

PORTABLE GASOLINE GENERATOR

Model: TMG-9000GE
TMG-12000GE



- Please read the product manual completely before assembly
- Check against the parts list to make sure all parts are received
- Wear proper safety goggles or other protective gears while in assembly

Missing parts or questions on assembly?

Please call: 1-877-761-2819 or email: cs@tmgindustrial.com

Do not return the product to dealer, they are not equipped to handle your requests

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INTRODUCTION

Thank you for purchasing products. We appreciate your business. Our generator is driven by a compact air-cooled engine with high performance, which can supply electrical power to operate power tools on job sites, or to run home appliances during outage, or provide power to remote locations where utility power is unavailable. This manual contains safety information to make you aware of hazards and risks associated with generator products and how to avoid them. It is important that you read and understand these instructions thoroughly before attempting to start or operate this equipment. **Save this original instruction for future reference.**

If any portion of this manual is not understood, please contact the nearest authorized dealer for starting, operating and servicing procedures. We also strongly recommend you to instruct any other users who may operate the generator in an emergency. The Emission Control System within this generator is warranted for standards set by the Environmental Protection Agency(EPA).

SECTION 1- SAFETY RULES



Read this manual carefully and become familiar with your generator. Know its applications, its limitations, and any hazards involved. Failure to follow instructions could result in serious injury or death. Throughout this publication, and on tags and decals affixed to the generator, DANGER, WARNING, CAUTION and NOTE symbols are used to alert personnel with special instructions about a particular operation that may be hazardous if performed incorrectly, or carelessly. Observe them carefully. Their definitions are as follows:



This is the safety alert symbol. It is used to alert you to potential personal injury hazard. Obey all safety messages that follow this symbol to avoid possible injury or death.

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

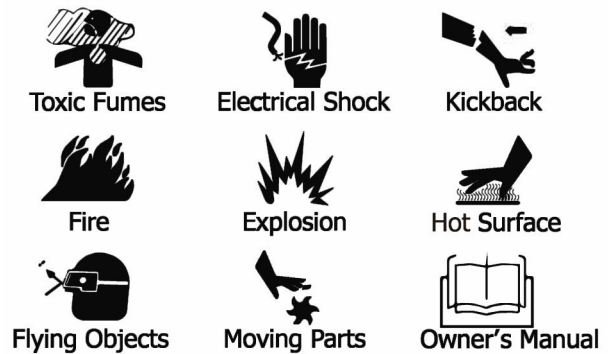
⚠ WARNING WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

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

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

NOTE NOTE provides additional information that is useful for proper use and maintenance of this tool. If a NOTE is indicated, make sure it is fully understood.

Safety Symbols and Meanings



⚠ DANGER

Using a generator indoors WILL KILL YOU IN MINUTES. Exhaust contains carbon monoxide, a poison gas you cannot see or smell.

 NEVER use in the home or in partly enclosed areas such as garages.	 ONLY use outdoors and far from open windows, doors, and vents.
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⚠ WARNING



Toxic Fumes Hazard. Running engines give off carbon monoxide, an odourless poisonous gas that can cause nausea, fainting, or death. Do not start or run engine indoors or in an enclosed area, even if windows and doors are open.

- Operate this product ONLY outdoors.
- Install a battery operated carbon monoxide alarm near the bedrooms.
- Keep exhaust gas away from entering a confined area through windows, doors, ventilation intakes or other openings.
- NEVER operate this product inside any building, carport, porch, mobile equipment, marine applications, or enclosure, even if windows and doors are open.

⚠ WARNING The engine exhaust from this product, certain components in this product and related accessories contain chemicals known to the State of California to cause cancer, birth defects or other reproductive harm. Wash hands after handling.

⚠ WARNING This generator does not meet U.S.Coast Guard Regulation 33CFR-183 and can not be used on marine applications. Incorrect use of the appropriate U.S. Coast Guard approved generator could result in death or serious injury and/or property damage.

⚠ WARNING Starter cord kickback (rapid retraction) will pull hand and arm toward engine faster than you can let go which could cause broken bones, fractures, bruises, or sprains resulting in serious injury.

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

·NEVER start or stop engine with electrical devices plugged in and turned on.

⚠ WARNING Fuel and its vapours are extremely flammable and explosive which could cause burns, fire or explosion resulting in death, serious injury and/or property damage.

WHEN ADDING OR DRAINING FUEL

· Turn generator engine OFF and let it cool at least 2 minutes before removing fuel cap. Loosen cap slowly to relieve pressure in tank.

· Fill or drain fuel tank outdoors.

· DO NOT over fill tank.Allow space for fuel expansion.

· If fuel spills, wait until it evaporates before starting engine.

· Keep fuel away from sparks,open flames, pilot light, heat, and other ignition sources.

· Check fuel lines, tank,cap and fittings frequently for cracks or leaks. Replace if necessary

· DO NOT light a cigarette or smoke.

⚠ WARNING WHEN STARTING EQUIPMENT

· Ensure spark plug,muffler, fuel cap,and air cleaner are in place.

· DO NOT crank engine with spark plug removed.

WHEN OPERATING EQUIPMENT

· DO NOT operate this product inside any building, carport, porch, mobile equipment marine applications, or enclosure.

·DO NOT tip engine or equipment at angle which cause fuel to spill.

· DO NOT stop engine by moving choke control to "OFF" position.

WHEN TRANSPORTING, OR REPAIRING EQUIPMENT

· Transport/move/repair with fuel tank EMPTY or with fuel valve OFF.

· DO NOT tip engine or equipment at angle which cause fuel to spill.

·Disconnect spark plug wire.

WHEN STORING FUEL OR EQUIPMENT WITH FUEL INTANK

· Store away from furnaces, stoves, water heaters, clothes dryers, or other appliances that have light or other ignition source because they could ignite fuel vapours.

⚠ WARNING Generator voltage could cause electrical shock or burn resulting in death or serious injury.

· Use approved transfer equipment to prevent back feed by isolating generator from electric utility workers.

· When using generator for backup power, notify utility company.

· Use a ground fault circuit interrupter in any damp or highly conductive area, such as metal decking or steel work.

· DO NOT touch bare wires or receptacles.

· DO NOT use generator with electrical cords which are worn, frayed,bare or otherwise damaged.

· DO NOT operate generator in the rain or wet weather.

· DO NOT handle generator or electrical cords while standing in water, while barefoot, or while hands or feet are wet.

· DO NOT allow unqualified persons or children to operate or service generator.

⚠ WARNING

Exhaust heat/gases could ignite combustibles, structures or damage fuel tank causing a fire, resulting in death, serious injury

- and/or property damage. Contact with muffler area could cause burns resulting in serious injury.
- DO NOT touch hot parts and AVOID hot exhaust gases.
- Allow equipment to cool before touching.
- Keep at least 1.5 m (5 ft.) of clearance on all sides of generator including overhead.
- It is violation of California Public Resource Code, Section 4442, to use or operate the engine on any frost-covered, brush-covered, or grass-covered land unless the exhaust system is equipped with a spark arrester, as defined in Section 4442, maintained in effective working order. Other states or federal jurisdictions may have similar laws.
- Contact the original equipment manufacturer, retailer, or dealer to obtain a spark arrester designed for the exhaust system installed on this engine.
- Replacement parts must be the same and installed in the same position as the original parts.

⚠ WARNING

Unintentional sparking could cause fire or electric shock resulting in death or serious injury.

WHEN ADJUSTING OR MAKING REPAIRS TO YOUR GENERATOR

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

WHEN TESTING FOR ENGINE SPARK

- Use approved spark plug tester.
- DO NOT check for spark with spark plug removed.

⚠ WARNING

- Starter and other rotating parts could entangle hands, hair, clothing, or accessories resulting in serious injury.
- NEVER operate generator without protective housing or covers.
 - DO NOT wear loose clothing, jewelry or anything that could be caught in the starter or other rotating parts.
 - Tie up long hair and remove jewelry.

⚠ CAUTION

- Excessively high operating speeds could result in minor injury and/or generator damage.
- Excessively low speeds impose a heavy load.
- DO NOT tamper with governor spring, links or other parts to increase engine speeds. Generator supplies correct rated frequency and voltage when running at governed speed.
 - DO NOT modify generator in any way.

NOTE

- Exceeding generator's wattage/ amperage capacity could damage generator and/or electrical devices connected to it.
- DO NOT exceed the generator's wattage/ amperage capacity. See Don't Overload Generator in the Operation section.
 - Start generator and let engine stabilize before connecting electrical loads.
 - Turn electrical loads OFF and disconnect from generator before stopping generator.

NOTE

- Improper treatment of generator could damage it and shorten its life.
- Use generator only for intended uses.
 - If you have questions about intended use, ask dealer or contact local service center.
 - Operate generator only on level surfaces.
 - DO NOT expose generator to excessive moisture, dust, dirt, or corrosive vapour.
 - DO NOT insert any object through cooling slots.
 - If connected devices overheat, to turn them off and disconnect them from generator.
 - or electrical output is lost.
 - or equipment sparks, smokes, or emits flames.
 - or unit vibrates excessively.
 - to turn them off and disconnect them from generator.

SECTION 2-GENERAL INFORMATION

2.1 UNPACKING

- Set the carton on a rigid, flat surface.
- Remove everything from carton except generator.
- Open carton completely by cutting each corner from top to bottom.
- Leave generator on carton to install wheel kit.

2.1.1 PACKING CONTENTS

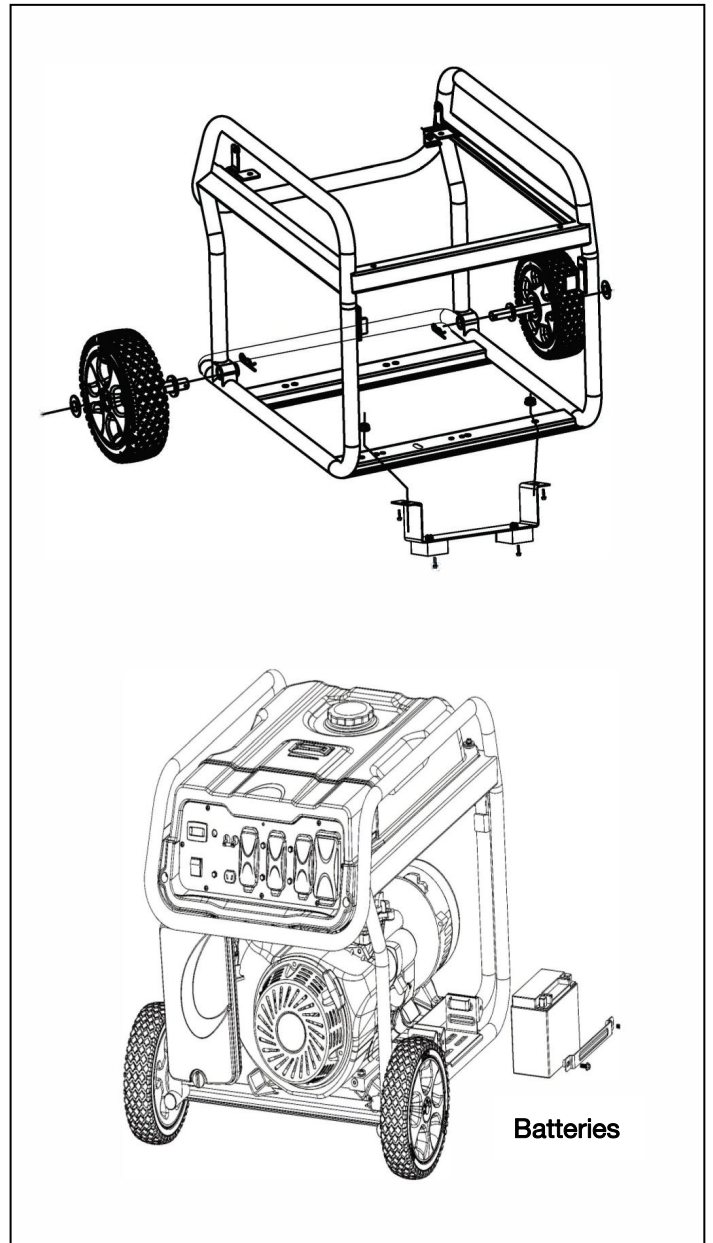
- 1-Owner's Manual
- 2-Wheels
- 2-Wheel Axle
- 1-Hardware Bag
(Including 1-Spark Plug Socket;1-Extension)

2.2 ASSEMBLY

The generator requires some assembly prior to using it.

