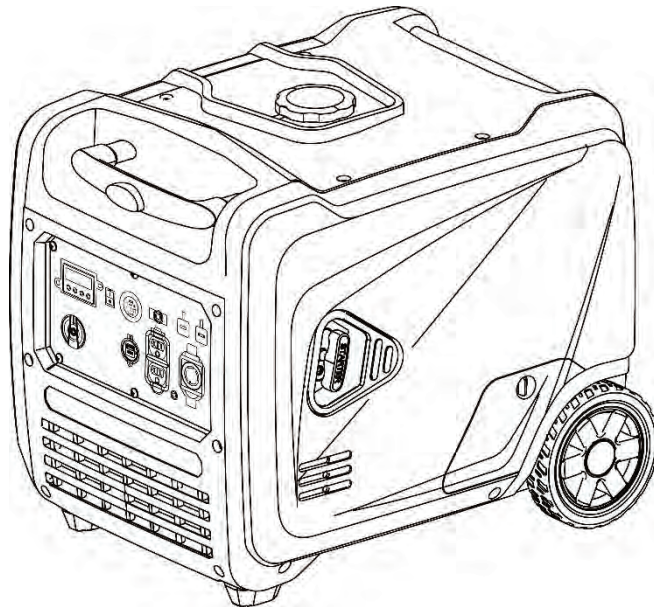


Promate[®]

PM6800i

Operator Manual



PORTABLE INVERTER GENERATOR

IMPORTANT – Please make sure everyone who will be using this equipment reads and understands these instructions as well as any additional instructions provided before using it.

Record the model and serial numbers of your Generator below:

Model No. _____ Serial No. _____

FOREWORD

Thank you for purchasing Promate PM6800i. This operator manual is for proper handling, minor checking, and maintenance of the PM6800i. Before using your generator: Please read these instructions completely and carefully to operate it safely and make the best use of it. Due to constant efforts to improve our products, certain procedures and specifications are subject to change without notice, if you have any questions, please contact Promate Service.

Contents

1	Safety Precautions.....	1
2	Controls and Features.....	2
	2.1 Control Panel Features.....	2
	2.2 LCD Multi-Meter Functions.....	3
3	Specifications.....	4
4	Before Starting.....	5
	4.1 Adding Engine Oil.....	5
	4.2 Adding Oil Procedure.....	5
	4.3 Adding Fuel.....	6
	4.4 Connect the Battery.....	6
	4.5 Operation at High Altitude.....	7
	4.6 Grounding.....	7
	4.7 Connecting to a Building's Electrical System.....	8
5	Operation.....	8
	5.1 Starting the Generator.....	8
	5.2 Manual/Recoil Start.....	9
	5.3 Electric Start.....	9
	5.4 Connecting Electrical Loads.....	9
	5.5 Stopping the Generator.....	10
6	Parallel Connection.....	11
7	Maintenance and Storage.....	12
	7.1 Maintenance Schedule.....	12
	7.2 Engine Maintenance.....	12
	7.3 Spark Plug Maintenance.....	13
	7.4 Air Filter Maintenance.....	14
	7.5 Cleaning the Spark Arrestor.....	14
	7.6 Valve Clearance.....	14
8	Generator Maintenance.....	15
	8.1 Storage.....	15
9	Troubleshooting.....	17
10	Service Information.....	18
11	Exploded Diagram & Part List	19


Diagram	Title	Page
1	Generator Parts.....	2
2	Control Panel Features.....	2
3	LCD Multi-Meter Functions.....	3
4	Recommended Engine Oil Type.....	5
5	Removing the Oil Access Cover.....	5
6	Pouring Oil.....	5
7	Oil Limit Guide.....	6
8	Fuel Cap Location.....	6
9	Connect the Battery.....	7
10	Grounding Nut.....	7
11	Outside Operation.....	8
12	Disconnecting Electrical Loads.....	8
13	Low Idle Mode Switch.....	8
14	Fuel Knob Switch on RUN.....	9
15	Battery Switch Turned ON.....	9
16	Recoil Starter.....	9
17	Engine Start / Stop Button.....	9
18	Low Idle/Eco Mode Button.....	9
19	Connecting Electrical Loads.....	10
20	Fuel Knob Switch On OFF.....	10
21	Battery Switch Turned OFF.....	10
22	Distance Guide.....	11
23	Parallel Connection.....	11
24	Removing the Maintenance Cover.....	13
25	Removing the Spark Plug Cap.....	13
26	Plug Gap Measurements.....	13
27	Air Filter Maintenance Guide.....	14
28	Spark Arrestor Guide.....	14
29	Spark Arrestor Wire Brush.....	14
30	Valve Clearance Guide.....	14
31	Carburetor Location.....	16
32	Draining the Fuel Tank/Carburetor.....	16
33	Oil Drain Location.....	16
34	Draining the Oil.....	16

Table	Title	Page
1	General Specifications.....	4
2	Preventive Maintenance Schedule.....	12
3	Valve Clearance Maintenance Schedule.....	15
4	Troubleshooting Your Generator.....	17
5	Engine 1.....	19
6	Engine 2.....	20
7	Engine 3.....	21
8	Engine 4.....	21
9	Engine 5.....	22
10	Engine 6.....	22
11	Engine 7.....	23
12	Engine 8.....	23
13	Engine 9.....	24
14	Engine 10.....	24

1. SAFETY PRECAUTIONS

This manual provides safety information for Promate PM6800i, including preparation, operation, and maintenance instructions. Before running this generator, please read and observe all warnings and instructions that are provided both on the generator labels and in this instruction manual. Failure to follow the guidelines below may cause personal injury.

The terms **DANGER**, **WARNING**, **CAUTION**, and **NOTICE** are used throughout this manual to highlight important information. Make sure that everyone who operates, maintains, or is around the generator understands the meaning of this safety information.

 This safety alert symbol appears with most safety statements. It means attention, become alert, your safety is involved! Please read and abide by the message that follows the safety alerts symbol.



WARNING

EXHAUST PRECAUTIONS

- Never inhale exhaust gasses. They contain carbon monoxide, a colorless, odorless, and extremely dangerous gas that can cause unconsciousness or death.
- Never operate the generator indoors or in a poorly ventilated area, such as a tunnel, cave, etc. Practice extreme care when operating the generator near people or animals. Keep the exhaust pipe free of unwanted objects.

WARNING

REFUELING PRECAUTIONS

- Refueling should be done outside or in a well-ventilated area. Before refilling, turn off the generator. **DO NOT** overfill the tank. If fuel is spilled, wipe it away carefully before starting the engine.

WARNING

WHEN CHARGING THE BATTERY

- Battery electrolyte contains sulfuric acid which is a harmful chemical. Be careful of your eyes, skin, and clothing. In case of any contact especially in the eyes, wash thoroughly with water and get prompt medical attention.
- Charge the battery in a fully ventilated area.
- Check the polarity of the battery.

OTHER SAFETY PRECAUTIONS

Be careful of hot parts.

The muffler and other engine parts become very hot while the engine is running or just after use. Operate the engine in a safe area and keep children away while the engine is in use.

WHERE TO USE THE GENERATOR

DO NOT use near flammables. Use it at least 1 meter away from buildings or any other facilities.

WHEN USING THE GENERATOR

- **DO NOT** tip or move.
- **DO NOT** cover it with a box or fence it off.

When using the generator set, **DO NOT** unscrew the dipstick; oil splatter can cause scalding. Avoid touching the generator in the rain or touch it with wet hands.

To prevent electric shock, ground the generator from the ground terminal.

Avoid using generators on soft ground.

Never connect the generator to the wiring of your provider.

2. 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.

PM6800i

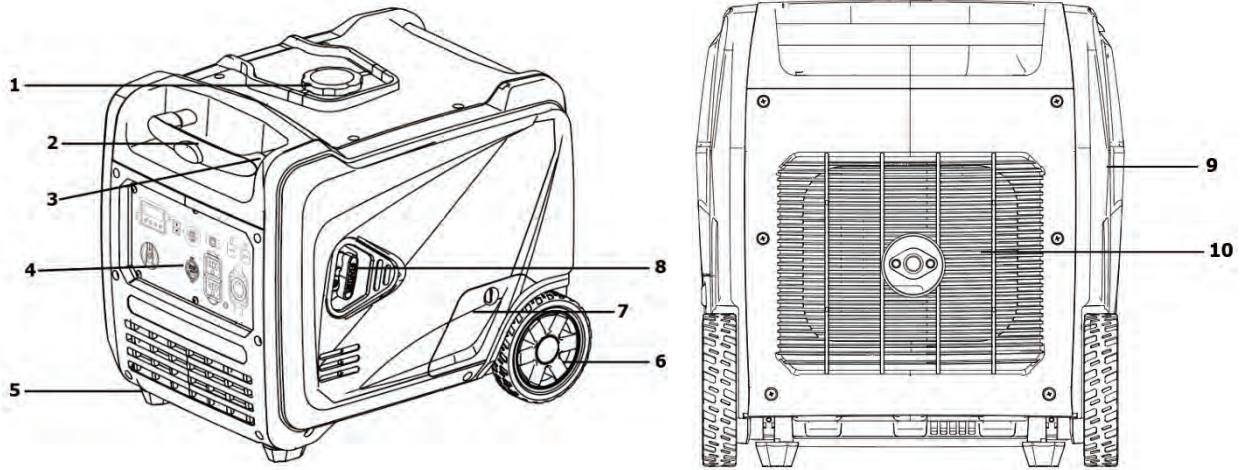


Diagram 1. Generator Parts

- | | | | |
|---|-----------------|----|-------------------|
| 1 | Fuel Cap | 6 | Wheel |
| 2 | Carrying Handle | 7 | Oil Access Cover |
| 3 | Telescopic Rod | 8 | Recoil Starter |
| 4 | Control Panel | 9 | Maintenance Cover |
| 5 | Support Leg | 10 | Muffler |

