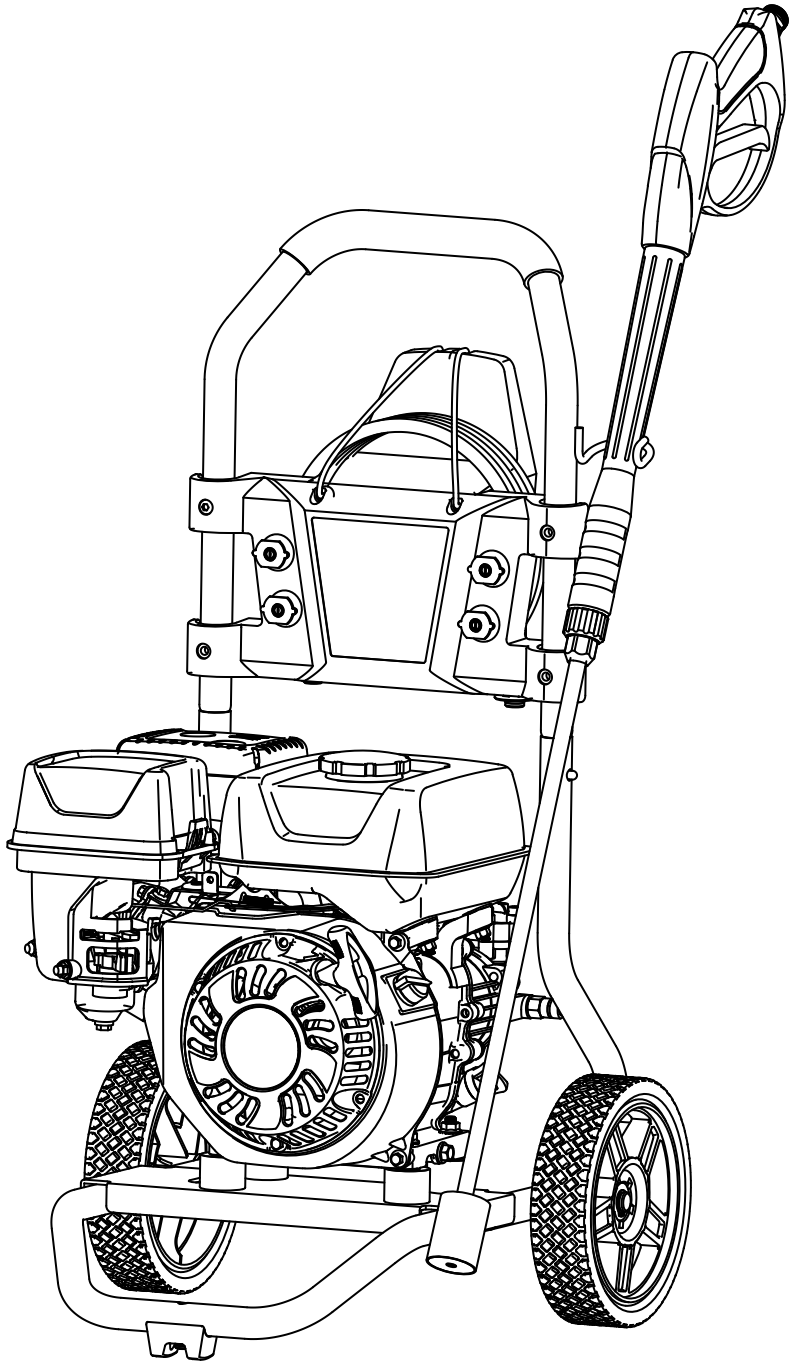
Gasoline High Pressure Washer

Operator Manual



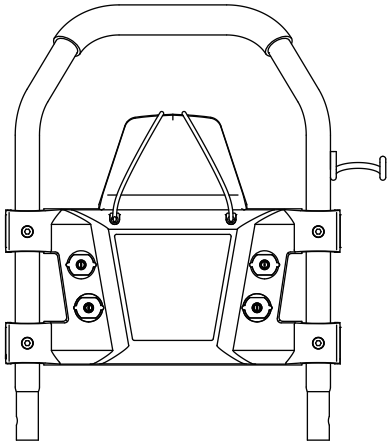
operation video

Scan the QR code to watch video tutorials for machine installation and operation.

