

Gasoline Generator Set

Operation Manual

1. SAFETY INFORMATION

1) EXHAUST FUMES ARE POISONOUS

- Never operate the generator in a closed area or it may cause unconsciousness and death within a short time. Operate the engine in a well-ventilated area.

2) FUEL IS HIGHLY FLAMMABLE AND POISONOUS

- Always turn off the engine when refueling.
- Never refuel while smoking or in the vicinity of an open flame.
- Take care not to spill any fuel on the engine or muffler when refueling.
- If you swallow any fuel, inhale fuel vapor, or allow any to get in your eyes, see your doctor immediately. If any fuel spills on your skin or clothing, immediately wash with soap and water and change your clothes.
- When operating or transporting the machine, be sure it is kept upright. If it tilts, fuel may leak from the carburetor or fuel tank.

3) ENGINE AND MUFFLER MAY BE HOT

- Place the machine in a place where pedestrians or children are not likely to touch the machine.
- Avoid placing any flammable materials near the exhaust outlet during operation.
- Keep the machine at least 1 m (3 ft) from buildings or other equipment, or the engine may overheat.
- Avoid operating the engine with a dust cover.

4) ELECTRIC SHOCK PREVENTION

- Never operate the engine in rain or snow.
- Never touch the machine with wet hands or electrical shock will occur.
- Be sure to ground the generator.

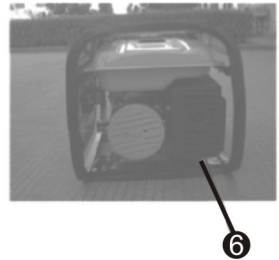
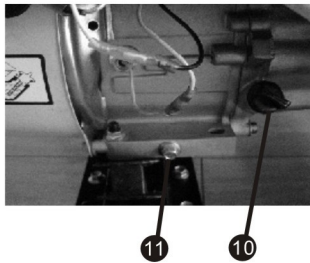
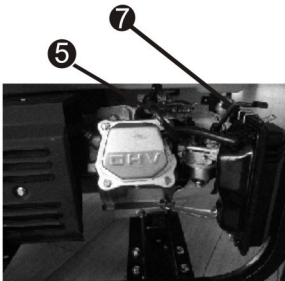
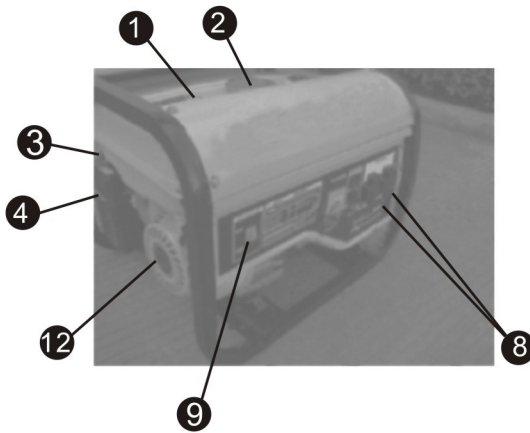
NOTE: Use ground lead of sufficient current capacity.
Diameter: 0.12mm (0.005 in)/ampere
EX: 10 Ampere –1.2mm (0.055 in)

5) CONNECTION NOTES

- Avoid connecting the generator to commercial power outlet.
- Avoid connecting the generator in parallel with any other generator.

2. DESCRIPTION

- | | | |
|----------------------|---------------------|-------------------------|
| (1) Fuel Tank | (2) Fuel Tank Cap | (3) Fuel Shut Off Valve |
| (4) Air Filter Cover | (5) Spark Plug | (6) Muffler |
| (7) Choke Lever | (8) AC Receptacle | (9) Engine Switch |
| (10) Oil Filler Cap | (11) Oil Drain Plug | (12) Recoil Starter |

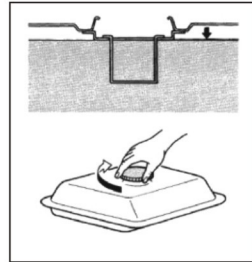


3. PRE-OPERATION CHECK LIST

NOTE: Pre-operation checks should be made each time the generator is used.

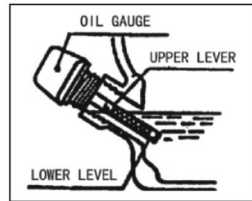
1) CHECK ENGINE FUEL

- Check fuel level
- If fuel level is low, refill with unleaded gasoline.
- Be sure to use the fuel filter screen on the fuel filter neck.
- Recommended fuel: Unleaded gasoline.
- Fuel tank capacity:



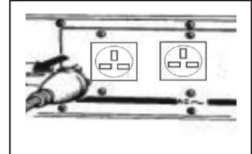
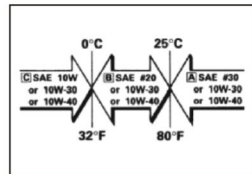
WARNING:

- Do not refill tank while engine is running or hot.
- Close fuel shut off valve before refueling with fuel.
- Be careful not to admit dust, dirt, water or other foreign objects into fuel.
- Wipe off spilt fuel thoroughly before starting engine.
- Keep open flames away.