2.2.1 ASSEMBLING THE ACCESSORY KIT

The wheels are designed to greatly improve the portability of the generator.



NOTE The wheels are Not intended for ver-the-road use

Refer to Figure to install the leg supports as shown.

- Unscrew nut on leg support, install bolt through the generator frame,secure the bolt tightly with wrench (not included).

Refer to Figure to install wheels as shown.

- Slide the axle through the wheel hub, then insert the flat washer.
- Slide the axle through the frame brackets.
- Bend the cotter pin tabs outward to lock the pin in place.

IMPORTANT: Before operating the generator the shock-absorbing seat(cushion) must be adjusted for proper clearance(figure 1). Loosen the lock nut and Adjust the shock-absorbing seat so there is a3 mm gap between the top of the seat and the bottom of the motor bracket(figure 2). Re-tighten the lock nut.

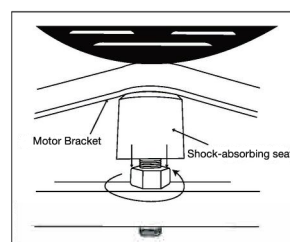


Figure1

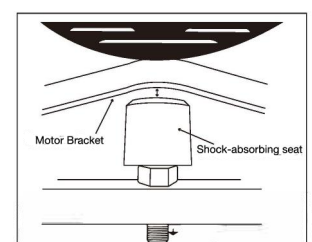
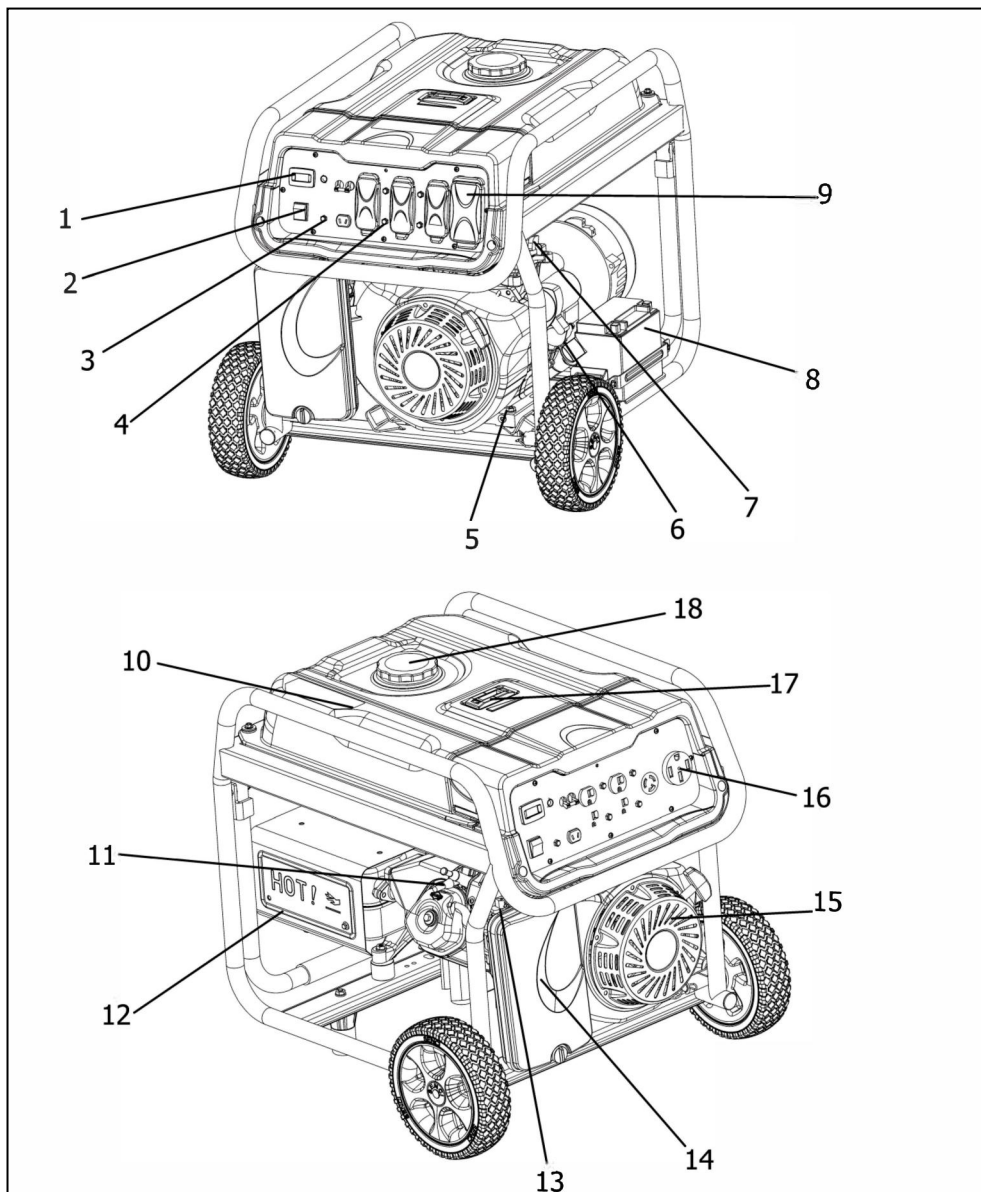


Figure2

SECTION 3 -FEATURES AND CONTROLS



Read this Owner's Manual and safety rules before operating your generator. Compare the illustrations with your generator, to familiarize yourself with the locations of various controls and adjustments. See this manual for future reference.



1	Time Meter	10	Fuel Tank
2	Engine Switch	11	Spark Plug
3	Ground Terminal	12	Muffler
4	AC Circuit Breaker	13	Choke Lever
5	Oil Drain Plug	14	Air Filter
6	Oil Fill Cap/Dipstick	15	Recoil Starter
7	Fuel Valve	16	AC Recptacle
8	Battery	17	Fuel Gauge
9	Cover	18	Fuel Tank Cap

NOTE

Pictures and drawings used in this manual are for reference only and do not represent any specific model.

SECTION 4-PREPARATION BEFORE OPERATION

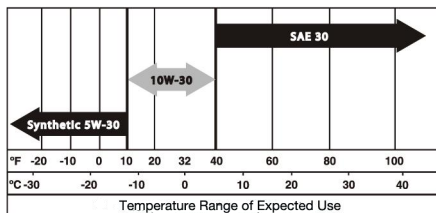
4.1 ADDING ENGINE OIL

All oil should meet minimum American Petroleum Institute(API) Service Class SJ,SL or better. Use no special additives. Select the oil's viscosity grade according to the expected operating temperature(also see chart).

Above 4°C(40°F),use SAE 30

Between 4 to -12°C(40 to 10°F),use 10W-30

Below -12°C(10°F),use synthetic 5W-30



NOTE

Improper treatment of generator could damage it and shorten its life. DO NOT attempt to crank or start the engine before it has been properly serviced with the recommended oil. This could result in an engine failure. Place generator on a flat, level surface.

- Clean area around oil fill and remove oil fill cap and dipstick. Wipe dipstick clean.
- Slowly fill engine with oil through the oil filter open until it reaches the full mark on the dipstick. Stop filling occasionally to check oil level. Be careful do not over fill.
- Install oil fill cap and finger tighten securely.
- Check engine oil level before starting each time thereafter

4.2 ADDING FUEL

DANGER

Never fill tank indoors. Never fill fuel tank when engine is running or hot. Turn generator engine OFF and allow engine to cool entirely before filling fuel tank. Avoid spilling gasoline on HOT engine. Keep fuel away from sparks, open flames, pilot lights, heat, and Other ignition sources. DO NOT light a cigarette or smoke when filling the fuel tank. Fuel is highly FLAMMABLE and its vapours are EXPLOSIVE.

- Fuel must meet these requirements:
Clean, fresh, unleaded gasoline.
A minimum of 87octane/87AKI (91 RON).
Never use E85 fuel.
- Gasoline with up to 10% ethanol (gasohol) or up

to 15%MTBE(methyl tertiary butyl ether) is acceptable.

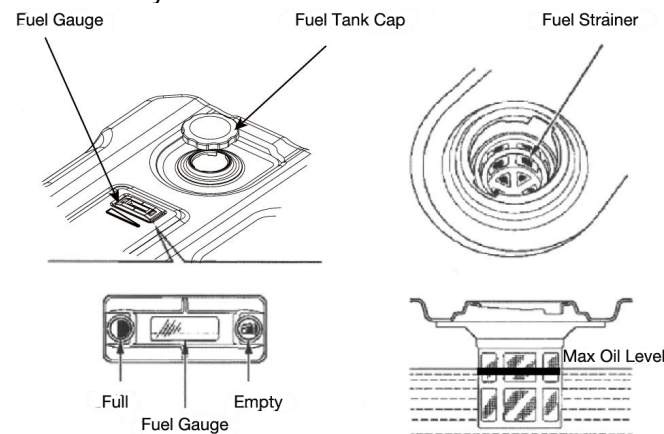
- Do not mix oil with gasoline
- Install fuel cap and wipe up any spilled gasoline.

CAUTION



Do not overfill the fuel tank. Allow space for fuel expansion.

IF the fuel tank is overfilled, fuel can overflow onto a HOT engine and cause FIRE or EXPLOSION.If fuel spills,wait until it evaporates before starting engine. Check fuel lines, tank, cap and fittings frequently for cracks or leaks. Replace if necessary



IMPORTANT: It is important to prevent gum deposits from forming in fuel system parts such as the carburetor, fuel hose or tank during storage. Alcohol-blended fuels (called gasohol), ethanol or methanol) can attract moisture, which leads to separation and formation of acids during storage. Acidic gas can damage the fuel system. So the fuel should be emptied before storage of 30 days or longer. See the "Storage" section. Never use engine or carburetor cleaner products in the fuel tank as permanent damage may occur.

4.3 GROUNDING THE GENERATOR

The national Electrical Code requires that the frame and external electrically conductive part of this generator be properly connected to an approved earth ground.

Local electrical codes may also require proper grounding of the unit. For that purpose, connecting a No.10 AWG (American Wire Gauge) stranded copper wire to the grounding lug and to an earth-driven

copper or brass grounding rod (electrode) provides adequate protection against electrical shock. However, local codes may vary widely. Consult with a local electrician for grounding requirement in the area. Proper grounding of the generator will help prevent electrical shock in the event of ground fault condition in the generator or in connected electrical devices. Proper grounding also helps dissipate static electricity, which often builds up in ungrounded devices.

WATTAGE REFERENCE GUIDE

Wattage Reference Guide		
Tool or Appliance	Running (Rated) Watts	Additional Starting (Surging) Watts
Essentials		
Light Bulb-75 watt	75	-
Furnace Fan Blower-1/2 HP	800	2350
Sump Pump-1/3HP	800	1300
Refrigerator/Freezer	700	2200
Water Well Pump-12HP	1000	2100
Heating/Cooling		
Window AC-1000 BTU	1200	3600
Humidifier-49L(13 gal.)	175	-
Central AC-24000BTU	3800	11400
Kitchen		
Microwave Oven-1000Watt	1000	-
Coffee Maker	1000	-
Electric Stove -20cm (8 in.)	2100	-
Toaster	850	-
Family Room		
DVD/CD Player	100	-
VCR	100	-
Stereo Receiver	450	-
Colour television-68cm (27in)	500	-
Persona Computer-43cm (17 in) monitor	800	-
Other		
Security System	500	-
AM/FM Clock Radio	100	-
Garage Door Opener-1/2 HP	875	2350
Electric Water Heater	4700	11700
DIY/Job Site		
Quartz Halogen Work Light	1000	-
Ares Sprayer-1/3HP	600	1200
Reciprocating Saw	960	-
Electric Drill-1/2 HP 5.4 Amps	600	900
Circular Saw-18cm (7 1/4 in.)	1400	2300
Miter Saw-25cm (10 in.)	1800	1800
Table Planer-15cm (6in)	1800	1800

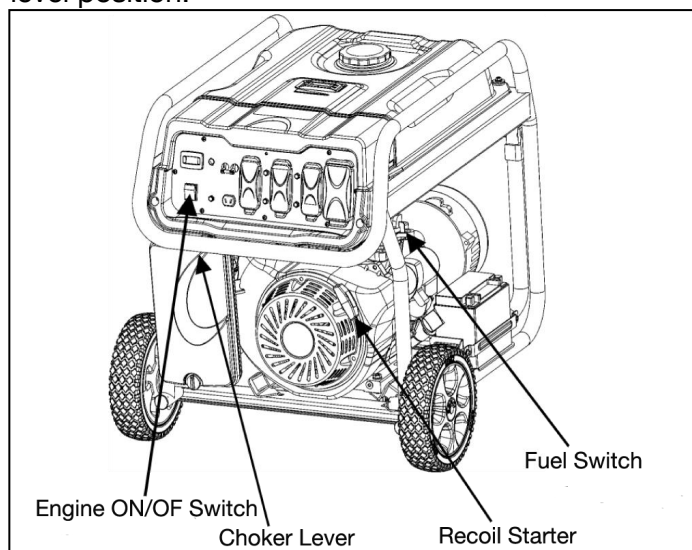
Table Saw/Radial Am Saw -25cm (10in)	2000	2000
Air Compressor-1HP	1600	4500

SECTION 5 – OPERATION

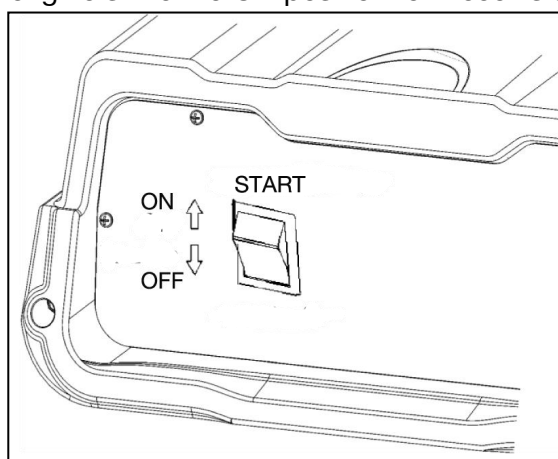
5.1 STARTING THE ENGINE

WARNING Never start or stop engine with electrical devices plugged into the receptacles AND devices turned on.

