




# MAINTENANCE

It is the operator’s responsibility to complete all scheduled maintenance in a timely manner. Correct any issue before operating the generating set. Always follow the inspection and maintenance recommendations and schedules in this manual.

 **WARNING:** Improper maintenance or failure correct a problem before operation can cause a malfunction and result in property damage, serious injury or DEATH. Improper maintenance will void your warranty.

 **DANGER:** Accidental starts can cause severe injury or death. Remove the spark plug cap and ground generating set before performing any service.

 **WARNING:** The filter element may contains PAHs, PAHs are harmful for your health. Please wear gloves for protection during air filter maintenance.

## Maintenance Schedule

Stop the generating set before serving, disconnect all electric devices and battery (If equipped),and cool down the generating set completely.

Serve the generating set in a clean, dry and flat area, so that no accident would happen during the serving.

Please make the wheel in brake state to stop accidental movement of generating set.

Follow the service intervals indicated in the chart below. Service your generating set more frequently when operating in adverse conditions.

Contact your local authorized service dealer for your generating set or engine maintenance needs.

		Each time before use	The first month or 10 hours <sup>Note1</sup>	Every three months or 100 hours <sup>Note1</sup>	Every six months or 100 hours <sup>Note1</sup>	Every year or 200 hours <sup>Note1</sup>
Engine oil	Inspection	✓				
	Replacement		✓		✓	
Air filter	Inspection	✓				
	Cleaning			✓ <sup>Note2</sup>		
Spark plug	Inspection and adjustment				✓	
	Replacement					✓
Spark plug <sup>Note3</sup>	Cleaning				✓	
Idle speed	Inspection and adjustment					✓ <sup>Note2</sup>
Valve clearance	Inspection and adjustment					✓ <sup>Note2</sup>
Carbon cleaner <sup>Note4</sup>	Inspection		Every two years <sup>Note2</sup>			
Lube periodicity of lube <sup>Note4</sup>	Inspection		Every two years <sup>Note2</sup>			
Oil lube	Inspection		Every two years <sup>Note2</sup>			

### NOTE:

- Note1: Applicable types (if available).
- Note2: Before each season and after then (whichever comes first).
- Note3: Service more frequently under severe , dusty, dirty conditions.
- Note4: To be performed by knowledgeable, experienced owners or the authorized dealer.

## Generating Set Maintenance



**WARNING:** Never clean the generator when it is running! Never use water to clean the generating set. Water can enter the generating set through the cooling slots and damage the generating set windings.



**WARNING:** Do not modify the generator in any way. Do not tamper with governed speed. Generator supplies correct rated frequency and voltage when running at factory set. Tampering with the factory set governor will void your warranty.

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

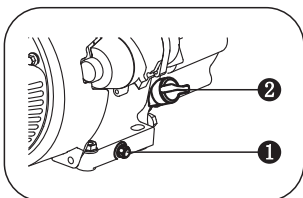
## Engine Maintenance

### Changing the oil



**WARNING:** Change the oil when the engine is warm from operation. The oil can reach up to 140°C under that condition. AVOID SPLASHING OF HOT OIL, it can burn you and cause severe injury. Careful operation should be taken to prevent burns.

1. Start your engine and let it warm up to get the oil warm and thinner.
2. Turn the engine On/Off switch to the "OFF" position. Turn Fuel Valve to the "OFF" position.
3. Remove the dipstick by turning counter clockwise. Remove the oil drain plug located below the dipstick utilizing the appropriate tools.



- ①. Oil Drain Plug  
②. Dipstick

4. Drain the engine oil into an approved receptacle and discard in accordance with all Federal and State Regulations. Never dump the used engine oil on the ground or into drains only discard in an approved manner. Check with your local authorities to determine the regulations in your area.

5. After oil is completely drained, replace oil drain plug and tighten with appropriate tools.

**NOTE:** Replace oil with the proper oil for your product. Refer to the "Engine Oil Recommendations" section for exact fill requirements.

6. Always use your dipstick to check the oil level and only fill to the full mark on the dipstick. Never overfill the engine as this can cause damage to the unit and void warranty.

7. Reinstall and fully tighten the dipstick on the engine.

**NOTE:** Proper maintenance of the unit will increase the life of your product the oil must be changed on a regular basis for proper operation, and reliability and to also maintain the warranty on this product.

## Fuel System Maintenance:

**NOTE:** Periodically you can get sediment or trash in your Carburetor Bowl. Use the following procedures to clean:

1. Turn the fuel valve to the “OFF” Position.
2. Remove the carburetor bowl by removing the mounting bolt located at the bottom of the bowl.
3. Dump out the old fuel and sediment into an approved container and clean carburetor bowl thoroughly.