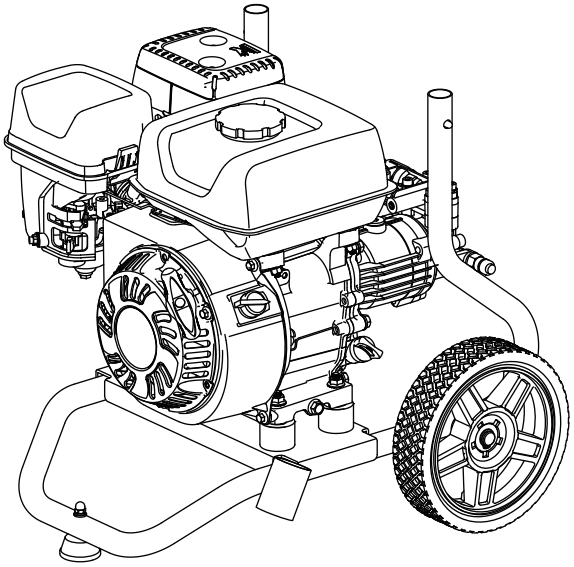
BEFORE USING THE MACHINE PLEASE READ THESE INSTRUCTION !

MADE IN THAILAND

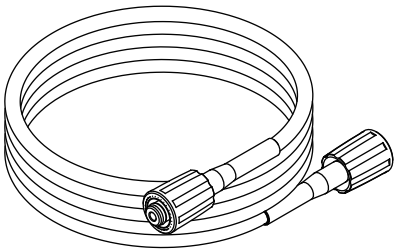
PART LIST



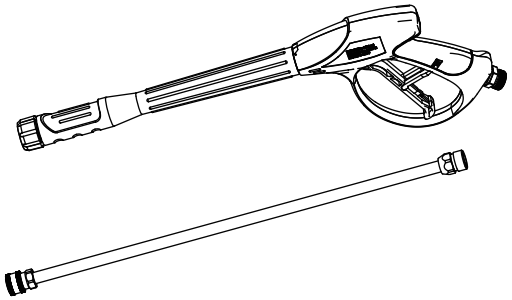
Handle * 1



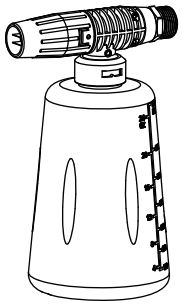
Engine & Pump * 1



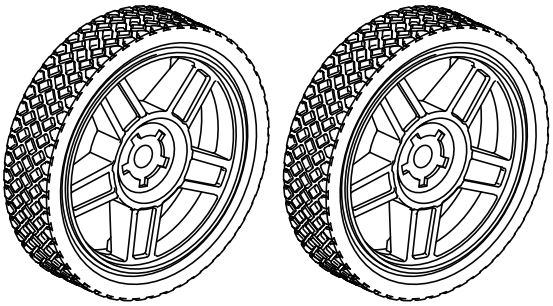
Pressure hose * 1



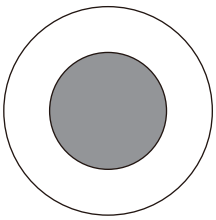
Gun *1 & wand *1



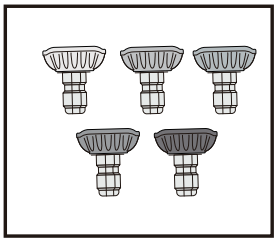
Foam generator *1



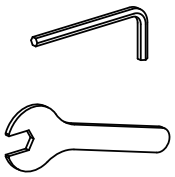
Wheel * 2



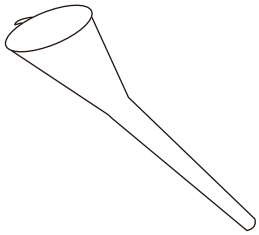
Water Inlet Filter *1



Nozzle * 5



spanner * 2



Funnel * 1



Spray tip cleaner * 1

Others: Manual *1; Screw kit

NEVER !