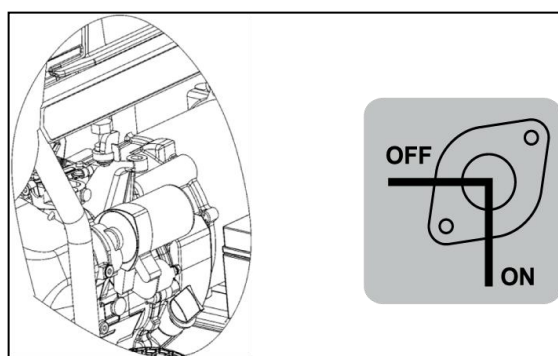
Unplug all electrical loads from the unit's receptacles before starting the engine. Make sure the unit is in a level position.



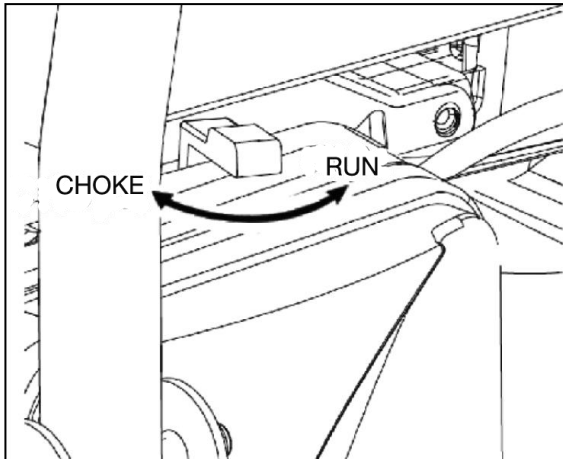
Turn engine switch to ON position for Recoil start.



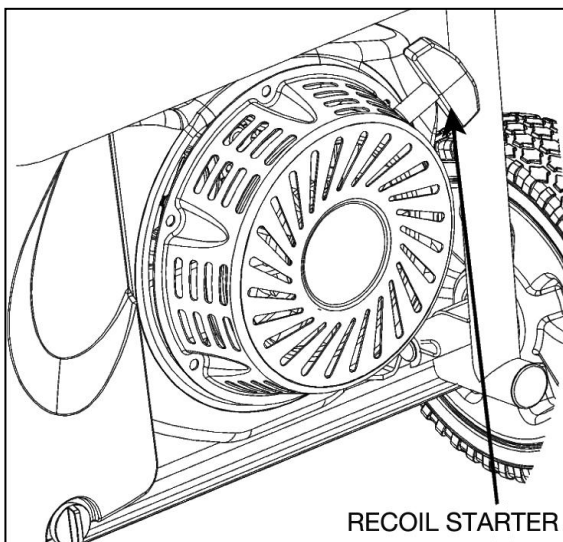
Turn Fuel switch to ON position.



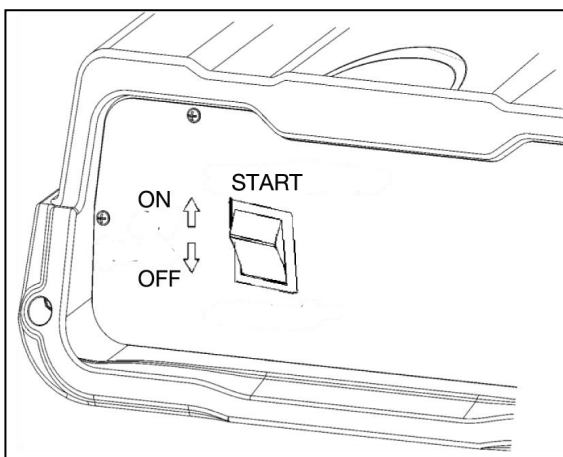
Move engine choke lever to the CHOKE position.



For Recoil start, firmly grasp the recoil handle and pull slowly until increased resistance is felt. Pull rapidly up and away.



For electric start, set the switch to the "ON." turn and hold key in start switch to "start" position until generator starts. To prolong the life of starter components, DO NOT hold key in "start" position for more than 15 seconds, and pause for at least 1 minute between starting attempts.



When engine starts, move choke lever to 1/2-CHOKE position until engine runs smoothly and then fully into RUN position. If engine falters, move choke back out to 1/2-CHOKE position until engine runs smoothly and then fully into RUN position.

NOTE If battery is discharged, use manual starting instructions.

NOTE If engine fires, but does not continue to run, move choke lever to the CHOKE position and repeat starting instructions.

WARNING Starter cord kickback (rapid retraction) will pull hand and arm toward engine faster than you can let go which could cause broken bones, fractures, bruises, or sprains resulting in serious injury. When starting engine, pull cord slowly until resistance is felt and then pull rapidly to avoid kickback. Never start or stop engine with electrical devices plugged in and turned on.

NOTE If engine fails to start after 3 pulls, or if unit shut down during operation, make sure unit is on a level surface and check for proper oil level in crankcase. This unit may be equipped with a low oil protection device. If so, oil must be checked at proper level for engine to start and run.

WARNING Exhaust heat/ gases could ignite combustible, structures or damage fuel tank causing a fire, resulting in death, serious injury and/or property damage. Contact with muffler area could cause burn resulting in serious injury. DO NOT touch hot part and AVOID hot exhaust gases. Allow equipment to cool before touching. Keep at least 1.52m (5 f.) of clearance on all sides of generator including overhead. Contact the original equipment manufacturer, retailer, or dealer to obtain a spark arrester designed for the exhaust system installed on this engine. Replacement parts must be the same and installed in the same position as the original parts.

IMPORTANT: Do not overload the generator. Also, do not overload individual panel receptacles. These outlets are protected against overload with push-to-reset-type circuit breakers. If amperage rating of any circuit breaker is exceeded, that breaker opens and electrical output to that receptacle is lost.

5.2 CONNECTING ELECTRICAL LOADS

- Let engine run stable and warm up for a few minutes after starting.
- Plug in and turn on the desired 120 and/or 240 Volt AC, single phase, 60 Hz electrical loads.
- Add up the rated watts (or amps) of all loads to be connected at one time. This total should not be greater than (a) the rated wattage/amperage capacity of the generator or (b) circuit breaker rating of the receptacle supplying the power.

NOTE

DO NOT connect 240 Volt loads to the 120 Volt duplex receptacles, and do not do vice versa Also.

DO NOT connect 3 phase loads to the generator.
DO NOT connect 50 Hz loads to the generator.

NOTE

Start generator and let engine stabilize before connecting electrical loads. Connect electrical loads in OFF position then turn ON for operation. Turn electrical loads OFF and disconnect from generator before stopping generator.

NOTE

Exceeding generator's wattage/amperage capacity could damage generator and/or electrical devices connected DO NOT exceed the generator's wattage/amperage capacity.

- Overloading a generator in excess of its rated wattage capacity can result in damage to the generator and to connected electrical devices. Observe the following to prevent overloading the unit:
 - Add up the total wattage of all electrical devices to be connected at one time. This total should NOT be greater than the generator's wattage capacity.
- The rated wattage of lights can be taken from light bulbs. The rated wattage of tools, appliances and motors can usually be found on a data label

or decal affixed to be the device.

If the appliance, tool or motor does not give wattage, multiply volts times ampere rating to determine watts (volts \times amps = watts).

Some electric motors, such as induction types, require about three times more watts of power for starting than for running. This surge of power lasts only a few seconds when starting such motors. Make sure to allow for high starting wattage when selecting electrical devices to connect to the generator:

- Figure the watts needed to start the largest motor
- Add to that figure the running watts of all other connected loads.

The wattage reference guide is provided to assist in determining how many items the generator can operate at one time.

5.3 STOPPING THE ENGINE

Shut off all loads then unplug the electrical cables from generator panel receptacles. Never start or stop the engine with electrical devices plugged in and turned on.

Let engine run at no-load for several minutes to stabilize the internal temperatures of engine and generator.

Move ON/OFF switch to OFF position. Close fuel valve.

5.4 LOW OIL LEVEL SHUT DOWN SYSTEM

The engine is equipped with a low oil level sensor that shuts down the engine automatically when the oil level drops below a specified level. If the engine shuts down by itself and the fuel tank has enough gasoline, check engine oil level.

5.5 HIGH ALTITUDE

At altitudes over 914 m (3,000 ft), a minimum 87 octane/87AKI(91 RON) gasoline is acceptable. To remain emissions compliant, high altitude adjustment is required. Operation without this adjustment will cause decreased performance, increased fuel consumption, and increased emissions. See an authorized dealer for high altitude adjustment information. Operation of the engine at altitudes below 762m (2,500 ft) with the high altitude kit is not recommended.

SECTION 6- MAINTENANCE

6.1 MAINTENANCE SCHEDULE

Follow the calendar intervals shown below. More frequent service is required when operating in adverse conditions.

First 5 Hours
· Change engine oil
Every 8 Hours or Daily
· Clean debris
· Check engine oil level
Every 25 Hours or Yearly
· Clean engine air filter
Every 50 Hours or Yearly
· Change engine oil
Yearly
· Replace engine air filter
· Service fuel valve
· Service spark plug
· Inspect muffler and spark arrester
· Clean cooling system

6.2 GENERAL RECOMMENDATIONS

The warranty of the generator does not cover items that have been subjected to operator abuse or negligence. To receive full value from the warranty, the operator must maintain the generator as instructed in this manual.

Some adjustments will need to be made periodically to properly maintain the generator.

All adjustments in the Maintenance section of this manual should be made at least once each season. Follow the requirements in the "Maintenance Schedule."

NOTE Once a year replace the spark plug and replace the air filter. A new spark plug and clean air filter assure proper fuel-air mixture and help the engine run better and last longer.

6.2.1 GENERATOR MAINTENANCE

Generator maintenance consists of keeping the unit clean and dry. Operate and store the unit in a clean dry environment where it will not be exposed to excessive dust, dirt, moisture or any corrosive vapours. Cooling air slots in the generator must not become clogged with snow, leaves, or any other foreign material.

Check the cleanliness of the generator frequently and clean when dust, dirt, oil, moisture or other foreign substances are visible on its exterior surface.

CAUTION Never insert any object or tool through the air cooling slots, even if the engine is not running.

NOTE DO NOT use a garden hose to clean generator. Water can enter the engine fuel system and cause problems. In addition, if water enters the generator through cooling air slots, some water will be retained in voids and crevices of the rotor and stator winding insulation. Water and dirt buildup on the generator internal windings will eventually decrease the insulation resistance of these windings.