2.1 Control Panel 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.

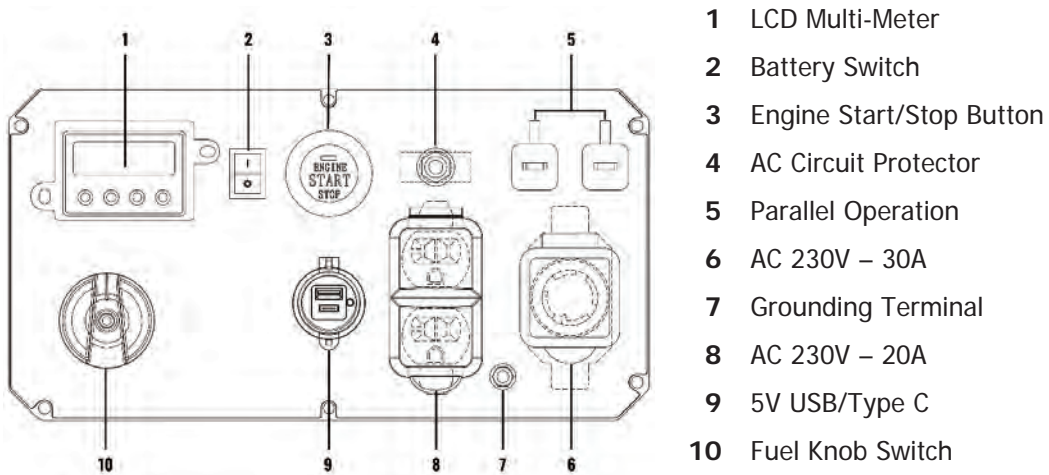


Diagram 2. Control Panel Features

2.2 LCD Multi-Meter Functions

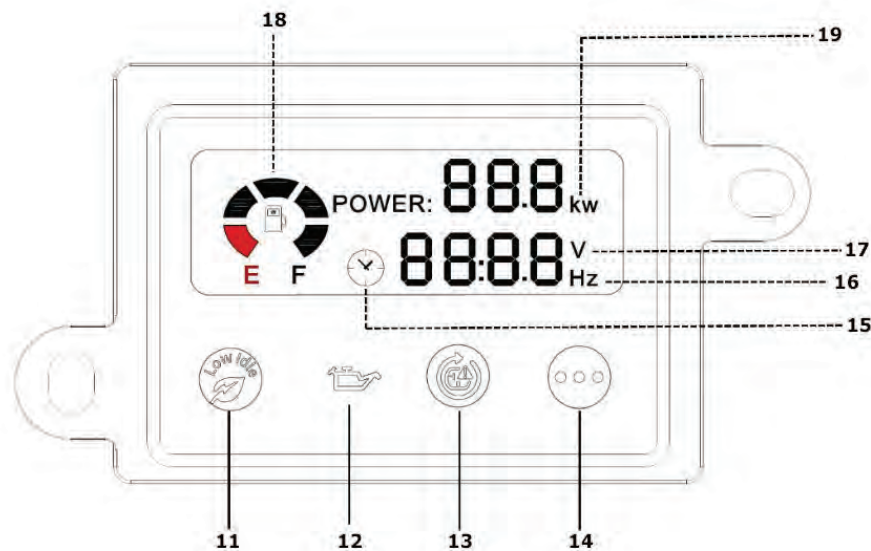




Diagram 3. LCD Multi-Meter Functions

- | | |
|---|--|
| <p>11 Low Idle/Eco Mode Button
When the generator is in energy-saving mode, this button lights up. When you turn off the energy-saving mode, the light will turn off.</p> | <p>15 Running Time 
This icon shows the running time.</p> |
| <p>12 Oil Warning Indicator (Red)
When the engine oil level is lower than the alarm value, the generator will not start and the alarm light will flash if an attempt is made to start.

If the generator runs low on oil, the indicator will blink red.</p> | <p>16 Hertz Icon Hz
This icon shows frequency.</p> |
| <p>13 Overload Indicator and Reset Button
When the load exceeds the generator's overload value, this button flashes, and the output is automatically turned off. This button stays lit in a constant red.

When the generator is overloaded, the output is turned off. You must press this button to lower the output.</p> | <p>17 Volts Icon V
This icon shows the voltage.</p> |
| <p>14 Toggle Button Display
Press this button to display the following information in sequence:</p> | <p>18 Fuel Gauge 
This icon indicates the amount of fuel in the fuel tank.</p> |
| <p>19 Power kw
This icon shows the current output load.</p> | |

Volts → Hertz → Current Running Hour → Total Running Hour

3. SPECIFICATIONS

Table 1. General Specifications

Model	PM6800i
Surge Power	6800W
Rated Power	5500W
Rated AC Voltage	230V
Rated DC Voltage	5V
Rated Frequency	60Hz
Phase	Single
Grounding System (AC)	Neutral Floating
Engine Type	Single Cylinder, 4-stroke OHV with Forced Air-cooling System
Engine Displacement	322cc
Starting System	Recoil and Electric
Low Oil Shutdown	Yes
Oil Type	SAE 10W-30
Oil Capacity	0.7L
Spark Plug OEM Type	F7RTC
Valve Exhaust Clearance	0.006~0.008inch (0.15~0.2mm)
Voltage Regulation System	AVR
Alternator Excitement System	Brushed
Total Harmonic Distortion (THD)	Standard
Fuel Tank Capacity	13.5L
Fuel Type	Unleaded Gasoline
Maximum Ambient Temperature	104°F (40°C)
Battery Spec	NA
Box Dimensions	710*560*605 mm
Net Weight	57.5kg

⚠ NOTICE

The Promate PM6800i is designed and rated for continuous operation at ambient temperatures of up to 40°C. If needed, this product can be operated at temperatures ranging from 15°C - 50°C for short periods. If the product is exposed to temperatures outside of this range during storage, it should be brought back within this range before operation. Promate PM6800i must always be operated outdoors, in a well-ventilated area, and far away from doors, windows, and other vents.

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Fuel BTU content, ambient temperature, altitude, engine conditions, and other factors have an impact on the maximum wattage and current levels. Maximum power drops by around 3.5% for every 1,000 feet above sea level, as well as 1% for every 6°C above 16°C ambient temperature.

4. BEFORE STARTING

4.1 Adding Engine Oil

We recommend using SAE 10W-30 APISJ oil for the best performance. Other high-quality detergent oils (APISJ or higher) are acceptable. DO NOT use special additives. Ambient temperature determines the proper oil viscosity for this engine. Use the chart to select the proper oil for the outdoor temperature range expected.

⚠ NOTICE

Do not try to crank or start the engine unless it has been correctly filled with the recommended type and amount of oil. Damage caused by operating without oil will void your warranty.

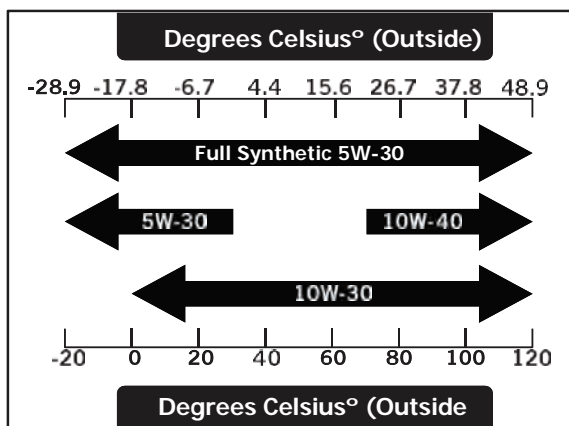


Diagram 4. Recommended Engine Oil Type

Promate PM6800i is equipped with low oil shut-off and will stop when the oil level in the crankcase falls below the threshold level.

4.2 Adding Oil Procedure

1. Place the generator on a level surface. Make sure the engine is OFF before adding or checking oil.
2. Unscrew the oil access cover knob and take the cover off the side panel. Unscrew the oil dipstick from the engine. (Diagram 5)

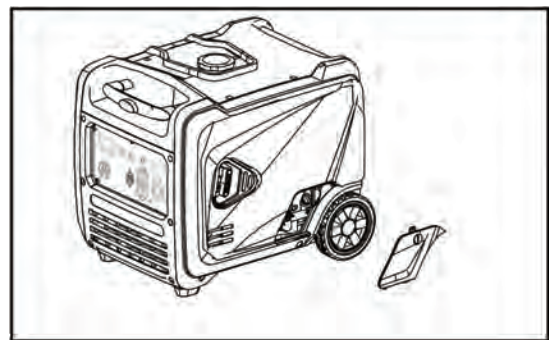


Diagram 5. Removing the Oil Access Cover

3. Using the oil funnel, slowly pour the oil into the oil fill, DO NOT overfill the unit. Fill the crankcase to the upper fill line, allowing you to see the oil halfway up the oil fill threads. (Diagram 6 and 7)

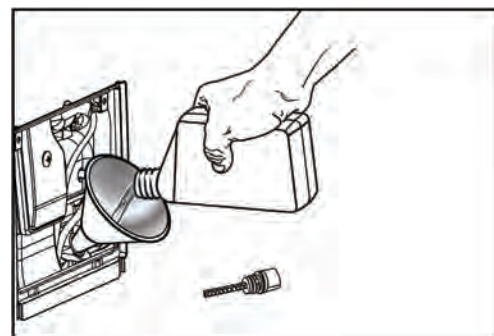


Diagram 6. Pouring Oil

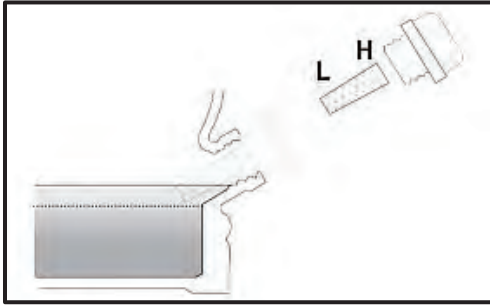


Diagram 7. Oil Limit Guide

4. Reinstall the oil dipstick and firmly tighten it. Wipe and clean any spilled oil.
5. Reinstall the oil access cover. Turn the oil access cover knob to a locked position and secure the cover in place.

TIP: Used engine oil should be disposed of at an approved disposal site.