2) CHECK ENGINE OIL

- Before checking or refilling oil, be sure the generator is put on a stable and level surface with the engine stopped.
- Remove oil filler cap and check the engine oil level.
- If oil level is below the lower level line, refill with suitable oil to upper level line. Do not screw in the oil filler cap when checking oil level.



- Change oil if contaminated.
- Oil capacity

Model	Full
EP1500	0.45L
EP2500	0.6L
EP3000	0.6L

- Recommended engine oil:
Synthetic Motor Oil

3) GROUND

Make sure to ground the Generator.

4. OPERATION

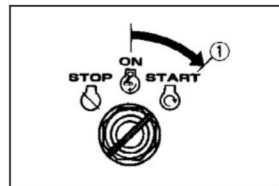
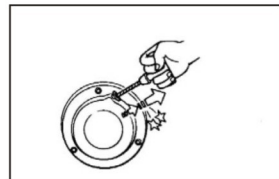
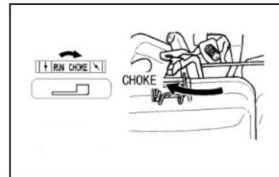
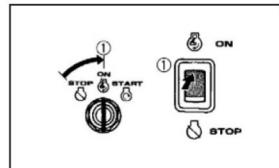
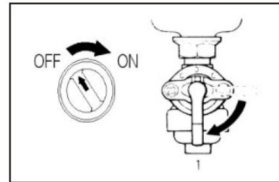
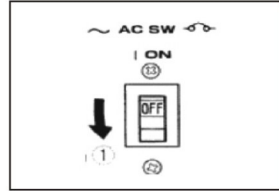
NOTE: The Generator has been shipped without engine oil. Fill with oil or it will not start.

1) STARTING THE ENGINE

NOTE:

- Before starting the engine, do not connect the electric apparatus.
- Turn the CIRCUIT BREAKER / AC switch (N.F.B.) to "OFF".

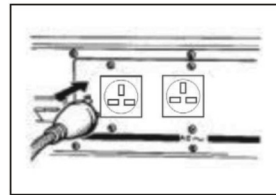
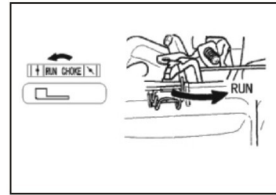
1. Turn the fuel shut off valve to "ON".
2. Turn the engine switch to "ON"
3. Turn the choke lever to the "ON" position. Not necessary if the engine is warm.
4. Pull the starter handle slowly until resistance is felt. This is the "Compression" point. Return the handle to its original position and pull swiftly. Do not fully pull out the rope. After starting, allow the starter handle to return to its original position while still holding the handle.
5. Allow engine to warm.
6. Turn the choke lever back to the off position
7. Allow engine to warm up without a load for 2 minutes.



2) USING ELECTRIC POWER

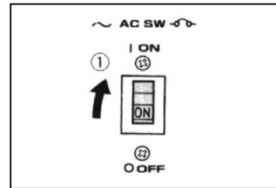
1. AC APPLICATION (SINGLE VOLTAGE TYPE)

- (a) Check the voltmeter or pilot light for proper voltage.
- (b) Turn off the switch(es) of the electrical appliance(s) before connecting to the generator.
- (c) Insert the plug(s) of the electrical appliance(s) into the receptacle.
- (d) Turn the AC switch to The "ON" position and turn on the electric apparatus.



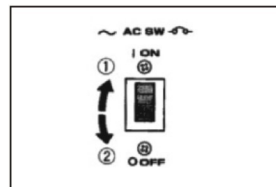
CAUTION:

- Be sure the electric apparatus is turned off before plugging in.
- Be sure the total load is within generator rated output.
- Be sure the socket load current is within socket rated current.



2. AC APPLICATION (DUAL VOLTAGE TYPE)

- (a) Select the voltage using the CIRCUIT BREAKER SELECT SWITCH in accordance with the electrical appliance.
- (b) Operate in the same way as step (a) through step (d) of single voltage type.



NOTE: Voltmeter always indicates the lower voltage whichever the CIRCUIT BREAKER SELECT SWITCH is set to.