6.2.2 TO CLEAN THE GENERATOR

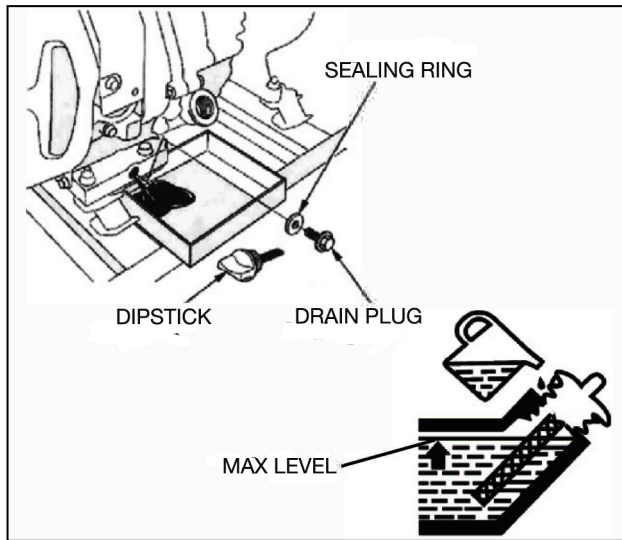
- Use a damp cloth to wipe exterior surfaces clean.
- A soft, bristle brush may be used to loosen caked on dirt, oil etc.
- A vacuum cleaner may be used to pick up loose dirt and debris.
- Low pressure air (not to exceed 25 psi) may be used to blow away dirt. Inspect cooling air slots and openings on the generator. These openings must be kept clean and unobstructed.

6.2.3 ENGINE MAINTENANCE

DANGER When working on the generator, always disconnect spark plug wire from spark plug and keep wire away from spark plug.

6.2.4 CHANGING THE OIL

Change the oil after the first five hours of operation, then every 50 hours thereafter. If running this unit under dirty or dusty conditions, or in extremely hot weather, to change the oil more often.



CAUTION

Hot oil may cause burns

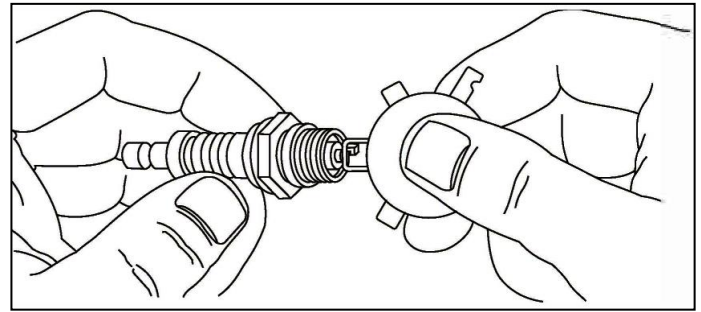
Allow engine to cool before draining oil. Avoid prolonged or repeated skin exposure with used oil. Thoroughly wash exposed areas with soap. Use the following instructions to change the oil while the engine is still warm:

- Clean area around oil drain plug.
- Remove oil drain plug from engine and oil fill plug to drain oil completely into a suitable container.
- When oil has completely drained, install oil drain plug and tighten securely.
- Fill engine with recommended oil. (See "Before Starting the Generator" for oil recommendations).
- Wipe up any spilled oil.
- Dispose of used oil at a proper collection centre.

6.2.5 REPLACING THE SPARKPLUG

Use spark plug F6TC, FTC, BPR4ES or Champion RN14YC. Replace the plug once each year. This will help the engine start easier and run better.

- Stop the engine and pull the spark plug wire off of the spark plug.
- Clean the area around the spark plug and remove it from the cylinder head.
- Set the spark plug's gap to 0.70-0.80 mm (0.028-0.031 in). Install the correctly gapped spark plug into the cylinder head and torque to 15 ft/lbs.



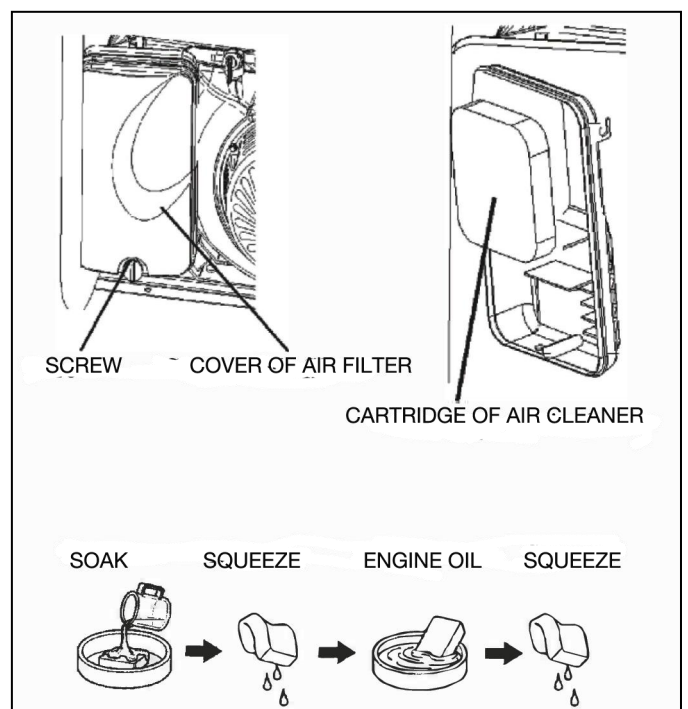
6.2.6 SPARK ARRESTER

- Shut off generator and allow the engine and muffler to cool down completely before servicing spark arrester (located on the back of the muffler).
- Remove the clamp and spark arrester screen.
- Clean the spark arrester screen with a small wire brush.
- Replace the spark arrester if it is damaged.
- Installation of the spark arrester screen is the reverse of the removal.

6.3 SERVICE AIR FILTER

The engine will not run properly and may be damaged if using a dirty air filter. Replace the air filter once a year. Clean or replace more often if operating under dusty conditions.

- Remove air filter cover.
- Wash in soapy water. Squeeze filter dry in clean cloth (DO NOT TWIST).
- May drop a bit of engine-oil to avoid ice blocked during winter season.
- Clean air filter cover before re-installing it.



6.4 VALVE CLEARANCE

After the first 50 hours of operation, check the valve clearance in the engine and adjust if necessary.

Important: If feeling uncomfortable about doing this procedure or the proper tools are not available, please take the generator to the nearest service centre to have the valve clearance adjusted. This is a very important step to ensure longest life for the engine.

SECTION 7- STORAGE

7.1 GENERAL

The generator should be started at least once every seven days and be allowed to run at least 30 minutes. If this cannot be done and the unit must be stored for more than 30 days, use the following information as a guide to prepare it for storage.

⚠ DANGER NEVER store engine with fuel in tank indoors or in enclosed, poorly ventilated areas where fumes may reach an open flame, spark or pilot light as on a furnace, water heater, clothes dryer or other gas appliance

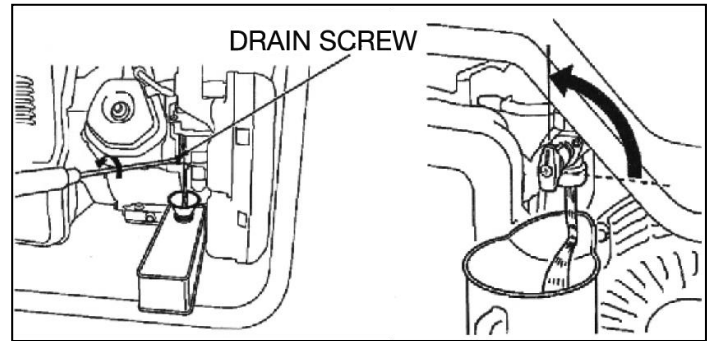
⚠ CAUTION Avoid spray from spark plug holes when cranking engine.

⚠ DANGER Drain fuel into approved container outdoors, away from open flame. Be sure engine is cool. Do not smoke.

7.2 LONG TERM SHORTAGE INSTRUCTIONS

It is important to avoid gum deposits from forming in essential fuel system parts such as the carburetor, fuel hose or tank during storage. Also, experience indicates that alcohol-blended fuels (called gasohol, ethanol or methanol) can attract moisture, which leads to separation and formation of acids storage. Acidic gas can damage the fuel system of an engine while in storage.

To avoid engine problems, the fuel system should be emptied before storage of 30 days or longer, as follows:



- Remove all gasoline from the fuel tank.
- Start and run engine until engine stops from lack of fuel.
- While engine is still warm, drain oil from crankcase. Refill with recommended grade.
- Remove spark plugs and pour about 15ml (1/2 oz) of engine oil into the cylinders. Cover spark plug hole with rag. Pull the recoil starter a couple times to lubricate the piston rings and cylinder bore.

7.3 OTHER STORAGE TIPS

- Do not store gasoline from one season to another.
- Replace the gasoline can if it starts to rust. Rust and/or dirt in the gasoline will cause problems with the carburetor and fuel system.
- If possible, store the unit indoors and cover it to give protection from dust and dirt. **BE SURE TO EMPTY THE FUEL TANK.**
- If it is not practical to empty the fuel tank and the unit is to be stored for some time, use a commercially available fuel stabilizer added to the gasoline to increase the life of the gasoline.
- Cover the unit with a suitable protective cover that does not retain moisture.

⚠ DANGER NEVER cover the generator while engine and exhaust area are warm.

- Install and tighten spark plugs. Do not connect spark plug wires.
- Clean the generator outer surfaces. Check that cooling air slots and openings on generator are open and unobstructed.
- Store the unit in clean, dry place.

SECTION 8- TROUBLESHOOTING

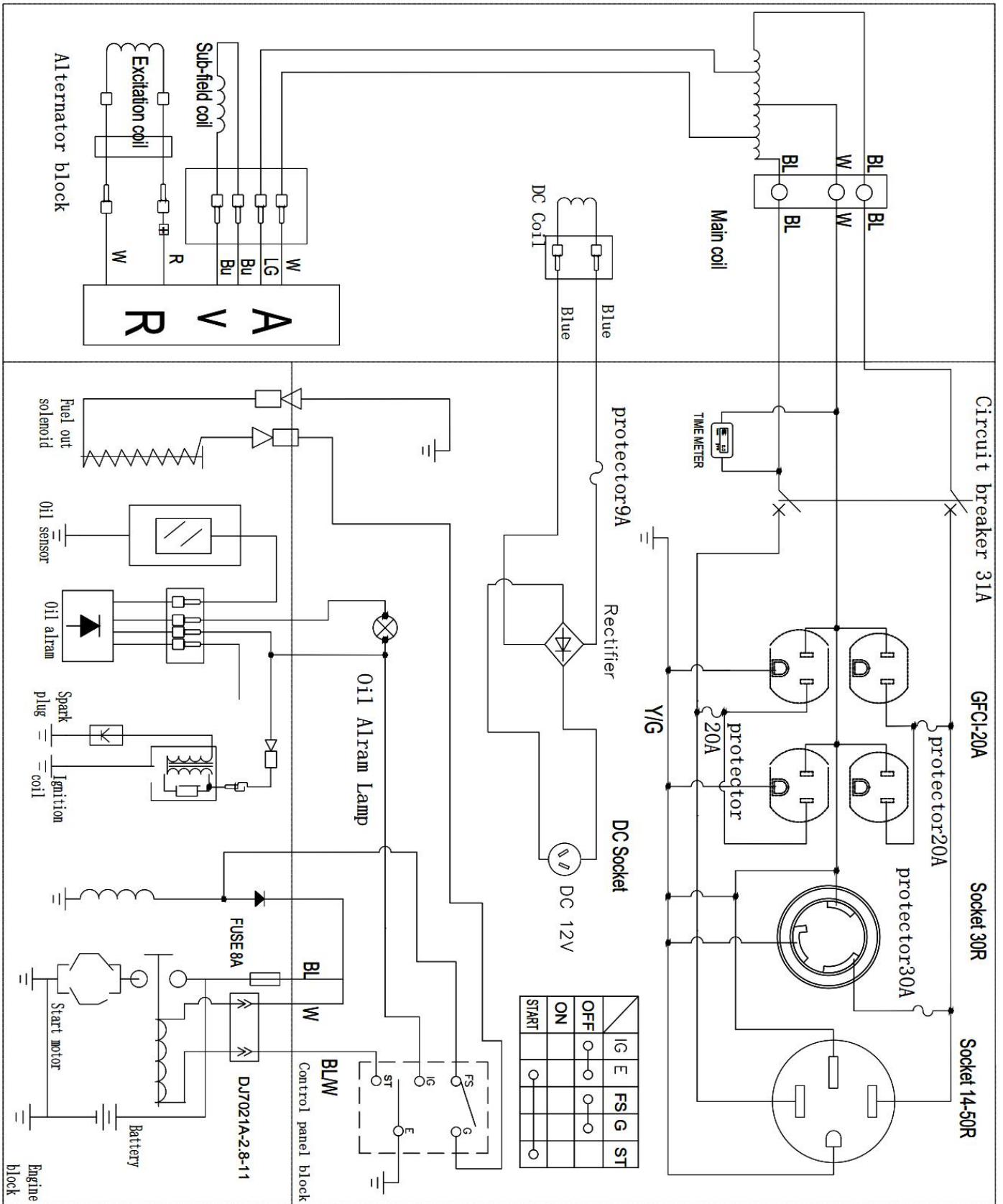
Problem	Cause	Correction
Engine is running, but no AC output is available.	<ol style="list-style-type: none"> 1. One of the circuit breakers is off. 2. Fault in generator. 3. Poor connection or defective cord set. 4. Connected device is bad. 	<ol style="list-style-type: none"> 1. Turn circuit breaker to ON. 2. Contact authorized service facility. 3. Check and repair. 4. Connect another device that is in good condition.
Engine runs well without loading, but "bogs down" when loads are connected	<ol style="list-style-type: none"> 1. Short circuit in a connected load. 2. Engine speed is too slow. 3. Generator is overloaded. 4. Shorted generator circuit. 5. Clogged or dirty fuel filter. 	<ol style="list-style-type: none"> 1. Disconnect shorted electrical load. 2. Contact authorized service facility. 3. See Don't Overload Generator. 4. Contact authorized service facility. 5. Clean or replace fuel filter.
Engine can't be started, or runs rough or shuts down while running.	<ol style="list-style-type: none"> 1. Start switch in off position. 2. Fuel valve is in "Off" position. 3. Failed battery. 4. Low oil level. 5. Dirty air cleaner. 6. Clogged or dirty fuel filter. 7. Out of fuel. 8. Stale fuel. 9. Spark plug wire not connected to spark plug. 10. Bad spark plug. 11. Water in fuel. 12. Flooded. 13. Excessively rich fuel mixture. 14. Intake valve stuck open or closed. 15. Engine has lost compression. 	<ol style="list-style-type: none"> 1. Turn key in start switch to "On". 2. Turn fuel valve to "On" position. 3. Replace battery. 4. Fill crankcase to proper level or place generator on level surface. 5. Clean or replace air cleaner. 6. Clean or replace fuel filter. 7. Fill fuel tank. 8. Drain fuel tank and carburetor; fill with fresh fuel. 9. Connect wire to spark plug. 10. Replace spark plug. 11. Drain fuel tank and carburetor; fill with fresh fuel. 12. Wait 5 minutes and re-crank engine. 13. Contact authorized service facility. 14. Contact authorized service facility. 15. Contact authorized service facility.
Engine lacks power.	<ol style="list-style-type: none"> 1. Load is too high. 2. Dirty air filter. 3. Clogged or dirty fuel filter. 	<ol style="list-style-type: none"> 1. See Don't Overload Generator. 2. Replace air filter. 3. Clean or replace fuel filter.
Engine "hunts" or falters	<ol style="list-style-type: none"> 1. Carburetor is running too rich or too lean. 2. Clogged or dirty fuel filter. 	<ol style="list-style-type: none"> 1. Contact authorized service facility. 2. Clean or replace fuel filter