NEVER! Point nozzle at people or animals.

NEVER! Drink alcohol or use drugs while operating this equipment.

NEVER! Spray electrical connections, electrical outlets or fixures.

NEVER! Add gasoline when the engine running.

NEVER! Running the machine at the place with gasoline spilling.

NEVER! Touch hot surfaces or allow accessories to contact hot surfaces.

NEVER! Operate the machines in an closed space otherwise exhausted fumes are dangerous.

NEVER! Operate the machines near utilities with flames.

NEVER! Operate the machines without the water connection.

NEVER! Use hot water.

Technical specification

Engine

Engine type	Forced Air Cooling, 4 Stroke
Bore stroke	68*45m m
Rated output/speed	7.0HP/3600RPM
Fuel Volume	2.7 L
Mode of ignition & starting	Transistor magnet ignition and recoil hand-pull starting

Basic specification

Water feed pressure	2.0~10.0 bar (0.2Mpa~1Mpa)
Water temperature	5~40℃

SAFETY INSTRUCTION

The appliance is intended to clean cars, garden and roof etc.

Never attempt to use power washers on or near any electrical outlets, fuse boxes, transformers, high voltage wires, etc. Severe electrical shock or death may occur. Never point nozzle at people or animals.

KNOW YOUR PRESSURE WASHING EQUIPMENT

1. READ YOUR OWNERS MANAUL CAREFULLY. Do not operate your power washer until you completely understand and can follow all operating instructions, precautions and safety rules.

2. Restrict the use of your power washer to users who have read, understand and can follow all operating instructions, precautions and safety rules.

3. Never allow children to use the washer.

PLAN AHEAD

Always wear ear protection to cut noise and eye protection and / or face shield to prevent debris from flying or ricocheting into eyes and face which could result in serous injury.

2.Dress safely in long pants and wear safety boots, safety gloves, safety helmets with visors, and ear defenders, etc. Other protective equipment is advisable when using chemicals, cleaning detergents, or other corrosive or abrasive substances.

4. Keep pets, children, and bystanders at a safe distance away from your work area. A minimum of 50 feet is recommended.

6.CAUTION: After turning off your pressure washer and water supply, there is still high-pressure water trapped in the system. You must release the pressure by triggering the gun after the engine has completely stopped.

7. WARNING! Suds or soap powder are the only cleaning agents designed for this appliance. The use of other cleaning agents or chemicals may adversely affect the safety of the appliance.

PRECAUTIONS FOR GASOLINE ENGINE

1. Follow all safety precautions, operating procedures, and maintenance instructions listed in your engine operator’s manual that came with the pressure cleaner.

2. DO NOT fill the engine with gasoline when the engine is running, hot or near an open flame. DO NOT SMOKE.

3. Do Not run power washers in an enclosed area. Exhaust fumes contain poisonous carbon monoxide gas. Breathing exhaust gases can cause serious illness or death.

4. Do Not touch or come in contact with hot mufflers, cylinders, cooling fins or hot exhaust gases as this may result in severe burns.

5. Never tamper with governor spring, governor links or other components which may increase the speed (RPM) of the engine.

6. Do Not operate pressure cleaners in the presence of flammable vapors or gases. When servicing pressure cleaning equipment, be sure to properly dispose of any flammable materials.

7. Do Not make adjustments to your equipment without first removing the spark plug.

8. When transporting pressure cleaners, the fuel shut-off valves must be in the closed position, to prevent fuel from spilling out.