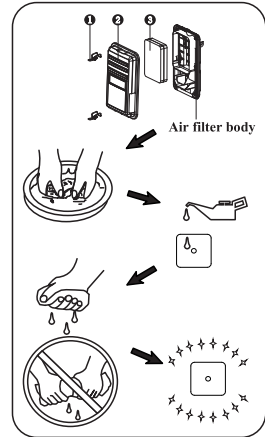
## Air Filter Maintenance



**WARNING:** Do not run the engine without the air filter, or serious danger can result.

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

1. Remove the air filter maintenance cover.
2. Loosen the filter fix **clamp**(1) and remove the cover(2) of the air filter. Remove and check the air filter element(3).
3. Wash with liquid detergent and warm water. Squeeze thoroughly dry in a clean cloth.
4. Saturate in clean engine oil.
5. Squeeze in a clean, absorbent cloth to remove all excess oil.
6. Assemble the filter element onto the filter unit. Assemble the filter fix **clamp**. Reinstall the air filter to the generator.



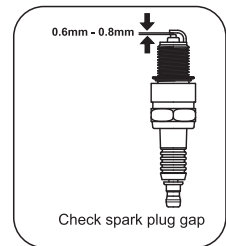
## Spark Plug

**Spark plug gap : 0.6mm-0.8mm(0.024-0.031 in). Spark plug tighten torque: 15-20N.m**

The spark plug is important for proper engine operation. A good spark plug should be intact, free of deposits, and properly gapped. Refer to “Recommended Maintenance Schedule”.

To inspect the spark plug:

1. Clean any dirt from the spark plug cap and spark plug base.
2. Remove the spark plug cap.
3. Using socket wrench to loose and remove the spark plug.
4. Inspect the spark plug and spark plug washer, if it was broken or worn, replace with a new one. Clean the spark plug with wire brush if reuse it.
5. Check spark plug gap. Carefully bend side electrode to adjust the gap if necessary.
6. Carefully thread the plug into the engine by hand.
7. After the spark plug is seated, use spark plug wrench to tighten the plug.
8. Attach the spark cap to the plug and connect the spark plug wire to the plug.



**CAUTION:** Only use recommended spark plug or equivalent. Do not use spark plugs that have improper heat range.

## Spark Arrester

1. Allow the generating set to cool completely before servicing the spark arrester.
2. Remove the muffler blind window first, then remove the spark arrester screen.
3. Carefully remove the carbon deposits from the spark arrester screen with a wire brush.
4. Replace the spark arrester if it is damaged.
5. Reinstall the spark arrester in the muffler and reinstall the muffler blind window.

## Speed

The speed has been preset at the factory and should rarely require readjustment. Consult your local authorized dealer for such needs.



**WARNING:** Unapproved adjustment will damage your engine and/or your electrical devices and void your warranty.

## Adjustment

There has no other service and/or adjustment need for your generator.

Unapproved adjustments or tampering can damage your generator and your electrical devices and will void your warranty. Contact your local dealer for such needs.

## Storage



**WARNING:** Gasoline is highly flammable and extremely explosive. Empty the fuel tank and shut off fuel valve before storing or transporting this generating set.

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

- Allow the generating set to cool completely before storage.
- Clean the generating set according to instruction in maintenance section.
- Drain all fuel completely from the fuel tank, fuel hose and carburetor to prevent gum from forming.
- Turn off the fuel supply at the fuel valve.
- Change the oil.
- Reattach the spark plug.
- Remove the spark plug and pour about 15ml of oil into the cylinder. Crank the engine slowly to distribute the oil and lubricate the cylinder.
- Store the unit in a clean, dry area out of direct sunlight.

## Transport

To prevent fuel spillage when transporting or during temporary storage, the generating set should be secured upright in its normal operating position, with the engine switch OFF. The combination switch should be in the “stop” position and knob of the fuel cap should be turned to the “OFF” position.

### When transporting:

- Do not overfill the tank.
- Do not operate the generating set while it is on vehicle. Take the generating set off the vehicle and use it in a well-ventilated place. Avoid a place exposed to direct sunlight when putting the generating

set on a vehicle. If the generating set is left in an enclosed vehicle for many hours, high temperature inside the vehicle could cause fuel to vaporize resulting in a possible explosion.

- Do not drive on a rough road for an extended period with the generating set on a rough road, drain the fuel from the generating set beforehand.

**TROUBLESHOOTING**

<b>Failure</b>		<b>Cause</b>	<b>Removal method</b>
Engine won't start	Fault light does not light.	Engine switch is "OFF".	Turn engine switch to the "ON" position.
	Fault light flashes.	No Fuel.	Fill tank per instructions in this manual.
		Inadequate engine oil.	Check oil level. This engine is equipped with a low oil sensor. The engine cannot be started unless the oil level is above the prescribed lower limit.
		No ignition.	Remove the spark plug cap. Clean any dirt from around the plug base, then remove the spark plug. Install the spark plug in the plug cap. Turn the engine switch "ON". Grounding the electrode to any engine ground, pull the recoil starter to see if sparks jump across the gap. If there is no spark, replace the plug.  Reinstall the plug and start engine according to instructions in this manual.  Consult Customer Service if necessary.
		Battery voltage is too low.	Check battery voltage, and charge the battery if the voltage is too low.
		Oil pump pressure is too low.	Clean the impurities in the fuel tank and change oil pump. Adding fuel according to instructions in this manual. Consult Customer Service if necessary.
Generator has no output	Circuit breaker tripped.		Reset circuit breakers.
	Inadequate cord sets or extension cords.		Check cord sets or extension cords capabilities in section Controls; Cable Size in this manual. Consult Customer Service if necessary.