SECTION 9— PARAMETER SPECIFICATION

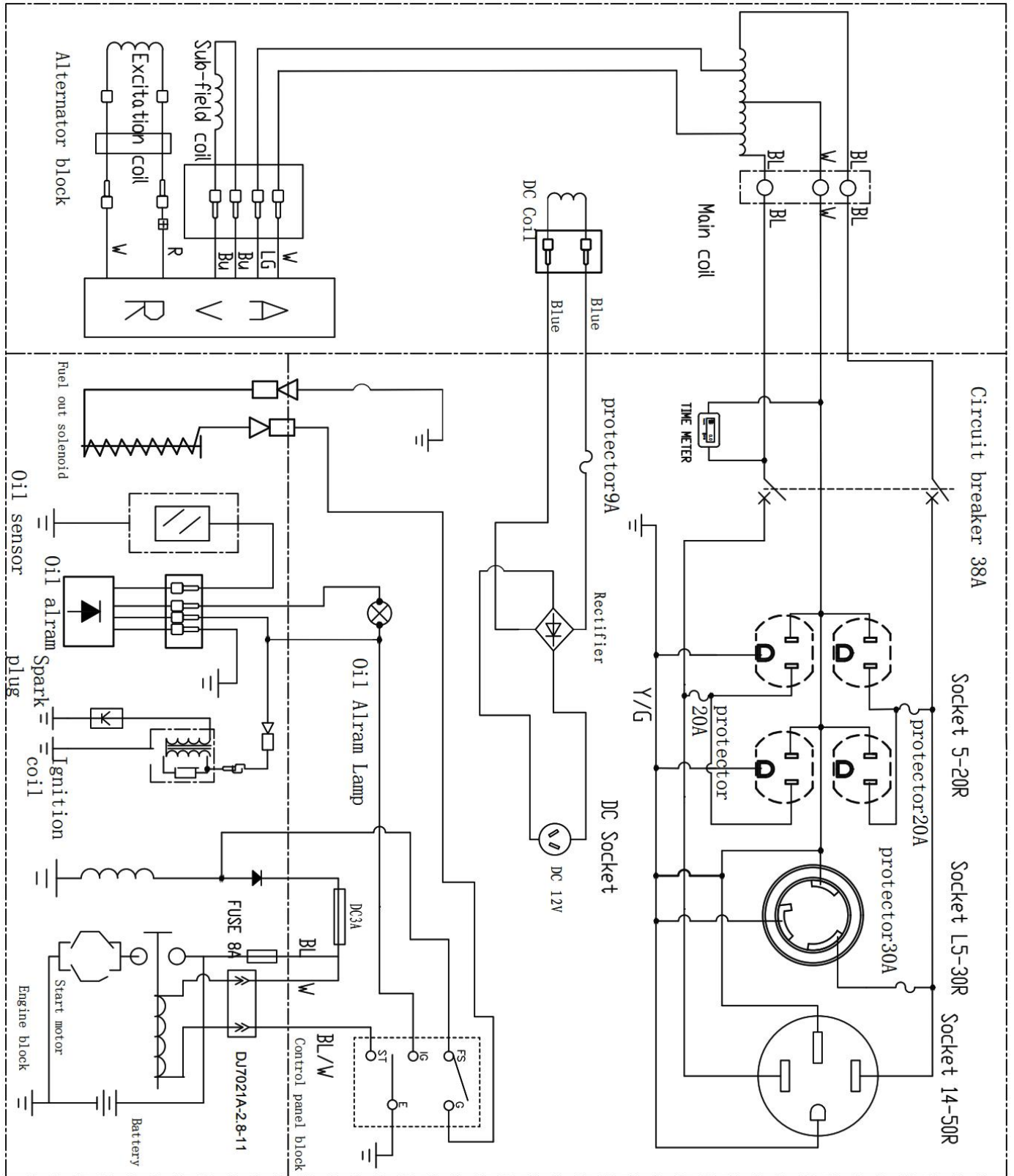
Model	TMG-9000GE	TMG-12000GE
Engine	14.0HP	16.0HP
Displacement	420cc	459cc
Rated frequency	60Hz	60Hz
Rated voltage	120/240V	120/240V
Running watts	7.25KW	9.0KW
Starting watts	9.0KW	12.0KW
Fuel tank capacity	7 Gallon	7 Gallon
Fl load continuum running time	6.5H	6H
1/2 load continuum running time	10.5H	9H