MISCELLANEOUS SAFETY PRECAUTIONS

1. Check all high pressure hose and fittings periodically for cuts or wear. Immediately replace all suspect components to prevent injury. Do not place high pressure hose on the engine muffler or drag across abrasive surfaces.

2. Inspect pressure cleaner for oil, fuel and/or water leaks.

3. Operate unit on level surface only. Otherwise fuel may spill on engine and/or pump. Lubrication may be insufficient if unit is not level.

4. Never start power washers without adequate water supply.

5. HIGH PRESSURE SPRAY CAN CAUSE SERIOUS INJURY. Never point or aim the gun/wand at yourself or anyone else. Never put your hand, fingers or body directly in front of the spray nozzle.

6. Do Not run the unit for longer that 3 minutes with spray gun in the closed position.

7. Clean up spilled soap, fuel or oil immediately to avoid falls.

8. Keep clutter out of work area to avoid falls.

9. Never squeeze the spray gun trigger unless you are securely braced. The force of water through the nozzle is powerful enough to cause you to lose your balance and fall.

10. Never attempt to use power washers on or near any electrical outlets, fuse boxes, transformers, high voltage wires, etc. Severe electrical shock or death may occur.

11. Do not use the appliance if important parts of appliance are damaged, e.g. safety devices, high pressure hoses, trigger gun.

12. Only use genuine pressure cleaning equipment parts (eg.: High pressure hoses, fittings and couplings etc.) for any and all repairs of your pressure cleaner. Failure to do so may result in injury or cause hazardous operating conditions to exist.

Water Supply

(Cold Water Only)

1. The water hose must be at least 3/4 inch in diameter.
2. The flow rate of the water supply must be more than 1.85 GPM (gallons per minute).
3. The flow rate can be determined by spraying the water into an empty 5-gallon container for one minute.
4. The water supply temperature must not exceed 50℃.
5. Never use water containing solvents, e.g., paint thinners, gasoline, oil, etc.
6. Always prevent debris from being drawn into the unit by using a clean water source.
7. We strongly recommend that this high-pressure washer should not be left running without the trigger gun being engaged for more than 3 minutes.



Caution

Follow the maintenance instructions specified in the manual

Operation

Caution! The powerful spray from your pressure washer is capable of causing damage to surfaces such as: wood, glass, automobile paint, auto striping and trim, and delicate objects such as flowers and shrubs. Before spraying, check the item to be cleaned to assure yourself that it is strong enough to resist damage from the recoil force.

Operating unit with water supply shut-off without flow of water will result in equipment damage. Operating the pressure washer with water supply shut-off will void your warranty. You should never run this pressure washer for more than 2 minutes without pulling the trigger to allow cool water to enter the pump.

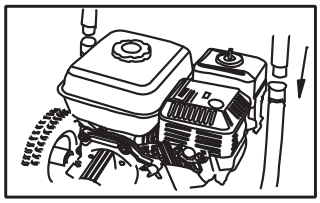
WARNING! Read owner's Manual. Do not operate equipment until you have read Owner's Manual for Safety, Operation, and Maintenance Instruction.

Assembly

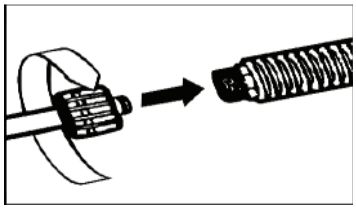
Step1 Attach the handles to the frame of the pressure washer. Align holes insert bolts, and tighten with knobs.

Step 2 Attach the wand to the spray gun. Tighten securely.

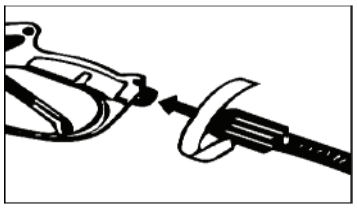
Step 3 Attach the high pressure hose to the spray gun. Tighten securely.