⚠ NOTICE

We consider the first 5 hours of runtime to be the unit's break-in period. During the break-in period, keep the load at or below 50% of the running watt rating and change it occasionally to allow the stator windings to heat and cool. Adjusting the load will also cause the engine speed to change, allowing piston rings to seat more effectively.

4.3 Adding Fuel

⚠ DANGER

The fuel and its vapor are extremely flammable and explosive. Add fuel in a well-ventilated area. Keep sparks, open flames, and other ignition sources away. Failure to do so will result in death and serious injury.

TIP: DO NOT fill the fuel tank to the very top. If you do, gasoline will expand and spill while in use, even with the fuel lid on.

⚠ DANGER

Do not overfill the tank. Allow space for fuel expansion. If fuel spills wait until it evaporates before starting the engine. Failure to do so will result in death and serious injury.

Fuel Must Meet These Requirements:

- Clean, fresh, unleaded gasoline.
- Use regular UNLEADED gasoline with a minimum of 87 octane / 87 AKI (91 RON).

DO NOT use E85 or E15.

- For high altitude use, see "Operation at High Altitude".
- **DO NOT** mix oil with gasoline.
- **DO NOT** change the engine to run on other fuels.

⚠ NOTICE

During storage, it is important to prevent gum deposits in the fuel system components such as the carburetor, fuel hose, or tank. Alcohol-blended fuels (gasohol, ethanol, or methanol) can attract moisture, causing the separation and development of acids. Acidic gas can damage an engine's fuel system while it is stored. To avoid engine problems, drain the gasoline system before storing it for 30 days or more. See the "Long-Term Storage" section. Never use engine or carburetor cleaner in the fuel tank as it may cause permanent damage.

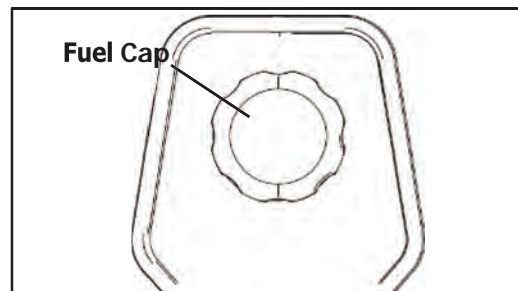


Diagram 8. Fuel Cap Location

1. Make sure the generator is turned OFF and on a flat surface.
2. Unscrew the fuel cap and set it aside. (Diagram 8)
3. Slowly add unleaded gasoline to the fuel tank.
4. Reinstall the fuel cap and clean up any spilled gasoline with a dry cloth.

During operation, the fuel level is displayed on the panel's LCD Multi-Meter, or you can check the fuel gauge. If the fuel level is low, refill the tank before restarting the generator.

4.4 Connect The Battery

⚠ WARNING

BATTERY GIVES OFF EXPLOSIVE HYDROGEN GAS.

- Keep the battery away from sparks, cigarettes, or other sources of flame.
- Do not connect or disconnect the battery

- while the generator is running.
- Service or use battery only in well-ventilated areas.

⚠ WARNING

- Battery contains sulfuric acid which is a poisonous chemical. Tilting the generator with the battery installed can cause the battery acid to spill.
- Wear protective clothing and eyewear when servicing the battery.
- Keep out of reach of children.
- If the battery acid gets on your skin and eyes, wash it with water and call a doctor immediately.
- If battery acid is swallowed, call a doctor immediately. Drink a large amount of water or milk (milk of magnesia or vegetable oil).

The Promate PM6800i is shipped with the battery's negative (-) terminal disconnected to maximize safety. To start the generator using an electric start, the battery must be connected.

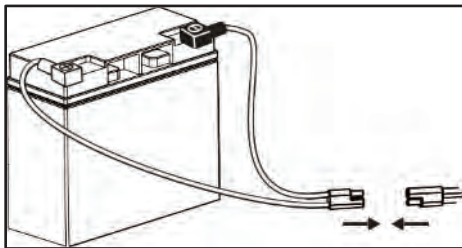


Diagram 9. Connect the Battery

1. Turn the battery cover knob to the unlocked position and remove the access cover from the back panel.
2. Loosen the rubber belts and remove the battery.
3. Remove the cover from the battery's negative (-) terminal and connect the black cable to the battery's negative (-) terminal. (Diagram 9).
4. (Diagram 9).
5. The generator's positive pole has already been connected. Double-check to confirm that the connection is secure.
6. Return the battery into position and use the rubber belts to fasten the battery.
7. Reinstall and secure the battery access cover.

⚠ NOTICE

If you do not plan to use the generator for a long period, we recommend DISCONNECTING the

negative battery cable from the battery to protect the battery from losing charge. After disconnecting the cable, cover the free end with an insulator such as electrical tape. You may also choose to use a trickle charger (not included) to maintain battery charge.

4.5 Operation at High Altitude

At altitudes over 5,000 feet (1524 meters), a minimum of 85 octane gasoline is acceptable. Engine power and generator output drops at approximately 3.5% for every 1000 feet (305 m) of elevation above sea level. High altitude can lead to problems starting, increased consumption of fuel, and spark plug blockage. To operate at high altitudes, a high-altitude carburetor main jet is required. Contact Promate Service to acquire the alternate main jet and installation instructions.

⚠ NOTICE

Using an alternative main jet at elevations below the specified minimum altitude can cause engine damage. To operate at lower elevations, the supplied standard main jet must be utilized.

Operating the engine with the wrong main jet may result in increased exhaust emissions, fuel consumption, and reduced performance.

4.6 Grounding



Diagram 10. Grounding Nut

⚠ WARNING

Shock hazard. Failure to properly ground the generator may result in electric shock.

The national electrical requires the generator to be connected properly to an appropriate ground to help prevent electric shock.

The generator has a system ground that connects its frame components to the ground terminals on the AC output outlets. There may be

federal or state regulations, municipal statutes, or ordinances governing the generator's intended usage. Consult a qualified electrician, an electrical inspector, or the municipal authority with jurisdiction. (Diagram 10)

4.7 Connecting To a Building's Electrical System

Connections to your home's electrical system must use an authorized transfer switch installed by an accredited electrician. The connection must separate the generator power from the utility electricity while complying with all applicable regulations and electrical principles.

5. OPERATION

Generator Location

⚠ WARNING

Review each warning to prevent fire hazard.



Diagram 11. Outside Operation

⚠ DANGER

Never use the generator in wet or damp locations. Never expose the generator to rain, snow, water spray, or standing water while in use. Protect the generator from all hazardous weather conditions. Moisture or ice can cause a short circuit or other malfunction in the electric circuit. Water contact with a power source, if not avoided, will result in death or serious injury. (Diagram 11)

- Remove any flammables or other hazardous materials.
- Choose a dry, well-ventilated, weather-protected area.
- Keep the exhaust pipe clear of foreign objects.
- Keep the generator away from open flame.
- Keep the generator on a stable and leveled surface.

- DO NOT block the air vents with paper or other material.

Surge Protection

Electronic devices, such as computers and many programmable appliances, rely on components that are designed to work within a specific voltage range and are susceptible to brief voltage changes. While there is no way to avoid voltage fluctuations, you can take precautions to protect sensitive electronics.

Install UL1449, CSA-listed, plug-in surge suppressors on the outlets feeding your sensitive equipment.

Surge suppressors come with a single or multiple-outlet configuration. They are intended to defend against almost all short-term voltage changes.

5.1. Starting The Generator

1. Before starting the generator, check for any loose or missing parts, as well as any damage that happened during shipping and handling damage.
2. Check if there is a sufficient level of oil in the crankcase and fuel in the fuel tank.
3. Disconnect all electrical loads from the generator. Never start or stop the generator with electrical devices plugged in or turned on. (Diagram 12)

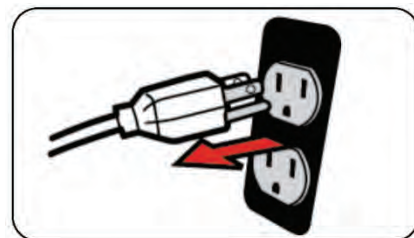


Diagram 12. Disconnecting Electrical Loads

4. Turn OFF the LOW IDLE MODE switch. (Diagram 13)



Diagram 13. Low Idle Mode Switch

5. Turn the Fuel Knob Switch to the "RUN" position. (Diagram 14)

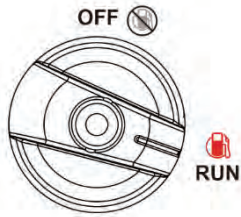


Diagram 14. Fuel Knob Switch on RUN

6. Press the Battery Switch to the ON position. (Diagram 15)

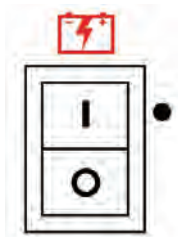


Diagram 15. Battery Switch Turned ON

5.2 Manual/Recoil Start

Pull the recoil starter slowly until resistance is felt, then pull rapidly. (Diagram 16)

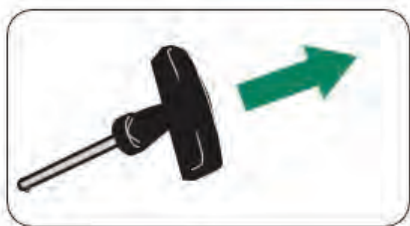


Diagram 16. Recoil Starter

5.3 Electric Start

Press the Engine Start/Stop Button for 2 seconds to START. (Diagram 17)



Diagram 17. Engine Start/Stop Button

Promate PM6800i is equipped with a LOW IDLE/ECO MODE Button (Diagram 13). Engaging this switch allows the system to regulate the engine speed and automatically adjust its fuel consumption to match the required load. When

the electrical load changes, the generator engine will automatically speed up and slow down as needed. (Diagram 18)

This reduces fuel consumption and noise levels while extending the runtime and engine's lifespan.