SECTION 10— ELECTRIC DIAGRAM

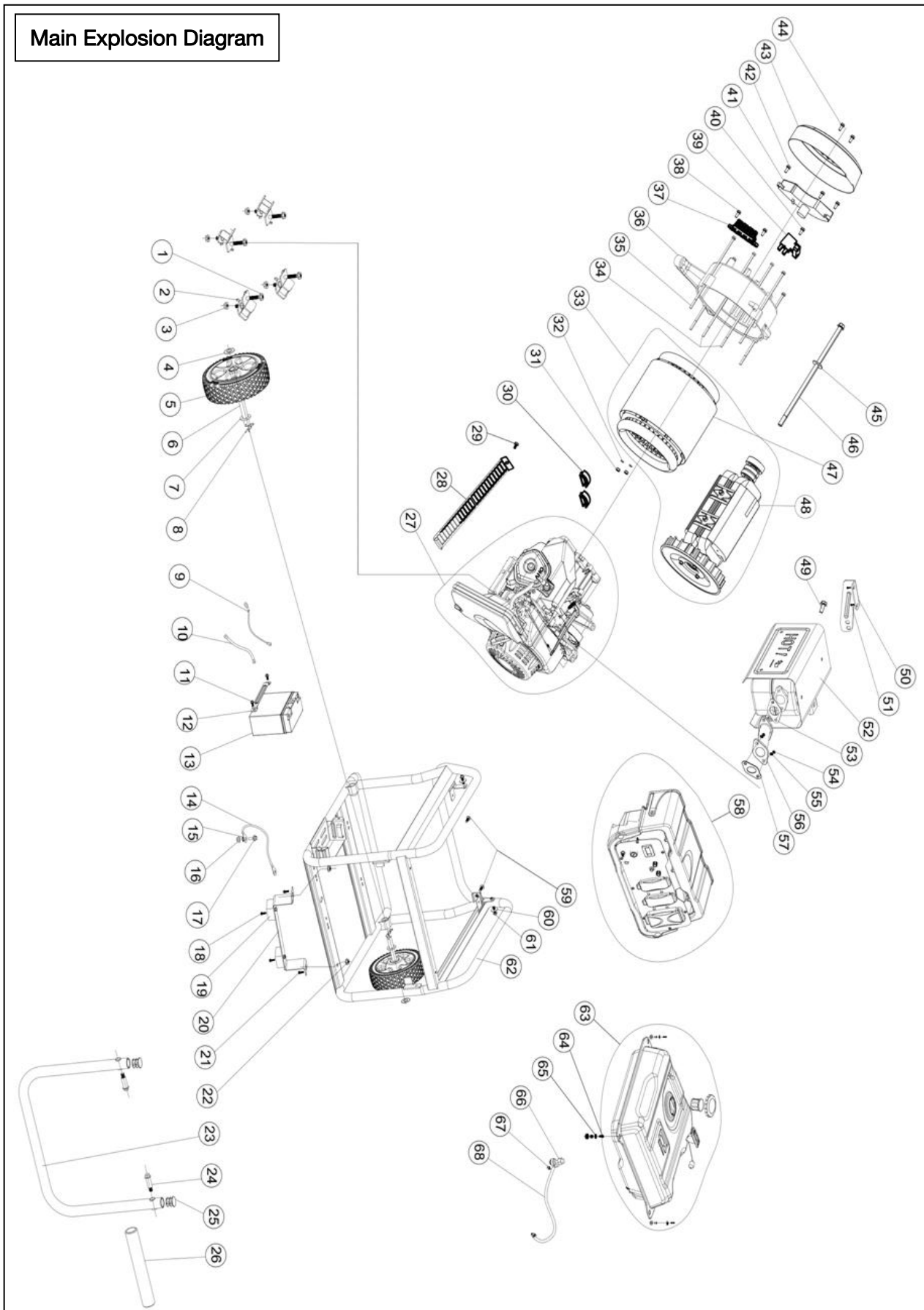
TMG-9000GE



TMG-1200GE

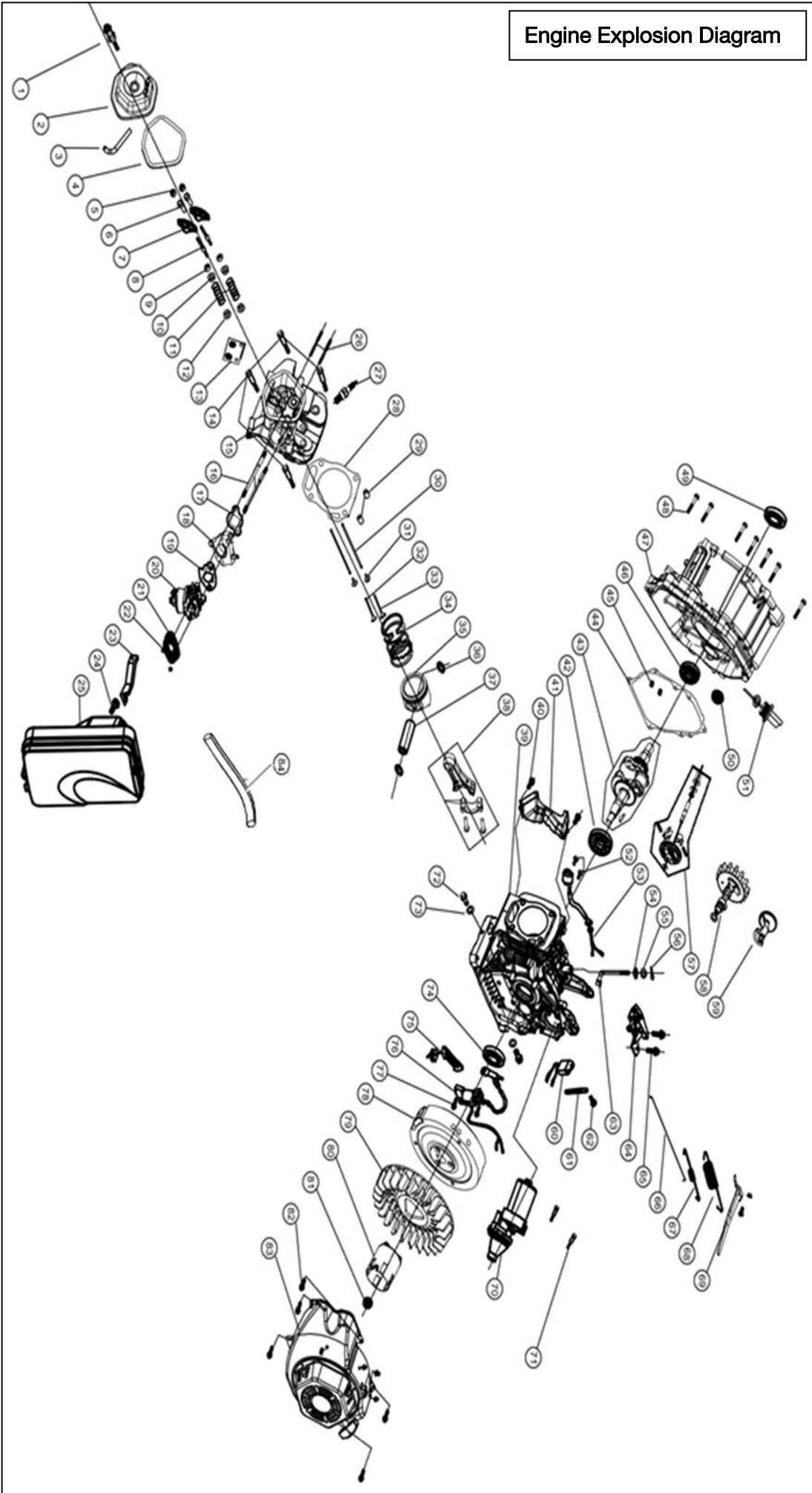


SECTION 11 — EXPLOSION DIAGRAM & PART LIST (TMG-9000GE)



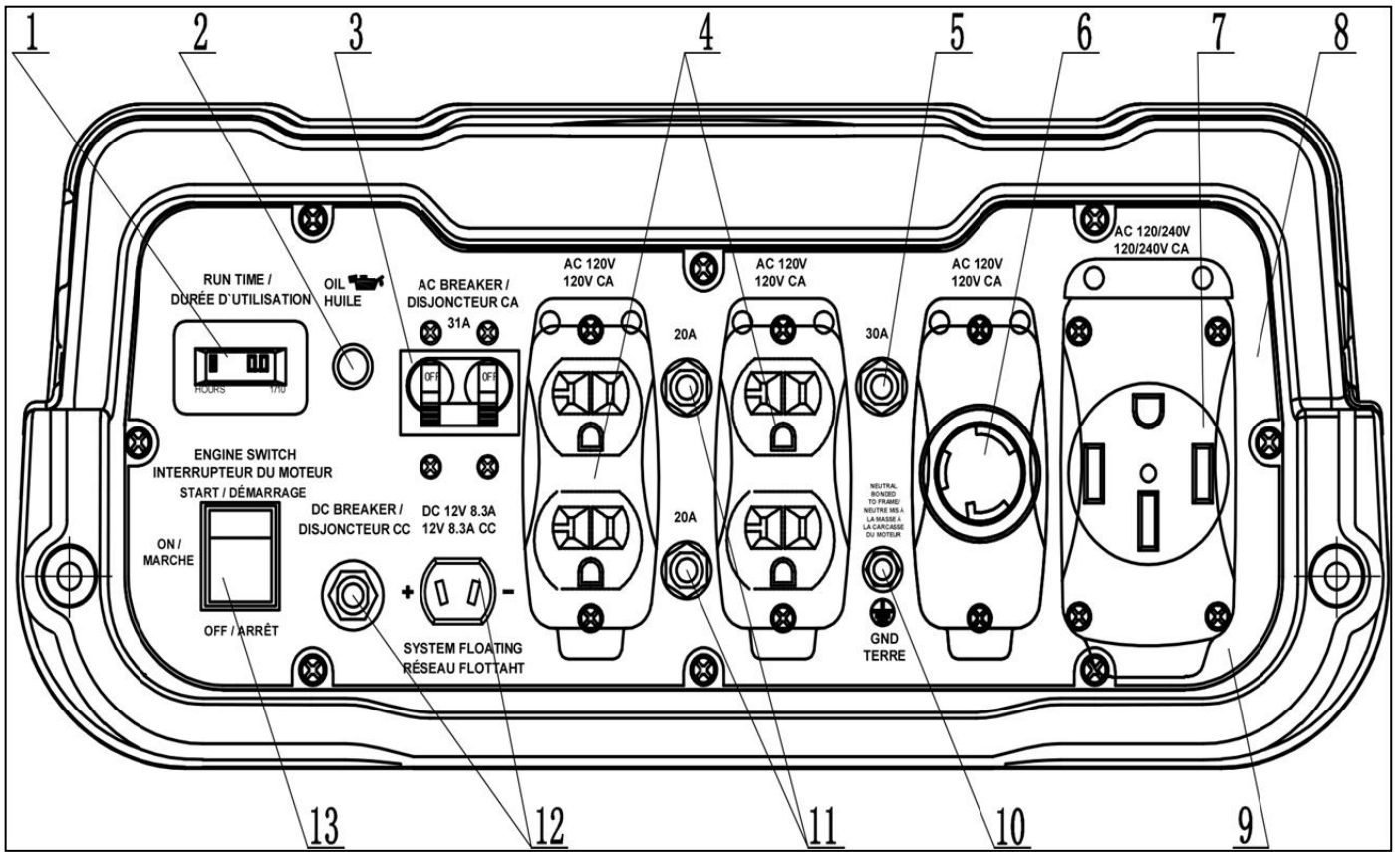
NO.	Parts No.	Description	QTY	NO.	Parts No.	Description	QTY
1	30125-00026-00	Nut,Hexagon Flange,M10	4	35	30101-00088-00	Bolt,Hexagon Flange,M6*190	4
2	34030-00034-00	Shock Absorbing Mount	4	36	33085-00058-00	Motor Bracket/ Φ 190	1
3	30125-00023-00	Nut,Hexagon Flange,M8	4	37	20107-00021-00	Wiring Borad Assy	1
4	30136-00086-00	Flat Washer	2	38	30101-00329-00	Bolt,Hexagon Flange,M5*16	2
5	20134-00083-01	Wheel Assy	2	39	20183-00015-00	Carbon Brush	1
6	34031-00020-00	Wheel Axle	2	40	30101-00329-00	Bolt,Hexagon Flange,M5*16	1
7	30136-00086-00	Flat Washer	2	41	20044-00104-00	AVR	1
8	34006-00020-00	Clip, Dowel Pin	2	42	30101-00329-00	Bolt,Hexagon Flange,M5*16	2
9	20196-00086-00	Positive Poles Line	1	43	33082-00163-00	Motor End Cover	1
10	20196-00088-00	Negative Poles Line	1	44	30101-00326-00	Bolt,Hexagon Flange,M5*12	2
11	30101-00339-00	Bolt,Hexagon Flange,M6*12	2	45	30136-00016-00	Washer, Plain	1
12	20217-00039-00	Battery Holder	1	46	30101-00109-00	Bolt,Hexagon Flange,M10*275	1
13	31002-00031-00	Battery	1	47	20046-06057-00	Stator Component	1
14	20196-00122-00	Ground Terminal	1	48	20256-01777-00	Rotor	1
15	33301-00010-00	Spring Cushion	1	49	30101-00355-00	Bolt,Hexagon Flange,M8*16	1
16	30101-00339-00	Bolt,Hexagon Flange,M6*12	1	50	30101-00341-00	Bolt,Hexagon Flange,M6*16	2
17	30125-00019-00	Nut,Hexagon Flange,M6	1	51	20249-00082-00	Bracket,Muffler	1
18	30101-00405-00	Bolt,Hexagon Flange,M6*20	2	52	20202-00256-00	Muffler Assy	1
19	34030-00081-00	Rubber Pad	2	53	33048-00094-00	Gasket, Muffler	2
20	20014-00059-01	U-Shaped Support Assy	1	54	30139-00036-00	Spring Washer	2
21	30101-00355-00	Bolt,Hexagon Flange,M8*16	2	55	30101-00367-00	Bolt,Hexagon Flangem8*32	2
22	30125-00023-00	Nut,Hexagon Flange,M8	2	56	33339-00007-00	Connector, Muffler	1
23	20135-00042-01	Handlebar Components	1	57	33048-00093-00	Gasket, Muffler	1
24	33580-00034-00	Handlebar Dowel Pin	2	58	20114-03621-00	Control Panel Assy	1
25	33126-00003-00	Handlebar Plastic Plug	2	59	30101-00405-00	Bolt,Hexagon Flange,M6*20	2
26	33015-00011-00	Handlebar Grip	1	60	30136-00074-00	Fuel Tank Washer	2
27	20260-00857-01	Engine	1	61	30101-00405-00	Bolt,Hexagon Flange,M6*20	2
28	34021-00050-00	Air Deflector,Bottom	1	62	20090-01231-00	Rack Assembly	1
29	30101-00339-00	Bolt,Hexagon Flange,M6*12	1	63	20130-00127-04	Fuel Tank Assy	1
30	33138-00017-00	Rubber, Dust	1	64	30101-00407-00	Bolt,Hexagon Flange,M6*25	4
31	30128-00008-00	Nut, Round	2	65	30136-00074-00	Fuel Tank Washer	4
32	30139-00005-00	Spring Washer	2	66	20133-00002-00	Fuel Valve	1
33	20029-09156-00	Alternator Assy	1	67	34024-00002-00	Clip B8.5	1
34	30101-00625-00	Bolt,Hexagon Flange,M5*230	2	68	34023-00004-00	Fuel Hose	1