Step1



Step 2



Step 3

Operating Procedures (Start-Up)

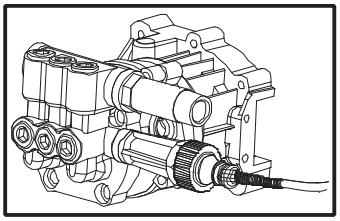
ATTENTION: Become familiar with the operating procedures before starting your unit.

1)Add fresh high quality unleaded gasoline. See Engine Operation for correct amount and type.

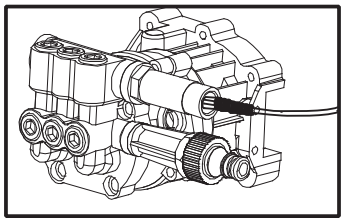
2)Check oil level. See Engine Operation for correct amount and type.

3)Connect high pressure hose to pump outlet. (see picture B)

4)Connect water source to pump inlet. There is plastic tap connector equipped with pump, connect your own connector to it, and screw tightly.(see picture A)



A



B

NOTE 1: Never pull the hose to move the unit. This could damage hose and/or pump inlet.

NOTE 2: Water source must provide a minimum of 5 gallons per minute at 20 p.s.i. Inlet hose can connected to the water main with Max. inlet pressure 1MPa.

NOTE 3: Use cold water only and water's temperature shall not exceed 50℃.

5)Turn water source on.

6)Turn the knob clockwise and counterclockwise to adjust between a pencil jet and a 0~40° fan jet.

Selecting The Right Nozzle For The Job

NOTE: To prevent damage to your surface and to select an appropriate nozzle size for your application, always start with lowest pressure nozzle size and continue changing to the higher nozzle size until the best work result is achieved.

The Pressure Washer comes furnished with four spray nozzles. Each nozzle is color coded and delivers a specific spray pattern and pressure for a particular cleaning job. The size of the nozzle determines the size of the fan spray and the pressure out of the nozzle.

0°Nozzle – Red: This nozzle delivers a pinpoint stream of pressurized water and is extremely powerful. It covers only a small area of cleaning. This nozzle should only be directed at surfaces that can withstand high pressure such as metal or concrete. Do not use this nozzle to clean wood. (fig 1)

15° Nozzle – Yellow: This nozzle delivers a powerful 15 degree spray pattern for intense cleaning of small areas. This nozzle should only be used on areas and materials that can withstand high pressure. (fig 2)

25° Nozzle – Green: This nozzle delivers a 25 degree spray pattern for intense cleaning of larger areas. This nozzle should only be used on areas that can withstand pressure from this nozzle.(fig 3)

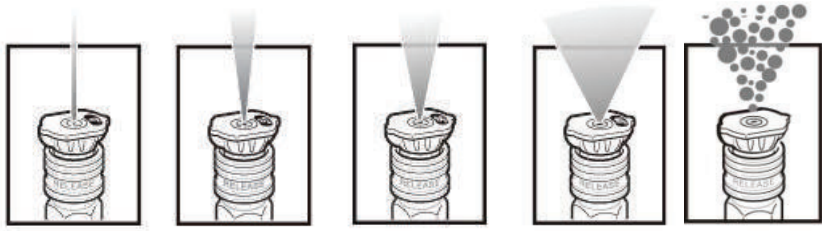


Fig1 Fig2 Fig 3 Fig 4 Fig 5

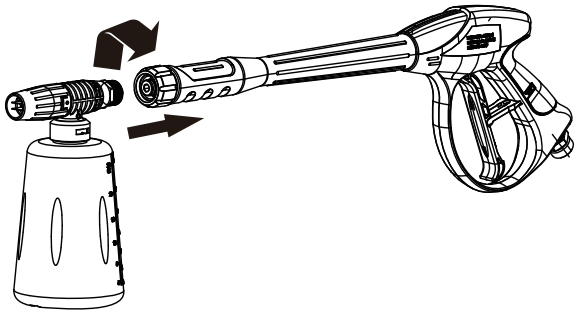
40°Nozzle–White: This nozzle delivers a 40 degree spray pattern and a less powerful stream of water. This nozzle can cover a wide area and should be used for most general cleaning jobs. (fig 4)