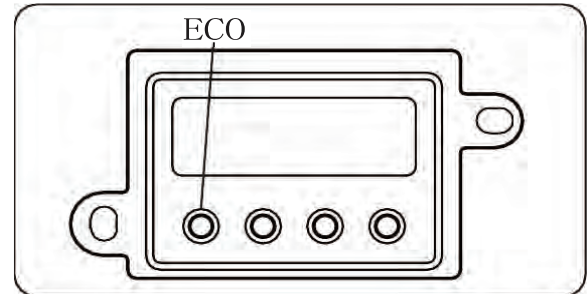


Diagram 18. Low Idle/Eco Mode Button

⚠ WARNING

Starter cord kickback (rapid retraction) will drag your hand and arm toward the engine faster than you can let go, causing broken bones, fractures, bruising, or sprains that can lead to serious injury. When starting the engine, pull the cord slowly until resistance is felt and then pull rapidly to avoid kickback, let go after it naturally returns to the original position.

5.4 Connecting Electrical Loads

The Promate PM6800i has undergone pre-testing and adjustment to handle its full capacity. Before starting the generator, unplug all loads. Apply load only after the generator has started. Voltage is regulated by the engine speed, which is set at the factory for proper output. (Diagram 19)

Re-adjusting will void the warranty.

TIP:

When applying load, do not exceed the maximum wattage rating of the generator especially when using one or more receptacles. Also, do not exceed the amperage rating of any one receptacle.

Do not apply heavy electrical load during the break-in period (the first five hours of operations).

1. Let the engine stabilize and warm up for a few minutes after starting.
2. Ensure that the circuit breaker on the control

panel is in position.

3. Plug in and turn on the desired 230V AC, single phase, 60Hz electrical loads. It is better to plug the item with the largest load first.

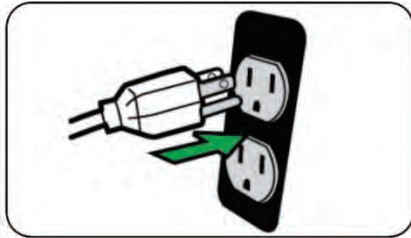


Diagram 19. Connecting Electrical Loads

5.5 STOPPING THE GENERATOR

1. Turn off and remove any electrical loads. Never start or stop the generator while any electrical equipment is connected or turned on.
2. Let the generator run at no load for two minutes to stabilize the internal temperatures of both the engine and the generator.
3. Turn the Fuel Knob switch to the "OFF" position. (Diagram 20)

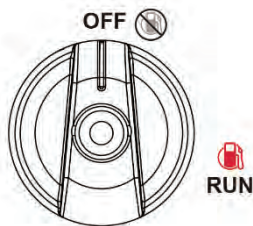


Diagram 20. Fuel Knob Switch on OFF

4. Press the Battery Switch to the OFF position. (Diagram 21)

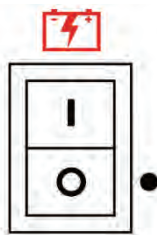


Diagram 21. Battery Switch Turned OFF

5. Press the Engine Start/Stop Button for 2 seconds to STOP. (Diagram 17)

⚠ WARNING

The fuel and its vapors are extremely flammable and explosive which could cause burns, fire, or explosion resulting in death or serious injury.

TIP:

When the engine is not in use, ensure that the fuel valve is in the "OFF" position.

If the engine will not be used for two weeks or longer, please see the Storage section for proper engine and fuel storage.

Low Oil Shutdown

Promate PM6800i is equipped with low oil shutdown. If the oil level becomes lower than the minimum, the sensor will activate a warning device or stop the engine. If the generator shuts off and the oil level is within specifications, check to see if the unit is placed at an angle that forces oil to shift. Place it on an even surface to correct this. If the engine fails to start, there may not be enough oil to activate the low oil level switch. Make sure the sump is completely filled with oil. If the engine oil level drops below the threshold level, an oil switch will shut down the engine. You need to check the oil level with a dipstick.

If the oil level is between the low and high mark on the dipstick:

1. **DO NOT** try to restart the engine.
2. Contact an Authorized Promate Service Center.
3. **DO NOT** operate the engine until the oil level is corrected.

If the oil level is below the low mark on the dipstick:

1. Add the oil to bring the level to a HIGH mark.
2. Restart the engine and if the engine stops again a low oil condition may still exist. **DO NOT** try to restart the engine.
3. Contact Promate Service.
4. **DO NOT** operate the engine until the oil is at the right level.

DO NOT overload the generator.

Overloading a generator above its rated wattage capacity may result in damage to the generator and other attached electrical devices.

To extend the life of your generator and connected devices, perform the following steps on adding 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.
5. Plug in and turn on the next item.
6. Allow the engine to stabilize.
7. Repeat steps 5-6 for each additional item.

6. PARALLEL OPERATION

Parallel operation is a way to connect two inverter generators together in case the output needed is higher than the rated of a single generator.

⚠ WARNING

Only use the parallel cables provided with the unit.

Fire and electrocution hazard

Never connect or disconnect the parallel cord leads when the generator is running. Do not parallel more than two generators. Parallelization should be limited to identical models.

⚠ NOTICE

Paralleling this generator with an incompatible one can result in a low voltage output, which can harm tools and appliances powered by the generator. To avoid damaging the generator, do not connect or disconnect parallel cables while it is running. Parallel operation enables you to connect this generator to another compatible generator for combined operating and starting power output. The parallel operation cable must be disconnected while running a single generator.

The maximum total power of the 2 units connected in the parallel connection kit is 10kW.

TIP:

Only connect two identical (same model) generators together for parallel operation.

Set up and Operation

1. Align the two inverters on a firm, flat and level surface at a minimum of 20 inches apart. (Diagram 22)

⚠ WARNING

If not spaced apart, the exhaust heat from one generator discolors or melts the plastic shell of the other generator.

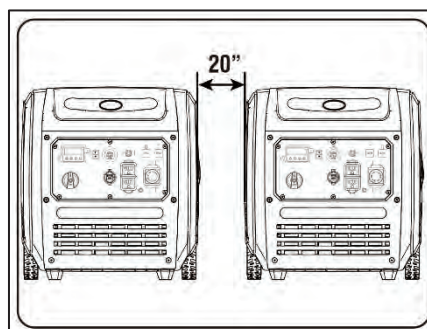


Diagram 22. Distance Guide

2. Before paralleling operation, turn off both generators and disconnect all electrical loads (Diagram 12).
3. The parallel operation kit allows you to connect two generators, increasing the total available electrical power. (Diagram 23)
 - Connect the red cable to the red parallel port of both units.
 - Connect the black cable to the black parallel port of both units.

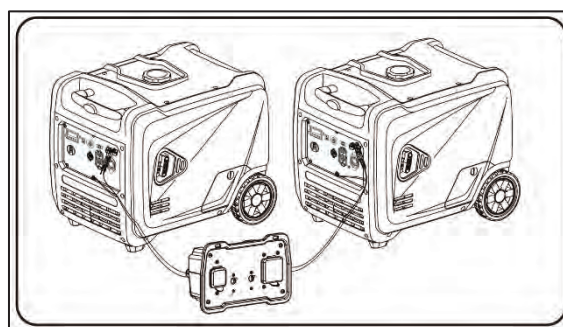


Diagram 23. Parallel Operation

4. Start one of the generators and wait until the **OUTPUT READY INDICATOR LED** lights up.
5. Start the second generator and wait until the **OUTPUT READY INDICATOR LED** lights up before connecting a load.
6. Plug the load into the parallel operation kit outlet (Diagram 2. No. 5). The actual output is the total from the two kW power information (Diagram 3 No. 19) from each generator.
7. When finished:
 - Disconnect your load first.
 - Once both generators have been turned off and stopped completely, remove the parallel cables from both units.

TIP: It is strongly recommended to plug in devices with the largest output first and the smallest output last to help prevent overloading the inverters.

7. MAINTENANCE AND STORAGE

7.1 Maintenance Schedule

Regular Maintenance will improve the performance and extend the life of your generator. Follow maintenance schedule intervals (whichever occurs first according to use).

TIP: Adverse conditions will require more frequent services.

Walk-Around Inspection

Before starting the engine, perform a visual inspection of the unit. Check for:

- Proper engine oil level
- Proper fuel level
- Fluid leaks
- Loose clamps and bolts
- Cracked fuel line
- Loose or frayed wiring
- Built-up debris

Table 2. Preventive Maintenance Schedule

Before Each Use
Check engine oil level Walk-around inspection
First 5 Hours (Break-In)
Change engine oil
First 25 Hours or First Month
Change engine oil
Every 100 Hours or 6 Months
Change engine oil Clean Air Filter Inspect/Adjust/Replace Spark plug Inspect/Clean/Replace Spark Arrester
Every 200 Hours or 12 Months
Replace Air filter Replace Spark Plug Inspect/Adjust Valve Clearance*

* To be performed by Promate Service.

TIP:

Maintenance should be performed more frequently when the generator is used in dusty areas. When the generator has exceeded the maximum values provided in the table,

maintenance should still be performed at the intervals of time or hours specified herein.

Recommendations

Regular maintenance improves the generator's performance and extends its life.

The warranty does not cover operator abuse or negligence. To fully utilize the warranty, the user must adhere to the instructions in this handbook.

To keep your generator in good working order, practice a Preventive Maintenance Schedule. All maintenance and adjustments should be performed at least once each season. Follow the instructions on the Maintenance Schedule chart (Table 2).

7.2 Engine Maintenance

Before doing any service, remove and ground the spark plug wire to prevent the generator from starting accidentally.

Engine Oil Level Check

CAUTION

Avoid skin contact with engine oil. Wear protective clothing and equipment. Wash any exposed skin with soap and water.

NOTICE

Always use the specified engine oil. Failure to use the specified engine oil can shorten the life of the engine (Diagram 4).

When using the generator under extreme, dirty, dusty conditions or in excessively hot weather, the oil should be changed more frequently.

The ambient temperature has an impact on the performance of engine oil. Change the type of engine oil used depending on the weather.

Check the engine oil level before each use or every 8 hours of operation.

To check (Diagram 7):

1. Place the generator on a level surface and let the engine cool for a few minutes.
2. Unscrew the bolts and remove the left cover.
3. Use a damp rag to clean around the oil dipstick.