Engine Explosion Diagram



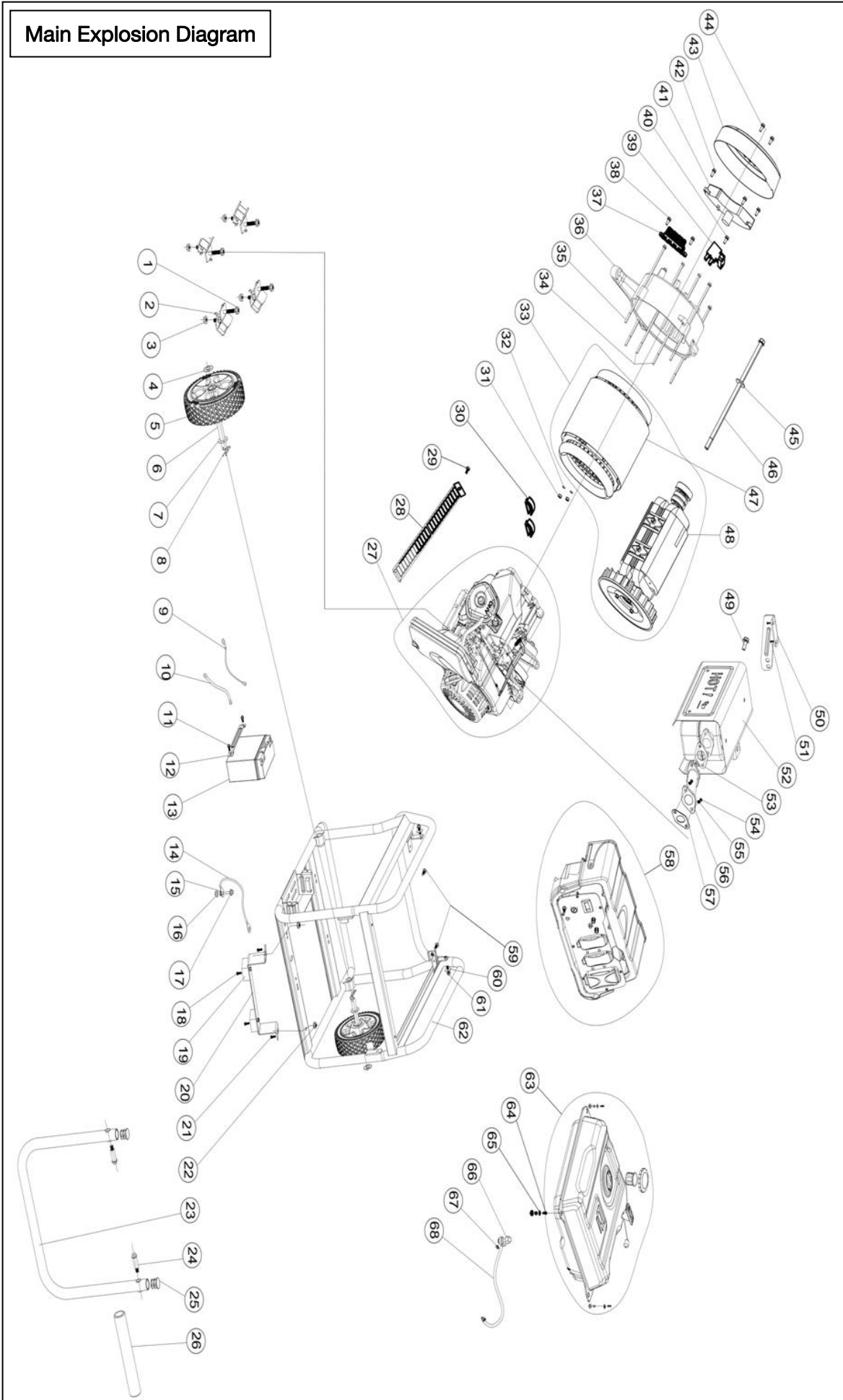
NO.	Parts No.	Description	QTY	NO.	Parts No.	Description	QTY
1	33580-00014-00	Flange Bolt Assy,Abnormity	1	43	20011-00047-00	Crankshaft Assy	1
2	20021-00004-00	Cylinder Cover Assy	1	44	33048-00063-00	Gasket, Crankcase Cover	1
3	34023-00021-00	Exhaust Pipe	1	45	34006-00001-00	Dowel Pin	2
4	33048-00028-00	Gasket, Cylinder Cap	1	46	30141-00116-00	Bearing	1
5	30121-00034-00	Regulating Nut	2	47	33129-00016-00	Crankcase Cover	1
6	30134-00005-00	Rockshaf	2	48	30101-00370-00	Bolt,Hexagon Flange,M8*40	7
7	34019-00005-00	Rocker Arm	2	49	34007-00012-00	Oil Seal	1
8	30110-00033-00	Bolt, Rockshaf	2	50	30141-00112-00	Bearing	1
9	34016-00009-00	Rotor, Exhaust Valve	4	51	20026-00004-00	Dipstick	1
10	34016-00005-00	Spring Retainer,Exhaust Valve	2	52	30101-00342-00	Bolt,Hexagon Flange,M6*16	2
11	34015-00023-00	Valve Spring	2	53	33247-00010-00	Engine Oil Sensor	1
12	34016-00008-00	Bottom Spring Retainer,Exhaust Valve	2	54	30136-00095-00	Gasket, Regulator Rod	1
13	34017-00008-00	Plate, Push Rod Guide	1	55	34007-00002-00	Oil Seal	1
14	30101-00289-00	Bolt,Hexagon Flange	4	56	34006-00017-00	Clip,Dowel Pin	1
15	20023-00061-00	Cylinder Head Assy	1	57	20013-00004-00	Governor Gear	1
16	30110-00020-00	Bolt,Stud,Intake	2	58	20012-00017-00	Cam Shaft Assy	1
17	33048-00053-00	Gasket, Intake Valve	1	59	34033-00001-00	Balance Shaf	1
18	34012-00014-00	Carburetor Block	1	60	33246-00003-00	Oil Alert	1
19	33048-00078-00	Gasket, Carburetor	1	61	20184-00007-00	Wire Housing	1
20	20024-00101-00	Carburetor Assy	1	62	30101-00070-00	Bolt,Hexagon Flange,M6*12	1
21	33048-00047-00	Gasket, Air Cleaner	1	63	34026-00005-01	Regulator Rod	1
22	30125-00002-00	Nut,Hexagon Flange,M6	2	64	20022-00012-00	Governor Assy	1
23	33499-00016-00	Bracket,Air Cleaner	1	65	30101-00070-00	Bolt,Hexagon Flange,M6*12	2
24	30101-00339-00	Bolt,Hexagon Flange,M6*12	1	66	34026-00008-00	Adjusting Rod	1
25	20025-00047-00	Air Cleaner Assy	1	67	34015-00010-00	Adjusting Spring	1
26	30110-00027-00	Bolt,Stud,Exhaust	2	68	34015-00020-00	Spring,Return	1
27	20027-00010-00	Sparking Plug	1	69	34025-00007-00	Adjusting Arm	1
28	33048-00035-00	Gasket, Cylinder Head	1	70	20149-00016-00	Starter Alternator	1
29	34006-00007-00	Dowel Pin	2	71	30101-00461-00	Bolt,Hexagon Flange,M8*32	2
30	34020-00010-00	Push Rod	2	72	30101-00514-00	Bolt,Hexagon Flange	1
31	34008-00006-00	Valve Lifter	2	73	30136-00080-00	Aluminum Gesket	1
32	34013-00034-00	Exhaust Valve	1	74	34007-00012-00	Oil Seal	1
33	34013-00080-00	Intake Valve	1	75	20009-00027-00	Charging Coil	1
34	20084-00009-00	Ring Set, Piston	1	76	20028-00029-00	Ignition Coil Assy	1
35	34004-00016-00	Piston	1	77	30101-00530-00	Bolt,Hexagon Flange,M6*30	2
36	30150-00023-00	Clip, Piston Pin	2	78	33099-00045-00	Flywheel Assy	1
37	34006-00015-00	Piston Pin	1	79	33155-00042-00	Cooling Fan	1
38	20008-00008-00	Connector Rod Assy	1	80	34022-00008-00	Starting Cup	1
39	34011-00021-00	Crankcase Assy	1	81	30125-00035-00	Nut,Hexagon Flange,M16	1
40	30101-00070-00	Bolt,Hexagon Flange,M6*12	2	82	30101-00070-00	Bolt,Hexagon Flange,M6*12	5
41	34021-00001-00	Wind Scooper	1	83	20010-00069-01	Starter Assy, Recoil	1
42	30141-00112-00	Bearing	1	84	34023-00029-00	Breather Pipe	1

Control Explosion Diagram



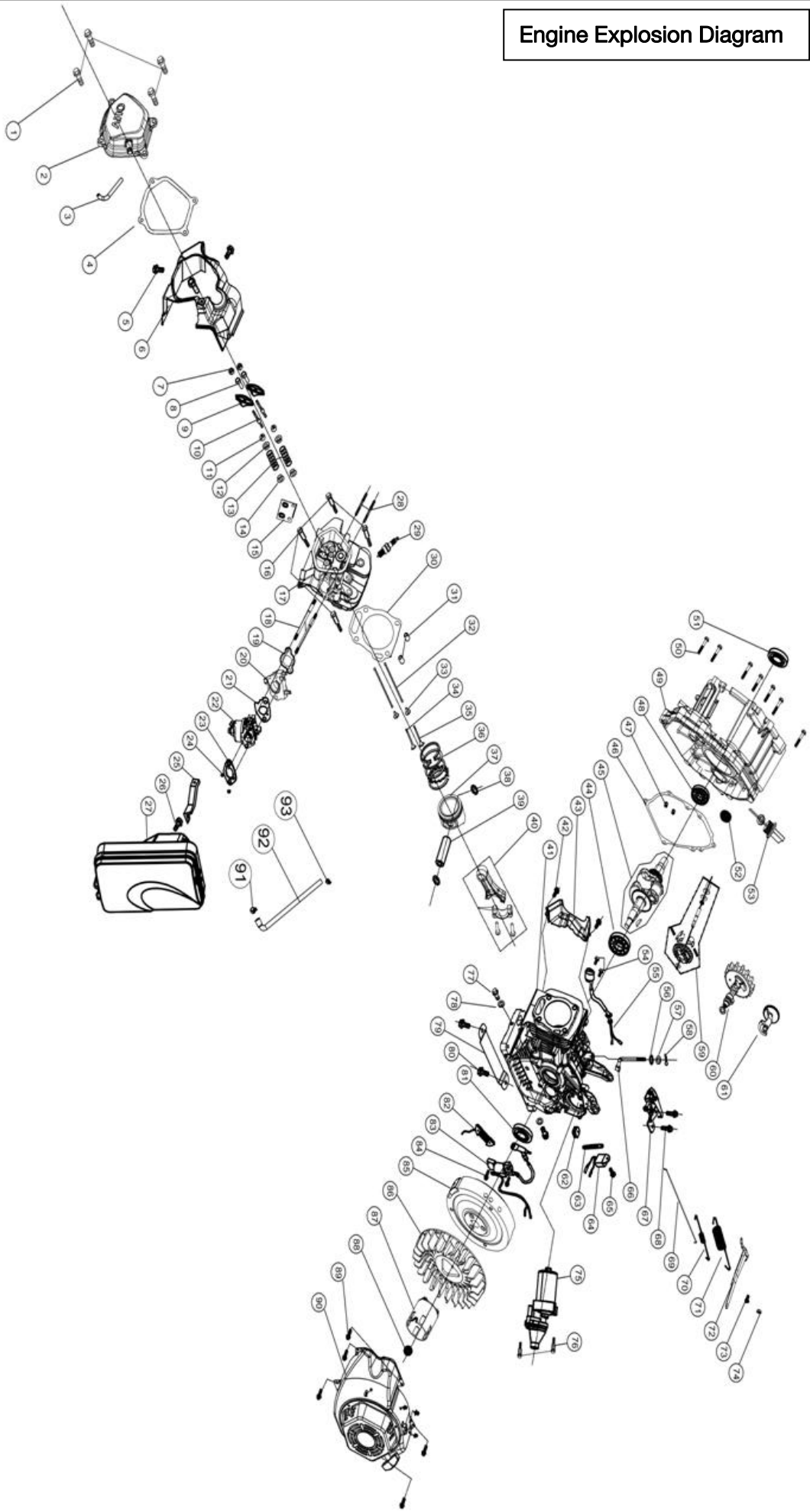
NO.	Parts No.	Description	QTY	NO.	Parts No.	Description	QTY
1		Liquid Crystal Timer	1	8		Panel	1
2		Oil Indicator Lamp	1	9		Panel Decal	1
3		Circuit Breaker	1	10		Earth Stud	1
4		American Duplex Socket	2	11		Ac Thermal Protection	2
5		Ac Thermal Protection	1	12		V-Shaped DC Socket	1
6		American Three-Hole Anti-Falling Socket	1	13		Extinguishing Switch	1
7		American Four-Hole Socket	1				

SECTION 11 — EXPLOSION DIAGRAM & PART LIST (TMG-12000GE)



