe an additional charge at the expense of the owner.

## WARRANTY EXCLUSIONS

- Any damage which results from neglect of periodic maintenance specified by Steelfort.
- Any damage resulting from repair or maintenance by methods other than specified by Steelfort.
- Any product which has participated in a competition racing or rally event.
- Any damage which results from misuse and or use beyond the limitations of the intended purpose specified by Steelfort, such as overloading, and or under abnormal conditions.
- Any damage resulting from the use of non-genuine parts, lubricant or fluid not approved by Steelfort.
- Any damage resulting from modification or installation in other products in a way that is not approved by Steelfort that has an influence on the function and/or performance of the products.
- Any damage that results from operating under conditions that are not specified in the Owner's Manual either intentionally or by error.
- Fading of painted surfaces, deterioration of plated surfaces, deterioration of rubber and plastics including, rusting due to the passage of time.
- Normal phenomena such as noise, vibration and or oil, are considered by Steelfort as not affecting the quality, function or performance of the product.
- Any damage due to improper storage and or transport.
- Consumable replacement items: Spark plugs, contact points, shear pins, fuel strainers, oil filter elements, air cleaner elements, brake shoes or pads, clutch components, fuses, motor brushes, gaskets, tube or hoses, belts, cutting blades, light bulbs, serviceable bearings. Petroleum and others fluids: Oil, grease, battery electrolyte, and radiator coolant. Other items specified by Steelfort.
- Periodical maintenance items such as cleaning, inspection and adjustments.
- Any repair and/or adjustment performed by persons other than an authorised dealer, or damage resulting therefrom. All maintenance and repairs conducted by unauthorised service dealers and or persons will void the warranty.
- Any repair and/or adjustment to correct improperly and or poor-quality work that is previously performed.

- Incidental expenses that are incurred in the warranty claim for additional expenses such as towing, communications, accommodation and meals, that are incurred due to the breakdown of the product at a remote location are not covered.
- Any expense related to personal injury and/or property damage, (exclusive of the product itself). Compensation for loss of time, commercial losses or rental costs of a substitute product during the period of adjustment.
- Any damage which results from unavoidable natural disasters, fire, collision, theft, etc.
- Any normal wear or deterioration, such as that of sliding and or rotating parts caused under normal operating conditions i.e., normal wear to pistons, piston rings, cylinder bores,

piston pins, valve seats, stems and bearings.

- Any damage resulting from exposure of the product to soot and smoke, medicines and chemical agents, seawater, sea breeze, salt or other environmental phenomena

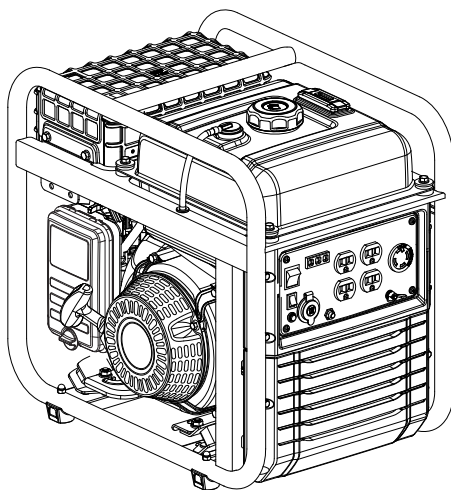
#### **DOMESTIC USE:**

Personal, residential or household use only and is covered by a 3-year warranty.

NOTE: These warranty conditions apply in New Zealand only.

#### **COMMERCIAL USE:**

All uses other than domestic use, including use for income-producing (including farming) or rental purposes have a 90-day warranty. NOTE: These warranty conditions apply in New Zealand only.



## NOTES

[illegible]

# LawnMaster®

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SCAN TO VIEW THE  
LAWNMASTER RANGE



A STEELFORT PRODUCT



[steelfortnz](https://www.instagram.com/steelfortnz)