4. Remove the oil dipstick.
5. Wipe the dipstick clean, then insert it into the filler neck. Remove the dipstick and check that the oil level is within a safe operating range.
6. If the level is low, add the necessary engine oil and retest until the dipstick reading is between the L and H marks. Do not overfill. If the oil level exceeds the full mark on the dipstick, drain it to bring it back to the full mark.
7. Replace the oil dipstick and hand tighten.

Change the Engine Oil

Change the engine oil according to the Preventive Maintenance Schedule (Table 2).

If you use your generator in extremely dirty or dusty conditions, or in excessively hot weather, change the oil more frequently.

⚠ WARNING

Risk of burns

Allow the engine to cool before draining the oil or the coolant. Failure to do so could result in death or serious injury.

Avoid using contaminated or deteriorated oil because it may lead to engine damage and reduced engine life.

Maximum oil capacity: 0.7 L

7.3 Spark Plug Maintenance

The spark plug must be properly gapped and free of deposits to ensure proper engine operation. To check:

1. Remove the maintenance cover (A) then remove the spark plug using the provided wrench. (Diagram 24)
2. Remove the spark plug cap (B). (Diagram 25)
3. Clean any dirt around the base of the spark plug.
4. Inspect the spark plug for any damage, and clean with a wire brush before reinstalling. If the insulator is cracked or chipped, spark plug should be replaced.
5. Measure the plug gap. The correct gap is 0.028-0.031 in. (0.7-0.8 mm). To widen

- the gap, carefully bend the ground (top) electrode (only if necessary). To lessen gap, gently tap the ground electrode on a hard surface (Diagram 26).
6. Place the spark plug in position; thread in by hand to prevent cross-threading.
7. Tighten with wrench to compress the washer. If the spark plug is new, use 1/2 turn to compress the washer to the appropriate amount. If you are reusing an old spark plug, use 1/8 to 1/4 turn for proper washer compression.

TIP:

An improperly tightened spark plug will become very hot and could damage the engine.

8. Reinstall the spark plug cap (B).

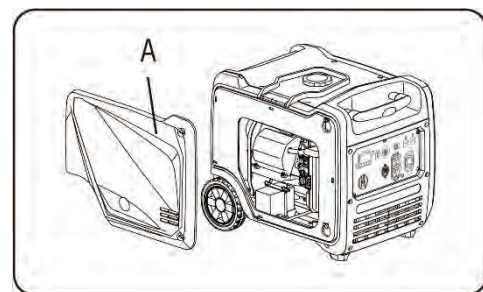


Diagram 24. Removing the Maintenance Cover

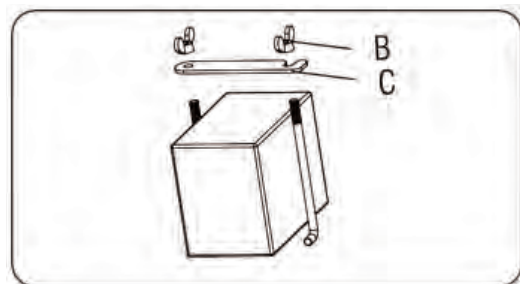


Diagram 25. Removing the Spark Plug Cap

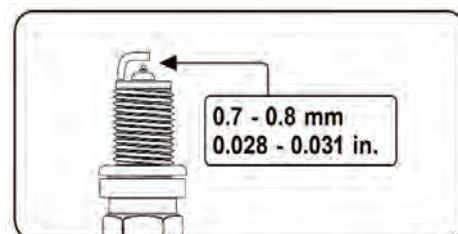


Diagram 26. Plug Gap Measurements

7.4 Air Filter Maintenance

Check every 50 hours of operation on the Preventive Maintenance Schedule. (Table 2).

Routine maintenance of the air filter helps maintain proper airflow to the carburetor. Regularly check that the air cleaner is free of excessive dirt.

To inspect and clean the air filter: (Diagram 27)

1. Remove the maintenance cover (A).
2. Remove the knob (B) and the air filter cover plate (C).
3. Remove the filter element.
4. If the filter element is dirty, wash it with warm soap and clean water and dry it.
5. Apply a layer of engine lubricant on the filter element and squeeze it out.
6. Reinstall the filter element into the air cleaner unit.
7. Reinstall the air filter cover plate (C).
8. Reinstall the side maintenance cover plate of the unit.

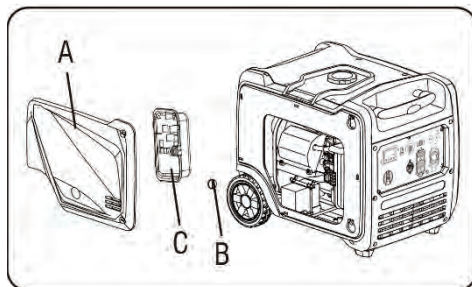


Diagram 27. Air Filter Maintenance Guide

⚠ WARNING

Operating the engine with a dirty, damaged, or missing air filter element may endanger the operator and eventually wear out the engine.

7.5 Cleaning the Spark Arrestor (Diagram 28)

1. Allow the engine to cool completely before cleaning the spark arrestor.
2. Loosen the screw (A) to remove the Pressing block (B).
3. Remove the spark arrestor and the screen (C).
4. With a wire brush, carefully remove the carbon deposits from the spark arrestor screen. (Diagram 29)
5. If the spark arrestor is damaged, replace it.

6. Position the spark arrestor and screen (C) on the muffler and attach with the screws removed in step 2.

TIP:

Promate PM6800i is equipped with a spark arrestor that has been evaluated by the fire prevention regulations. Check with the appropriate authorities. Contact Promate Service to purchase a replacement spark arrestor.

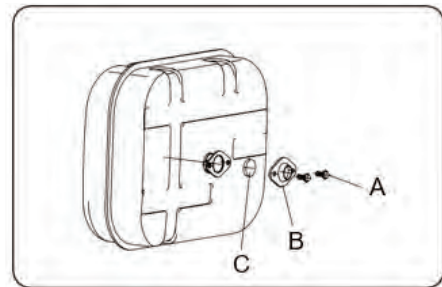


Diagram 28. Spark Arrestor Guide

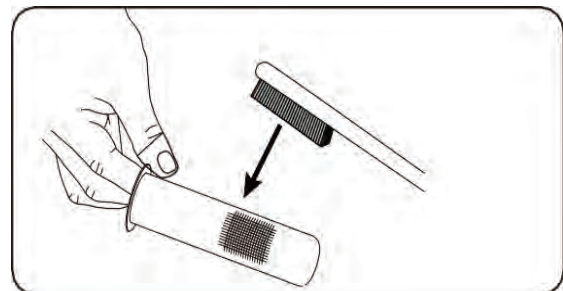


Diagram 29. Spark Arrestor Wire Brush

7.6 Valve Clearance (Diagram 30)

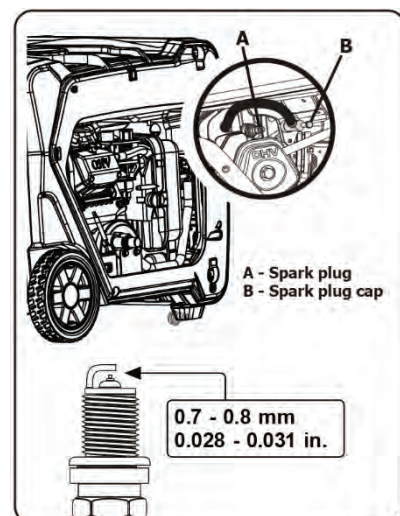


Diagram 30. Valve Clearance Guide

Important: Please contact Promate Service for assistance. Proper valve clearance is essential in prolonging the life of the engine. Check the valve clearance per Preventive Maintenance Schedule.

Table 3 Valve Clearance Maintenance Schedule

	Intake Valve	Exhaust Valve
Valve Clearance	0.004~0.006 inch	0.004~0.006 inch
	0.1~0.15 mm	0.1~0.15 mm
Torque	10-12 N·M	10-12 N·M

*Checking and adjusting valve clearance must be done when the engine is cold.

8. GENERATOR MAINTENANCE

Make sure that the generator is kept clean and stored properly. Operate the unit on a flat, level surface in a clean and dry operating environment.

TIP:

DO NOT use a garden hose to clean the generator. Water can enter the generator through the cooling slots which might damage the generator windings.

Use a damp cloth to clean the exterior surfaces of the generator.

Use a soft bristle brush to remove the dirt and oil.

Use an air compressor with 25 PSI (172 kPa) to clean the dirt and debris.

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

8.1 STORAGE

It is recommended that you start and run the generator for 30 minutes every 30 days. If this is not possible, look to the following short-term and long-term storage options.

Short Term Storage

Fill the tank with fresh gasoline and add the gasoline stabilizer. Drain the carburetor float bowl.

1. If the tank does not already have a correctly formulated FUEL STABILIZER, add one.
2. Run the engine for 10-15 minutes to

circulate the stabilizer throughout the fuel system.

3. Allow the generator to cool for a minimum of 30 minutes and then drain the fuel tank.

Clean the generator and store in a cool, dry and well-ventilated area out of direct sunlight. Shut off the fuel valve.

Long Term Storage

TIP: To avoid possible oil spills from the carburetor bowl, drain the carburetor before draining oil.

To Drain the Fuel Tank/Carburetor:

1. Place the generator on a level surface and let the engine cool for a few minutes.
2. Unscrew the maintenance cover knob, and remove the cover from the side panel.
- 3a. **FOR DRAINING THE FUEL TANK**, make sure that the Fuel Knob Switch is on the "RUN" position. (Diagram 14)
- 3b. **FOR DRAINING THE CARBURETOR**, make sure that the Fuel Knob Switch is on the "OFF" position (Diagram 20). This will turn off the fuel valve so that only the residual gasoline inside the carburetor will be drained out.
4. Access the carburetor between the engine and the air filter and find the transparent tube that extends down through the base plate of the generator. (Diagram 31)
5. Place an appropriate gasoline container under the drain screw to catch the residual fuel.
6. Open the carburetor drain screw with a flat-head screwdriver (not included) and allow the fuel to drain. (Diagram 32)
7. Once the fuel has been drained, tighten the drain screw and reinstall the service panel.