NO.	Parts No.	Description	QTY	NO.	Parts No.	Description	QTY
1	30125-00026-00	Nut,Hexagon Flange,M10	4	35	30101-00088-00	Bolt,Hexagon Flange,M6*200	4
2	34030-00040-00	Shock Absorbing Mount	4	36	33085-00058-00	Motor Bracket/ Φ 190	1
3	30125-00023-00	Nut,Hexagon Flange,M8	4	37	/	Wiring Board Assy	1
4	30136-00086-00	Flat Washer	2	38	30101-00329-00	Bolt,Hexagon Flange,M5*16	2
5	20134-00083-01	Wheel Assy	2	39	/	Carbon Brush	1
6	34031-00020-00	Wheel Axle	2	40	30101-00329-00	Bolt,Hexagon Flange,M5*16	1
7	/	/	/	41	20044-00104-00	AVR	1
8	34006-00020-00	Clip, Dowel Pin	2	42	30101-00329-00	Bolt,Hexagon Flange,M5*16	2
9	20196-00086-00	Positive Poles Line	1	43	33082-00163-00	Motor End Cover	1
10	20196-00088-00	Negative Poles Line	1	44	30101-00326-00	Bolt,Hexagon Flange,M5*12	2
11	30101-00339-00	Bolt,Hexagon Flange,M6*12	2	45	30136-00016-00	Washer, Plain	1
12	20217-00039-00	Battery Holder	1	46	30101-00109-00	Bolt,Hexagon Flange,M10*275	1
13	31002-00031-00	Battery	1	47	/	Stator Component	1
14	20196-00122-00	Ground Terminal	1	48	/	Rotor Component	1
15	33301-00010-00	Spring Cushion	1	49	30101-00355-00	Bolt,Hexagon Flange,M8*16	1
16	30101-00339-00	Bolt,Hexagon Flange,M6*12	1	50	30101-00341-00	Bolt,Hexagon Flange,M6*16	2
17	30125-00019-00	Nut,Hexagon Flange,M6	1	51	20249-00082-00	Bracket,Muffler	1
18	30101-00405-00	Bolt,Hexagon Flange,M6*20	2	52	20202-00352-00	Muffler Assy	1
19	34030-00081-00	Rubber Pad	2	53	33048-00094-00	Gasket, Muffler	2
20	20014-00059-01	U-Shaped Support Assy	1	54	30139-00036-00	Spring Washer	2
21	30101-00355-00	Bolt,Hexagon Flange,M8*16	2	55	30101-00367-00	Bolt,Hexagon Flange,M8*32	2
22	30125-00023-00	Nut,Hexagon Flange,M8	2	56	33339-00007-00	Connector, Muffler	1
23	20135-00042-01	Handlebar Components	1	57	33048-00093-00	Gasket, Muffler	1
24	33580-00034-00	Handlebar Dowel Pin	2	58	20114-01106-01	Control Panel Assy	1
25	33126-00003-00	Handlebar Plastic Plug	2	59	30101-00405-00	Bolt,Hexagon Flange,M6*20	2
26	33015-00011-00	Handlebar Grip	1	60	30136-00074-00	Fuel Tank Washer	2
27	20260-01390-03	Engine	1	61	30101-00405-00	Bolt,Hexagon Flange,M6*20	2
28	34021-00050-00	Air Deflector,Bottom	1	62	20090-00457-01	Rack Assembly	1
29	30101-00339-00	Bolt,Hexagon Flange,M6*12	1	63	20130-00127-04	Fuel Tank Assy	1
30	33138-00017-00	Rubber, Dust	2	64	30101-00407-00	Bolt,Hexagon Flange,M6*25	4
31	30128-00008-00	Nut, Round	2	65	30136-00074-00	Fuel Tank Washer	4
32	30139-00005-00	Spring Washer	2	66	20133-00002-00	Fuel Valve	1
33	20029-07734-00	Alternator Assy	1	67	34024-00002-00	Clip B8.5	1
34	30101-00625-00	Bolt,Hexagon Flange,M5*235	2	68	34023-00004-00	Fuel Hose	1

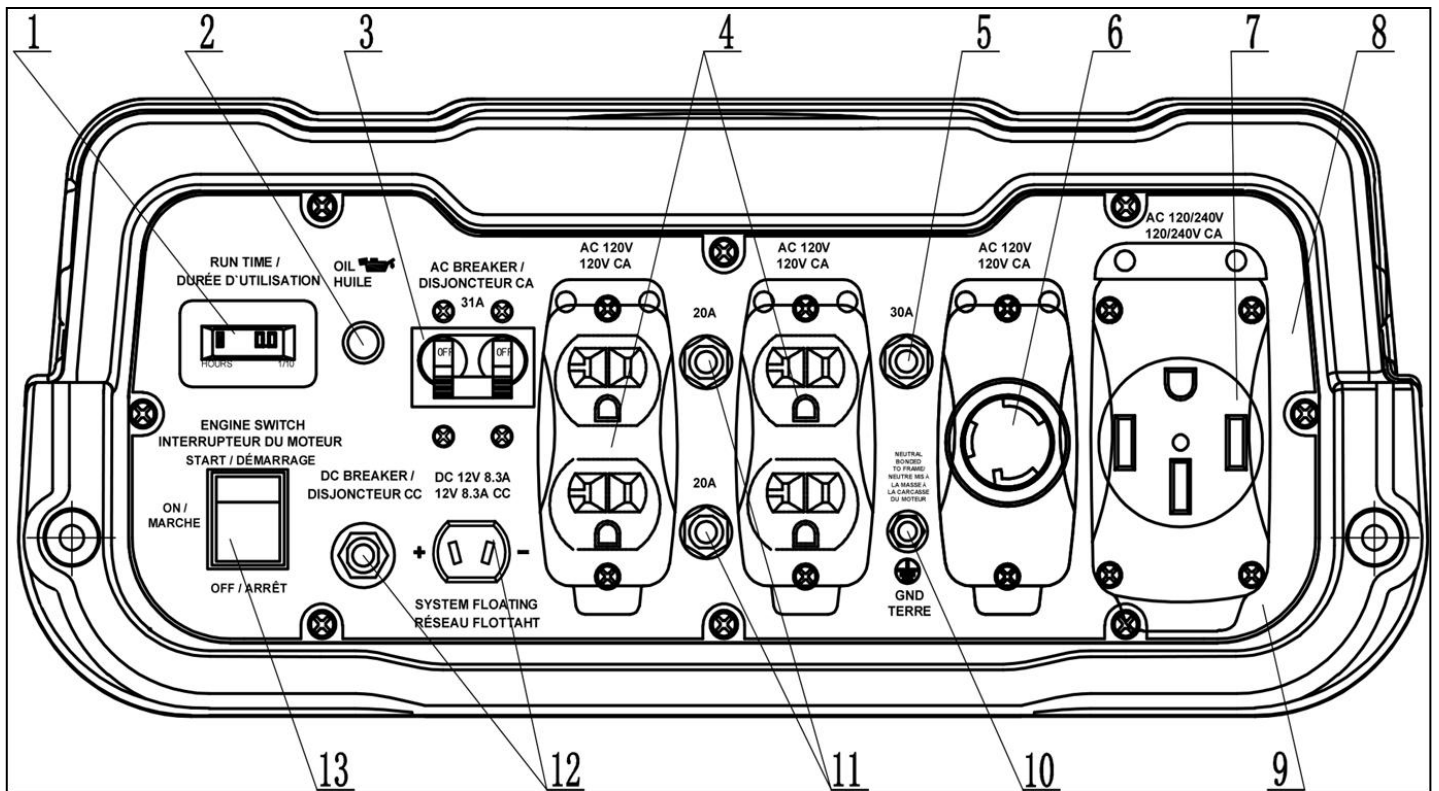
Engine Explosion Diagram



NO.	Parts No.	Description	QTY	NO.	Parts No.	Description	QTY
1	30101-00071-00	Flange Bolt Assy,	4	42	30101-00070-00	Bolt,Hexagon Flange,M6*12	2
2	20021-00018-00	Cylinder Cover Assy	1	43	34021-00014-00	Wind Scooper	1
3	34023-00074-00	Exhaust Pipe	1	44	30141-00112-00	Bearing	1
4	33048-00154-00	Gasket, Cylinder Cap	1	45	20011-00063-00	Crankshaft Assy	1
5	30101-00070-00	Bolt,Hexagon Flange,M6*12	1	46	33048-00066-00	Gasket, Crankcase Cover	1
6	34021-00062-00	Air Deflector	1	47	34006-00001-00	Dowel Pin	2
7	30121-00034-00	Regulating Nut	2	48	30141-00118-00	Bearing	1
8	30134-00005-00	Rockshaf	2	49	33129-00020-00	Crankcase Cover	1
9	34019-00005-00	Rocker Arm	2	50	30101-00370-00	Bolt,Hexagon Flange,M8*40	7
10	30110-00033-00	Bolt, Rockshaf	2	51	34007-00012-00	Oil Seal	1
11	34016-00009-00	Rotor, Exhaust Valve	4	52	30141-00112-00	Bearing	1
12	34016-00005-00	Spring Retainer,Exhaust Valve	2	53	20026-00004-00	Dipstick	1
13	34015-00023-00	Valve Spring	2	54	30101-00342-00	Bolt,Hexagon Flange,M6*16	2
14	34016-00008-00	Bottom Spring Retainer,Exhaust Valve	2	55	33247-00010-00	Engine Oil Sensor	1
15	34017-00008-00	Plate, Push Rod Guide	1	56	30136-00095-00	Gasket, Regulator Rod	1
16	30101-00289-00	Bolt,Hexagon Flange	4	57	34007-00002-00	Oil Seal	1
17	20023-00049-00	Cylinder Head Assy	1	58	34006-00017-00	Clip,Dowel Pin	1
18	30110-00020-00	Bolt,Stud,Intake	2	59	20013-00004-00	Governor Gear	1
19	33048-00053-00	Gasket, Intake Valve	1	60	20012-00015-00	Cam Shaft Assy	1
20	34012-00014-00	Carburetor Block	1	61	34033-00008-00	Balance Shaf	1
21	33048-00078-00	Gasket, Carburetor	1	62	/	Ply-Yarn Drill	1
22	20024-00111-00	Carburetor Assy	1	63	20184-00007-00	Wire Bloking Cover	1
23	33048-00047-00	Gasket, Air Cleaner	1	64	33246-00003-00	Wire Housing	1
24	30125-00002-00	Nut,Hexagon Flange	2	65	30101-00070-00	Bolt,Hexagon Flange,M6*12	1
25	33499-00018-00	Bracket,Air Cleaner	1	66	34026-00005-01	Regulator Rod	1
26	30101-00339-00	Bolt,Hexagon Flange,M6*12	1	67	20022-00018-00	Governor Assy	1
27	20025-00047-00	Air Cleaner Assy	1	68	30101-00070-00	Bolt,Hexagon Flange,M6*12	2
28	30110-00027-00	Bolt,Stud,Exhaust	2	69	34026-00008-00	Adjusting Rod	1
29	20027-00010-00	Sparking Plug	1	70	34015-00010-00	Adjusting Spring	1
30	33048-00036-00	Gasket, Cylinder Head	1	71	34015-00021-00	Spring,Return	1
31	34006-00007-00	Dowel Pin	2	72	34025-00007-00	Adjusting Arm	1
32	34020-00010-00	Push Rod	2	73	/	T Bolt	1
33	34008-00006-00	Valve Lifter	2	74	/	Nut,Hexagon Flange	1
34	34013-00034-00	Exhaust Valve	1	75	20149-00016-00	Starter Alternator	1
35	34013-00080-00	Intake Valve	1	76	30101-00461-00	Bolt,Hexagon Flange,M8*32	2
36	20084-00011-00	Ring Set, Piston	1	77	30101-00514-00	Bolt,Hexagon Flange	1
37	34004-00018-00	Piston	1	78	30136-00080-00	Aluminum Gesket	1
38	30150-00023-00	Clip, Piston Pin	2	79	20249-00144-00	Support Member	1
39	34006-00015-00	Piston Pin	1	80	30101-00070-00	Bolt,Hexagon Flange,M6*12	2
40	20008-00009-00	Connector Rod Assy	1	81	34007-00012-00	Oil Seal	1
41	34011-00070-00	Crankcase Assy	1	82	20009-00027-00	Charging Coil	1

NO.	Parts No.	Description	QTY	NO.	Parts No.	Description	QTY
83	20028-00029-00	Ignition Coil Assy	1	89	30101-00070-00	Bolt,Hexagon Flange,M6*12	5
84	30101-00530-00	Bolt,Hexagon Flange,M6*30	2	90	20010-00106-00	Starter Assy, Recoil	1
85	20051-00020-00	Flywheel Assy	1	91	34024-00024-00	Clip	1
86	33155-00042-00	Cooling Fan	1	92	34023-00083-00	Breather Pipe	1
87	34022-00008-00	Starting Cup	1	93	34024-00031-00	Clip	1
88	30125-00035-00	Nut,Hexagon Flange,M16	1				

Control Explosion Diagram



NO.	Parts No.	Description	QTY	NO.	Parts No.	Description	QTY
1		Liquid Crystal Timer	1	8		Panel	1
2		Oil Indicator Lamp	1	9		Panel Decal	1
3		Circuit Breaker	1	10		Earth Stud	1
4		American Duplex Socket	2	11		Ac Thermal Protection	2
5		Ac Thermal Protection	1	12		V-Shaped DC Socket	1
6		American Three-Hole Anti-Falling Socket	1	13		Extinguishing Switch	1
7		American Four-Hlie Socket	1				