5. SPECIFICATIONS

		EP1500	EP2500	EP3000
Engine	Engine Model	154F	168F-1	168F-1
	Displacement(cc)	87	196	196
	Start system	Recoil	Recoil	Recoil
	Fuel Volume(L)	11	15	15
Generator	Rated Frequency(Hz)	50	50	50
	Rated Voltage(V)	220	220	220
	Rated Power(KW)	0.85	2.0	2.5
	Max.Power(KW)	1.0	2.2	3.0

DC APPLICATION

This usage is applicable to 12V battery charging only.

(a) Charging instruction for battery

- Disconnect the leads for the battery.
- Make the battery fluid filler cap fully loose.
- Fill distilled water to the upper limit, if the battery fluid is low level.
- Measure the specific gravity for the battery fluid by using the hydrom-eter
- The specific gravity for the fully charged battery shall be within 1.26 to 1.28. It is recommended to con- firm every an hour.

(b) Connect between the DC output sock-et and the battery terminals using the charging leads. The leads shall be connected making sure of the (+) and (-) polarity.

(c) The DC circuit protector is to be set to “ON” after confirming the connection, if the protector is in “OFF” position.

4) CLEANING AND ADJUSTING SPARK PLUG

Standard electrode color: Tan Color
Standard Spark Plug: BPR4ES (NGK)
Spark Plug Gap: 0.7-0.8 mm (0.028-0.031 in)

5) FUEL SHUT OFF VALVE

1. Stop the engine.
2. Turn the fuel shut off valve lever to "OFF".
3. Clean with solvent.
4. Wipe off.
5. Check the gasket. Replace it if damaged.

WARNING: Be sure the fuel shut off valve cup is tightened securely.

6) FUEL TANK FILTER

1. Clean with solvent.
2. Wipe off.
3. Fuel tank filter.

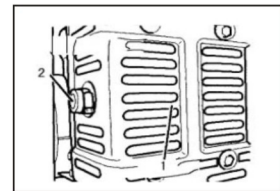
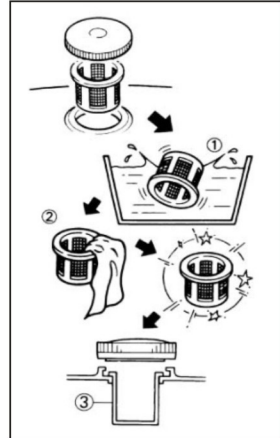
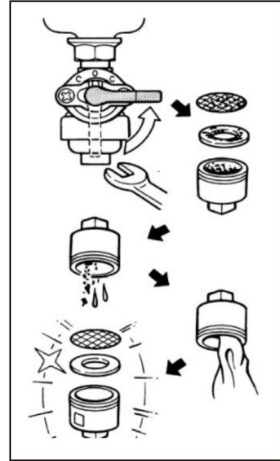
WARNING: Be sure the tank cap is tightened securely.

7) MUFFLER SCREEN

WARNING:

- The engine and muffler will be very hot after the engine has been run.
- Avoid touching the engine and muffler while they are still hot with any part of your body or clothing during inspection or repair.

1. Remove the muffler protector and muffler screen.
2. Clean the carbon deposits out of the muffler screen using a wire brush.



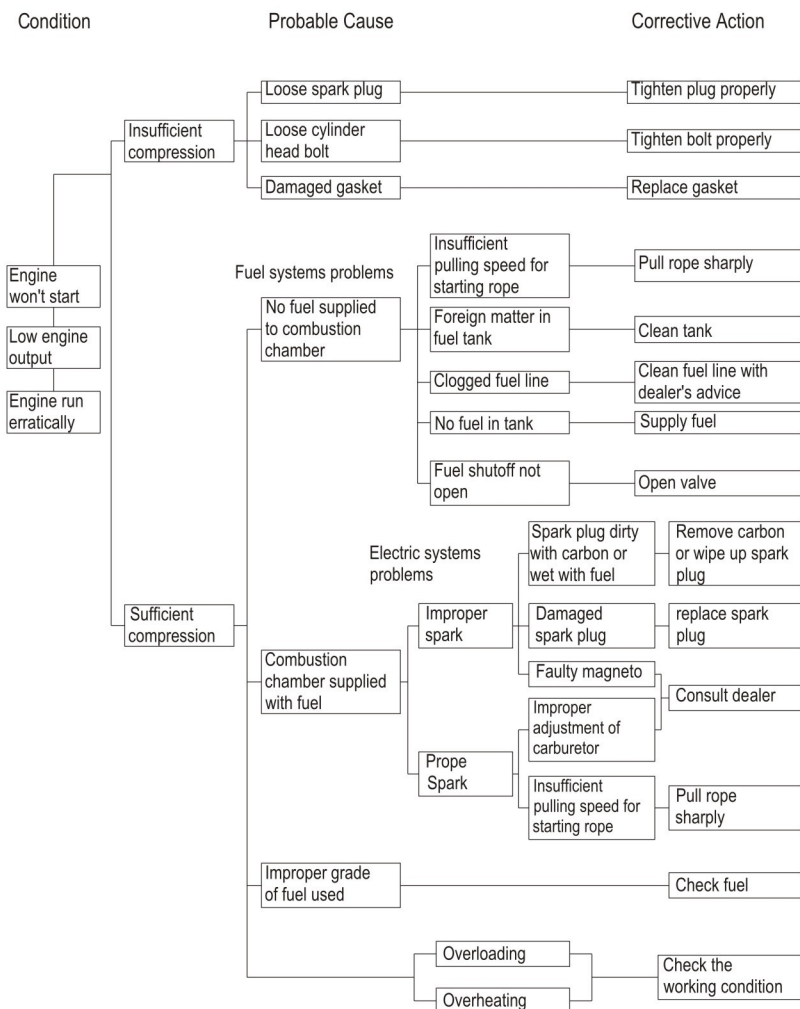
3. Check the muffler screen. Replace it if damaged.