TIP: DO NOT tighten the drain screw too much to avoid damaging the screw threads.

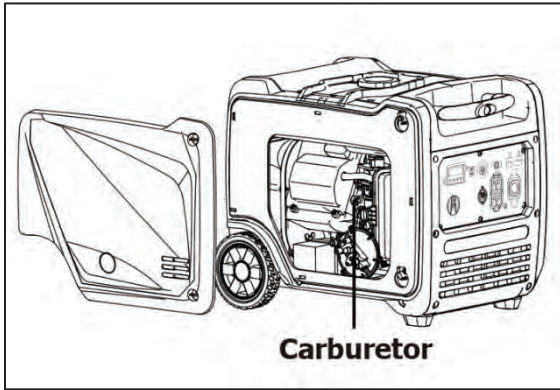


Diagram 31. Carburetor Location

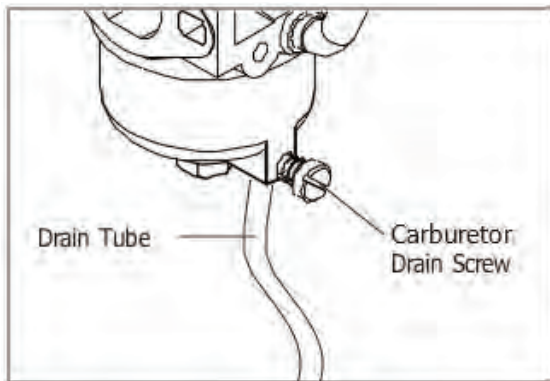


Diagram 32. Draining the Fuel Tank/
Carburetor

⚠ WARNING

Risk of fire and Explosion

Fuel and vapors are extremely flammable and explosive. Store fuel in a well-ventilated area. Keep fire and spark away. Failure to do so will result in death or serious injury.

Verify if the engine has properly cooled before covering or storing the machine. Hot surfaces could result in fire.

To Drain the Oil:

1. Place the generator on a level surface and let the engine cool for a few minutes.
2. Unscrew the oil access cover knob, and remove the cover from the side panel. (Diagram 33)

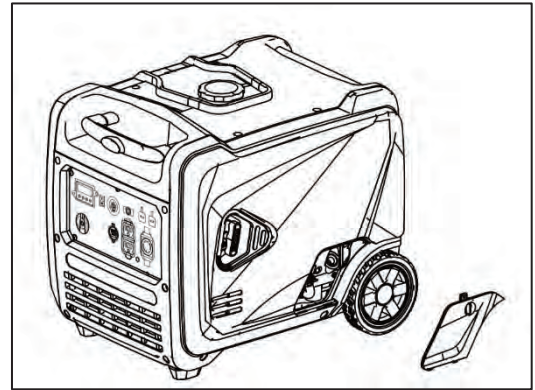


Diagram 33. Oil Drain Location

3. Place a suitable container underneath the generator to catch the used oil.
4. Reach under the generator and remove the black rubber seal located below the oil drain plug.

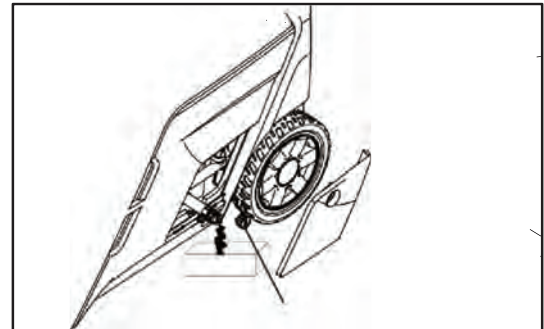


Diagram 34. Draining the Oil

5. Remove the oil fill cap/dipstick.
6. Use a wrench to remove the oil drain plug and allow the oil to drain completely. (Diagram 34)
7. Reinstall the oil drain plug after the oil has drained.
8. Reinstall the black rubber seal.
9. NOTE: Never dispose of used engine oil in the trash or down a drain. Please call a local recycling center or auto garage to arrange proper oil disposal.
10. With the generator in a level position and refill with engine oil following the instructions in the Checking/Adding engine oil section previously in this manual.
11. Reinstall the oil dipstick and tighten it securely. Wipe clean any oil spillage and reinstall the oil access cover.

9. TROUBLESHOOTING

Table 4. Troubleshooting Your Generator

PROBLEM	POSSIBLE CAUSE	SOLUTION
Engine is running, but no AC output is available.	1. The AC Circuit breaker is open.	1. Check the AC load and reset the circuit breaker.
	2. Fault in generator	2. Contact Promate Service
	3. Poor connection or defective cord set.	3. Check and repair
	4. The connected device is bad.	4. Connect another device that is in good condition.
	5. GFCI outlet is open (if equipped).	5. Correct ground fault and press then reset button on GFCI outlet.
Engine runs well at no-load, but "bogs down" when loads are connected.	1. Short circuit in a connected load.	1. Disconnect the shorted electrical load
	2. The engine speed is too slow.	2. Contact Promate Service.
	3. The generator is overloaded.	3. Reduce load.
	4. There is a shorted generator circuit.	4. Contact Promate Service.
	5. Clogged or dirty fuel filter.	5. Clean or replace fuel filter.
	6. The connected device is not good.	6. Connect another device that is in good condition.
Engine will not start; starts and runs rough or shuts down when running.	1. Engine switch set to OFF (O) position.	1. Set engine switch to ON (I) position.
	2. Fuel valve is in OFF (O) position.	2. Move fuel valve to ON (I) position.
	3. Low oil level	3. Fill crankcase to proper level or place generator on level surface.
	4. Dirty air filter	4. Clean or replace air cleaner.
	5. Out of fuel	5. Fill fuel tank.
	6. Stale fuel	6. Drain fuel tank and carburetor; fill with fresh fuel.
	7. Spark plug wire not connected to spark plug.	7. Connect wire to spark plug.
	8. Bad spark plug	8. Replace spark plug.
	9. Water in fuel	9. Drain gas tank and carburetor; fill with fresh fuel.
	10. Flooded	10. Wait 5 minutes and re-crank engine.
	11. Excessively rich fuel mixture.	11. Contact Promate Service.
	12. Intake valve stuck open or closed.	12. Contact Promate Service.
	13. Engine has lost compression.	13. Contact Promate Service.
	14. Clogged or dirty fuel filter.	14. Replace fuel filter.
	15. Shut off due to a system fault & blinking yellow indicator light	15. Contact Promate Service.
	16. Clogged or dirty spark arrester screen.	16. Clean or replace spark arrester screen.
	17. Load is too high.	17. Reduce load.
Engine lacks power.	1. Dirty air filter.	1. Replace air filter.
	2. Clogged or dirty fuel filter.	2. Clean or replace fuel filter.
	3. Clogged or dirty spark arrester screen.	3. Clean or replace spark arrester screen.
	4. Engine needs to be serviced.	4. Contact Promate Service.
	5. Bad fuel.	5. Drain gas tank and carburetor; fill with fresh fuel.
Engine "hunts" or falters.	1. Carburetor is running too rich or too lean.	1. Contact Promate Service.
	2. Clogged or dirty fuel filter.	2. Replace the fuel filter.
Engine shuts down when running.	1. Out of fuel.	1. Fill fuel tank.
	2. Dirty air cleaner.	2. Clean or replace air cleaner.
	3. Low oil level.	3. Fill the crankcase to proper level or place the generator on level surface.
	4. Shut off due to a system fault & blinking yellow indicator light	4. Contact Promate Service.

10. SERVICE INFORMATION

HOW TO ORDER REPLACEMENT PARTS

Even quality-built equipment such as the generator you have purchased will need occasional replacement parts to maintain its good condition over the years.

To order replacement parts and consumable parts, please contact Promate Service and be ready with the following information:

1. Model No., Serial No. and all specifications that are shown on the Model No./Serial No. plate.
2. Part numbers or numbers as shown in the Parts List section ().
3. A brief description of the trouble with the generator.

LIMITED WARRANTY

Warranty Coverage:

Powertech Asia Pacific Inc., (the Company) warrants to the original retail customer that it will repair or replace, free of charge, any parts found by the Company or its authorized service representative to be defective in material or workmanship. This warranty covers the cost of replacement parts and labor for defects in material or workmanship.

Not Covered:

- a. Shipping/Handling charges for sending the product to the Company or its authorized service representative for warranty service. Shipping/Handling repaired or replaced products back to the customer; these charges must be borne by the customer.
- b. If a separate operator's manual and engine warranty from the engine manufacturer is included with this product, only that warranty will apply to the engine.
- c. Damage caused by abuse, accident, the effects of corrosion, erosion, and normal wear and tear.

- d. Warranty is void if the customer fails to install, maintain, and operate the product in accordance with the instructions and recommendations of the Company set forth in the owner's manual, or if the product is used as rental equipment.
- e. The Company will not pay for repairs or adjustments to the product, or for any costs of labor performed without the Company's prior authorization.
- f. Consumable parts such as battery, spark plugs, and air cleaner

Warranty Period: One (1) year from the date of purchase on products used solely for consumer applications; if a product is used for business or commercial applications, the warranty period will be limited to ninety (90) days from the date of purchase. For warranty service, the customer must provide dated proof of purchase and must notify the company within the warranty period.

EXCLUSIONS AND LIMITATIONS: THE COMPANY MAKES NO OTHER WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. IMPLIED WARRANTIES, INCLUDING WARRANTIES OF MERCHANTABILITY AND OF FITNESS FOR A PARTICULAR PURPOSE, ARE HEREBY DISCLAIMED. THE WARRANTY SERVICE DESCRIBED ABOVE IS THE EXCLUSIVE REMEDY UNDER THIS WARRANTY; LIABILITY FOR INCIDENTAL AND CONSEQUENTIAL DAMAGES IS EXCLUDED TO THE EXTENT PERMITTED BY LAW.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. Some states do not allow a disclaimer of implied warranties or the exclusion or limitation of incidental and consequential damages, so the above disclaimers and exclusions may not apply.



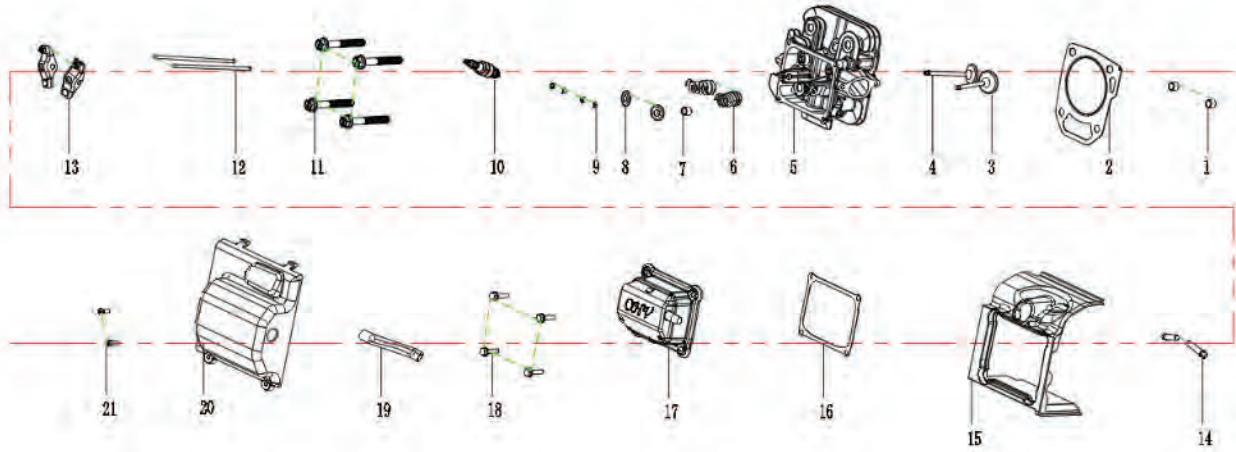
CONTACT THE POWERTECH Asia Pacific Inc.,
PRODUCT SERVICE DEPARTMENT AT (02) 8 984 2620 | (+63) 9338373922
service@powertechasiapacific.com www.facebook.com/PromateServicePH/

(MAIN) #420 Diamond Warehouse Compound, F Legaspi St., Maybunga Pasig City 1607
(DAVAO) Space 10 & 11 Jin-Long Complex R. Castillo St. Agdao District, Davao City 800



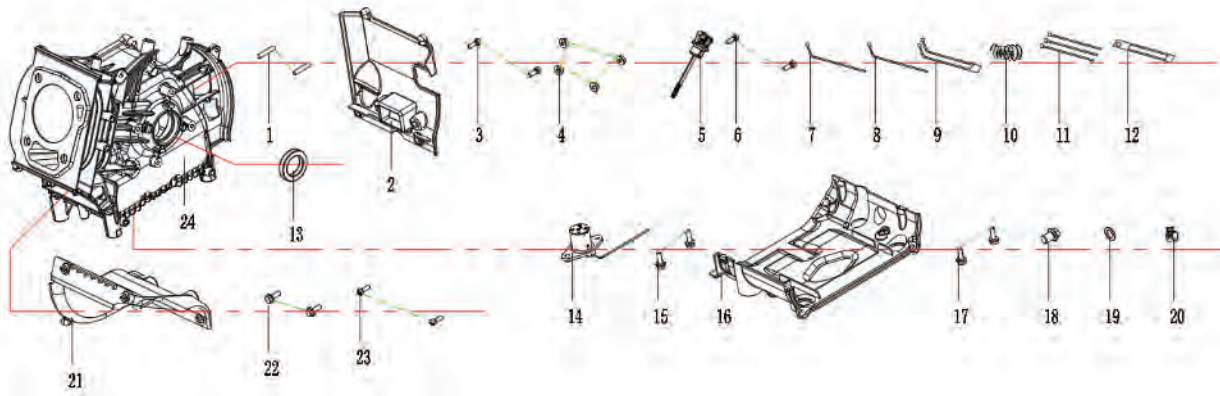
11. EXPLODED VIEW AND PARTS LIST

Table 5. Engine 1



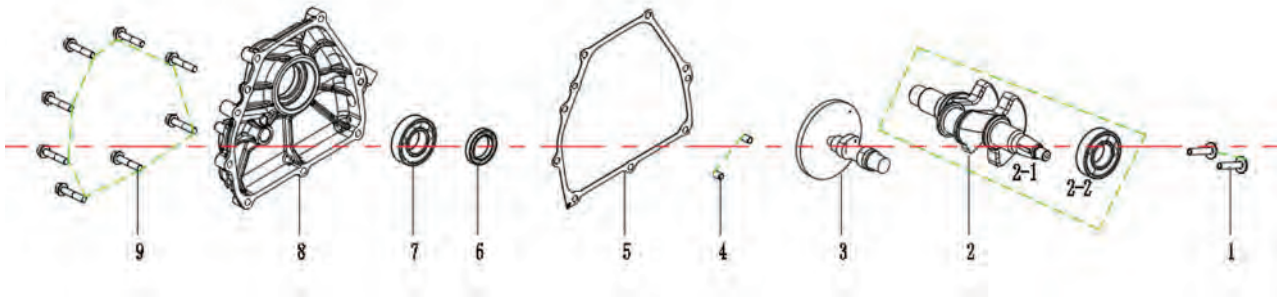
NO.	PART NO.	DESCRIPTION	QUANTITY
1	34006-00080-00	Locating Pin	2
2	33048-00510-00	Cylinder Head Gasket	1
3	34013-00124-00	Intake Valves	1
4	34013-00125-00	Exhaust Valve	1
5	20023-00229-00	Cylinder Head Assembly	1
6	34015-00111-00	Valve Springs	2
7	34018-00005-00	Inlet Valve Oil Shield	1
8	34016-00105-00	Valve Spring Seat	2
9	34016-00106-00	Valve Lock Clip	4
10	20027-00011-00	Spark Plug	1
11	30101-00506-00	Hex Flange Face Bolts	4
12	34020-00041-00	Push Rod	2
13	34019-00054-00	Rocker Assembly	2
14	30134-00026-00	Rocker Shaft	2
15	34021-00329-00	Cylinder Head Guide Wind Cover	1
16	33048-00511-00	Cylinder Head Cover Seal Gasket	1
17	20021-00074-00	Cylinder Cover	1
18	30101-00408-00	Hex Flange Face Bolts	4
19	34023-00266-00	Exhaust Pipes	1
20	34021-00281-00	Cylinder Head Cover Guide Wind Cover	1
21	30117-00057-00	Cross Slot Disc Head Self-Tapping Screws	2

Table 6. Engine 2



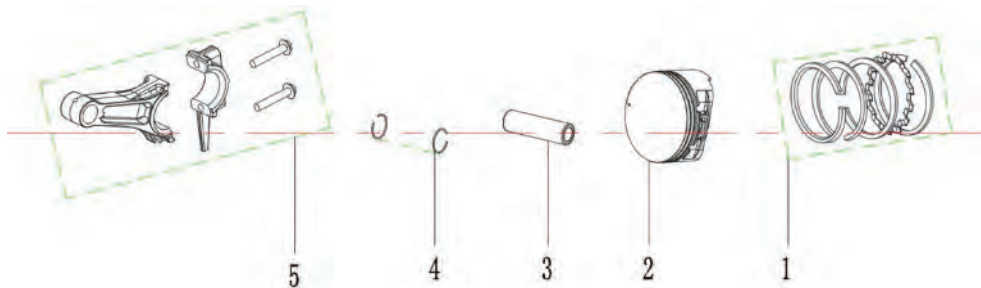
NO.	PART NO.	DESCRIPTION	QUANTITY
1	30110-00190-00	Stud Bolts	2
2	34021-00331-00	Cabinet Side Air Shroud	1
3	30117-00057-00	Cross Slot Disc Head Self-Tapping Screws	2
4	30125-00002-00	Hex Flange Face Nut	4
5	20026-00067-00	Dipstick	1
6	30117-00057-00	Cross Slot Disc Head Self-Tapping Screws	2
7	20196-02573-00	Battery Cable/Frequency Fast Plug	1
8	20196-03232-00	Connecting Wires/Grounding Wires	1
9	20196-02868-00	Battery Connection Cable	1
10	40052-00001-00	Bellows (0.08m)	
11	60008-00023-00	Nylon Cable Ties	3
12	34024-00004-00	Metal Wire Clips	1
13	34007-00028-00	Oil Seals	1
14	33247-00025-00	Oil Sensor	1
15	30101-00342-00	Hex Flange Face Bolts	2
16	34021-00283-00	Down Guide Wind Cover Crankcase	1
17	30101-00662-00	Hex Flange Face Bolts	2
18	34023-00370-00	Drain The Tube	1
19	30136-00080-00	Aluminum Gasket	1
20	34024-00060-00	Hoops	1
21	34021-00280-00	Down Guide Wind Cover, Cylinder Head	1
22	30101-00662-00	Hex Flange Face Bolts	2
23	30117-00057-00	Cross Slot Disc Head Self-Tapping Screws	2
24	34011-00177-00	Crankcase	1

Table 7. Engine 3



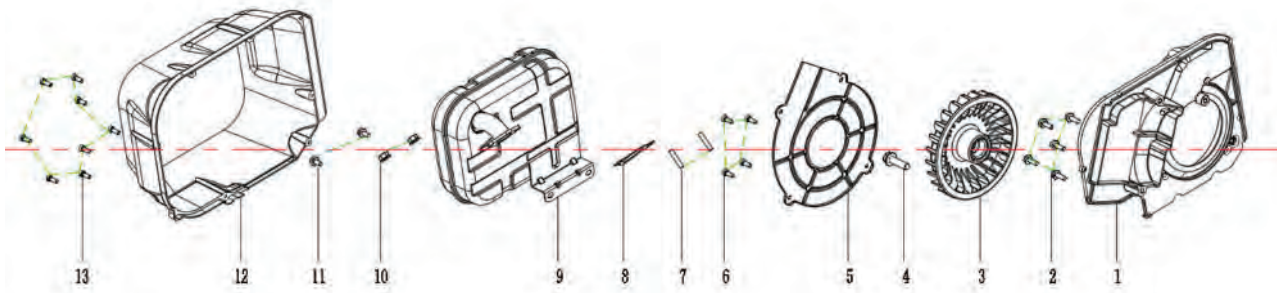
NO.	PART NO.	DESCRIPTION	QUANTITY
1	34008-00020-00	Tappet	2
2	20011-00311-00	Crankshaft	1
2-1	20011-00311-00	Crankshaft	1
2-2	30141-00121-00	Deep Groove Ball Bearings	1
3	20012-00087-00	Camshaft	1
4	34006-00001-00	Locating Pin	2
5	33048-00515-00	Crankcase Cover Seal Gasket	1
6	34007-00028-00	Oil Seal	1
7	30141-00121-00	Deep Groove Ball Bearings	1
8	33129-00103-00	Crankcase Cover	1
9	30101-00370-00	Hex Flange Face Bolts	8