4. Install the muffler screen and muffler protector.

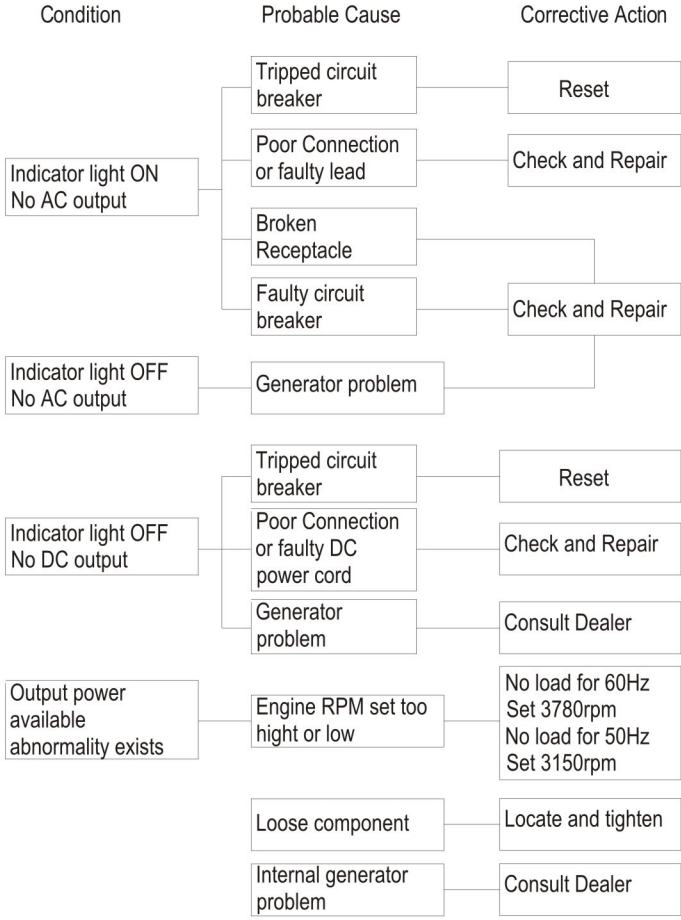
- ① Muffler protector ② Muffler screen

7. TROUBLE SHOOTING

ENGINE TROUBLE SHOOTING



GENERATOR TROUBLE SHOOTING



1) Engine Won't Start

1. Fuel Systems

No fuel supplied to combustion chamber.

- No fuel in tank....Supply fuel.
- Clogged fuel line....Clean fuel line.
- Foreign matter in fuel shut off valve .Clean fuel shut off valve.
- Clogged carburetor....Clean carburetor.

2. Engine Oil System

Insufficient

Oil level is low....Add engine oil.

3 Electrical systems

Poor spark

- Spark plug dirty with carbon or wet....Remove carbon or wipe spark plug dry.
- Faulty ignition system....Consult dealer.

4. Compression Insufficient

- Worn out piston and cylinder....Consult dealer.
- Loose cylinder head nuts....Tighten nuts properly.
- Damaged gasket....Replace gasket.

8. STORAGE

Long-term storage of your machine will require some preventive procedures to guard against deterioration.

1) DRAIN THE FUEL

1. Drain the fuel tank, fuel shut off valve and carburetor float bowl.
2. Add a cup of SAE 10W30 or 20W40 motor oil.
3. Shake the tank.
4. Drain off the excess oil.

2) ENGINE

5. Pour in about one tablespoon of SAE 10W30 or 20W40 motor oil.
6. Use the recoil starter to turn the engine over several times (with ignition off).
7. Pull the recoil starter until you feel compression.
8. Stop pulling.
9. Clean exterior of the generator and apply a rust inhibitor.
10. Store the generator in a dry, well-ventilated place.
11. The generator must remain in an upright position.