Table 8. Engine 4



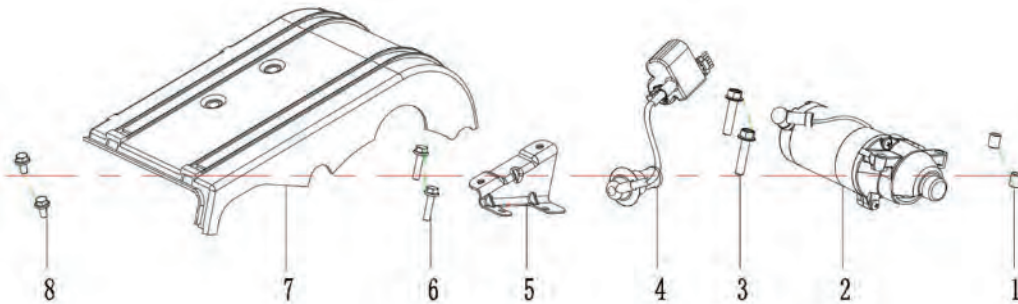
NO.	PART NO.	DESCRIPTION	QUANTITY
1	20084-00063-00	Piston Ring	1
2	34004-00035-00	Piston	1
3	34006-00032-00	Piston Pin	1
4	30150-00048-00	Piston Pin Clip	2
5	20008-00058-00	Connecting Rod	1

Table 9. Engine 5



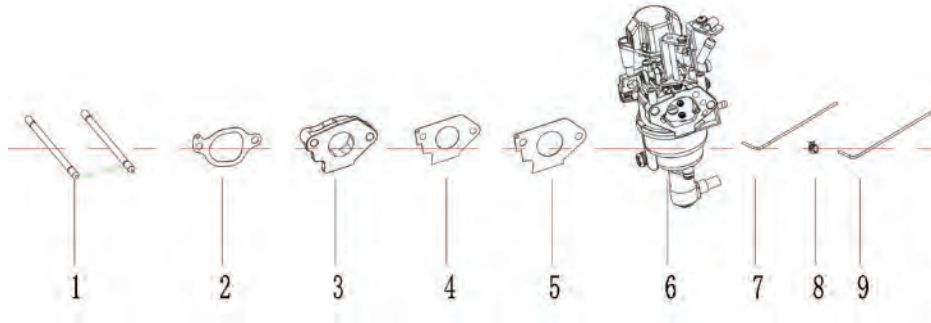
NO.	PART NO.	DESCRIPTION	QUANTITY
1	34021-00284-00	Guide Wind Cover, Back Fan	1
2	30101-00662-00	Hex Flange Face Bolts	5
3	33155-00163-00	Fan	1
4	30101-00490-00	Hex Flange Face Bolts	1
5	33171-00046-00	Cover Of Back Fan	1
6	30117-00057-00	Cross Slot Disc Head Self-Tapping Screws	4
7	30110-00027-00	Exhaust Stud Bolts	2
8	33048-00571-00	Muffler Gasket	1
9	20202-00670-00	Muffler Assy	1
10	30128-00024-00	Anti-Loosen Nut	2
11	30101-00356-00	Hex Flange Face Bolts	2
12	34021-00285-00	Guide Wind Cover, Muffler	1
13	30117-00057-00	Cross Slot Disc Head Self-Tapping Screws	8

Table 10. Engine 6



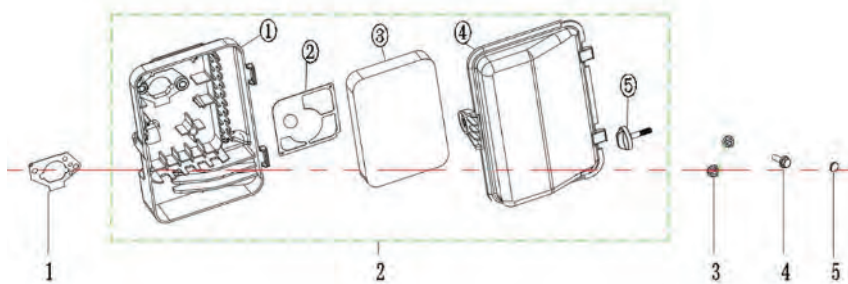
NO.	PART NO.	DESCRIPTION	QUANTITY
1	34006-00006-00	Locating Pins	2
2	20149-00169-02	Start Motor	1
3	30101-00539-00	Hex Flange Face Bolts	2
4	20028-00134-00	Digital Ignition	1
5	20249-00581-00	Support Plates	1
6	30101-00042-00	Hex Flange Face Bolts	2
7	34021-00282-00	Guide Wind Cover, Crankcase	1
8	30101-00662-00	Hex Flange Face Bolts	2

Table 11. Engine 7



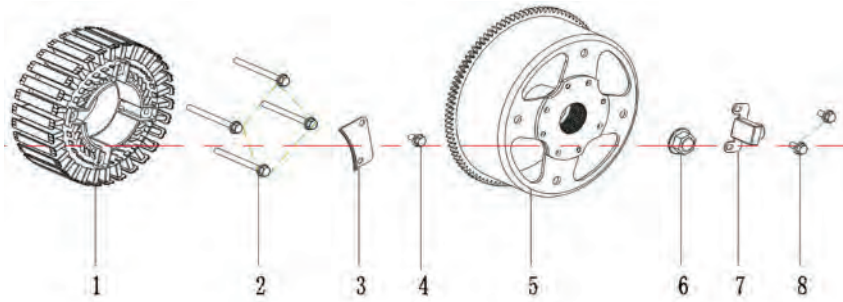
NO.	PART NO.	DESCRIPTION	QUANTITY
1	30110-00017-00	Intake Stud Bolts	2
2	33048-00512-00	Air Inlet Gasket	1
3	34012-00053-00	Carburetor Connection Block	1
4	33048-00513-00	Carburetor Gasket 1	1
5	33048-00766-00	Carburetor Gasket 2	1
6	20024-00477-00	Carburetor	1
7	34023-00386-00	Fuel Pipe	1
8	34024-00031-00	Clamps	1
9	33015-00100-00	Protective Sleeve	1

Table 12. Engine 8



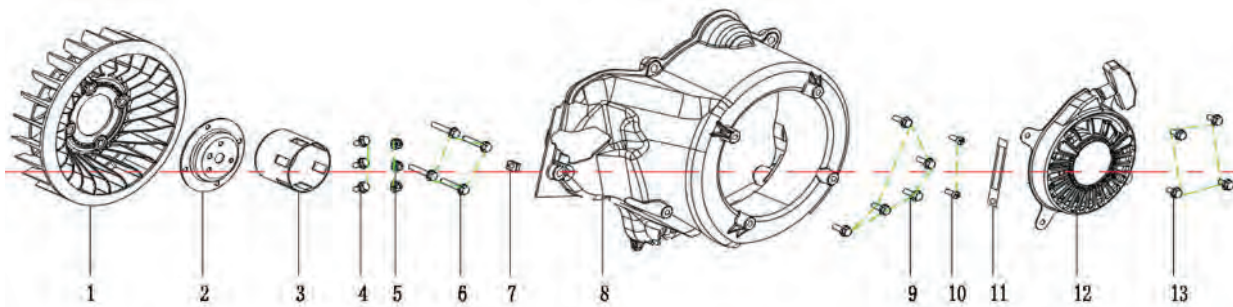
NO.	PART NO.	DESCRIPTION	QUANTITY
1	33048-00514-00	Air Cleaner Gasket	1
2	20025-00252-00	Air Cleaner	1
①		Air Cleaner Bottom Seat	1
②		Tempering Baffle	1
③		Sponge	1
④		Air Cleaner Cover	1
⑤		Air Cleaner Tightening Bolts	1
3	30125-00002-00	Hex Flange Face Nut	2
4	30101-00588-00	Hex Flange Face Bolts	1
5	33015-00255-00	Sleeve 1	1

Table 13. Engine 9



NO.	PART NO.	DESCRIPTION	QUANTITY
1	20005-00290-00	Stator	1
2	30101-00694-00	Hex Flange Face Bolts	4
3	33593-00442-00	Crimping Plates	1
4	30101-00070-00	Hex Flange Face Bolts	1
5	20006-00170-00	Rotor	1
6	30125-00065-00	Hex Flange Face Nut	1
7	20028-00108-00	Trigger	1
8	30101-00070-00	Hex Flange Face Bolts	2

Table 14. Engine 10



NO.	PART NO.	DESCRIPTION	QUANTITY
1	33155-00162-00	Fan	1
2	33136-00015-00	Connect Dish, Start Cup	1
3	34022-00027-00	Start Cup	1
4	30101-00070-00	Hex Flange Face Bolts	3
5	30125-00002-00	Hex Flange Face Nut	3
6	30101-00662-00	Hex Flange Face Bolts	4
7	33015-00256-00	Rubber Sleeve 2	1
8	34021-00279-00	Starter Cover	1
9	30101-00408-00	Hex Flange Face Bolts	5
10	30117-00057-00	Cross Slot Disc Head Self-Tapping Screws	2
11	34024-00004-00	Metal Wire Clips	1
12	20034-00121-00	Starter Coil	1
13	30101-00070-00	Hex Flange Face Bolts	4