Chemical Nozzle – Black: This nozzle is used to apply special chemicals and cleaning solutions. This nozzle produces the weakest pressure stream of the nozzles. (fig 5)

The nozzles are stored in receptacles on a panel mounted to the handle of the washer. Colours on the panel identify nozzle location and spray panel.

USING FOAM GENERATOR

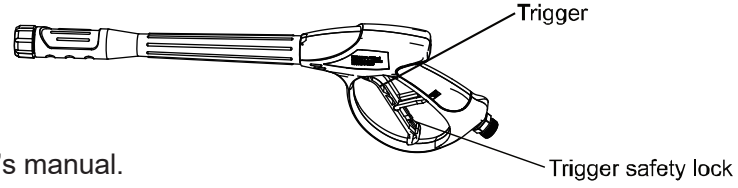
Pour the cleaning solution into the foam pot, tighten the nozzle, rotate the metal screw pattern against the threaded end of the spray gun. Lock the foam pot, press the spray gun and will get the foam out.



Operation:

NOTE: Do not let hoses come in contact with the HOT engine muffler during or immediately after use, as this will destroy the hose.

1) press the trigger safety lock, and then you can press the trigger



2) Start engine according to the engine owner's manual.

3) Press the trigger of high pressure gun to make sure water flowing out. Be careful when press the trigger gun, it has recoil force and the sudden torque. Release the trigger of high pressure gun can stop

the water flowing out.

In emergency condition: Turn engine off.

Shut Down Procedure

1.Release the trigger can stop the water flowing out. After did this, pls. engage the trigger safety lock to avoid accidental “switch on”.

In emergency condition: turn engine off immediately .

2. Turn engine off. NOTE: NEVER turn the water off with the engine running.

3.Turn water source off.

4. Press trigger to release residual water.

5. Disconnect all hoses used

6.See storage section in this manual for proper storage procedures. Note: Let the engine cool and up to 30 minutes after use before touching.

Maintenance and Cleaning

When doing maintenance, you may be exposed to hot surfaces, water pressure, moving parts, or fire, which could result in serious injury or death. Before performing any maintenance or repair, disconnect the power source, let the engine cool down completely, and release all water pressure. The engine contains flammable fuel. Do not smoke or work near open flames while performing maintenance.

Nozzle cleaning

If the nozzle becomes clogged with foreign materials, such as dirt, excessive pressure may develop. If the nozzle becomes partially clogged or restricted, the pump pressure will pulsate. Clean the nozzle immediately using the nozzle kit supplied and the following instructions.

Wand/Lance

1.Shut off the pressure washer and turn off the water supply.

2.Disconnect the wand/lance from the gun.

3.Clean the nozzle using the nozzle cleaner provided or a straightened paper clip. Inset into the nozzle end and work back and forth until obstruction is removed.

4. Direct water supply into nozzle end to back flush loosened particles for 30 seconds.

5.Reconnect wand/lance to gun and turn on water supply.

6.Start pressure washer.

Transporting and Storage

When transportation or moving, you can use the lifting eyes.

STORAGE

Before you store the pressure washer, make sure you do the cleaning for the machine. (see clause 6), and then :

1.Remove gasoline and oil from engine. See Engine Operator’s Manual for correct amount and type.

2.Disconnect spark plug wire and remove spark plug. See Engine Operator’s Manual for correct amount and type.

WINTER STORAGE

Items needed: Funnel, 12” piece of garden hose or equivalent and RV antifreeze.

1. Follow the previous storage instructions.

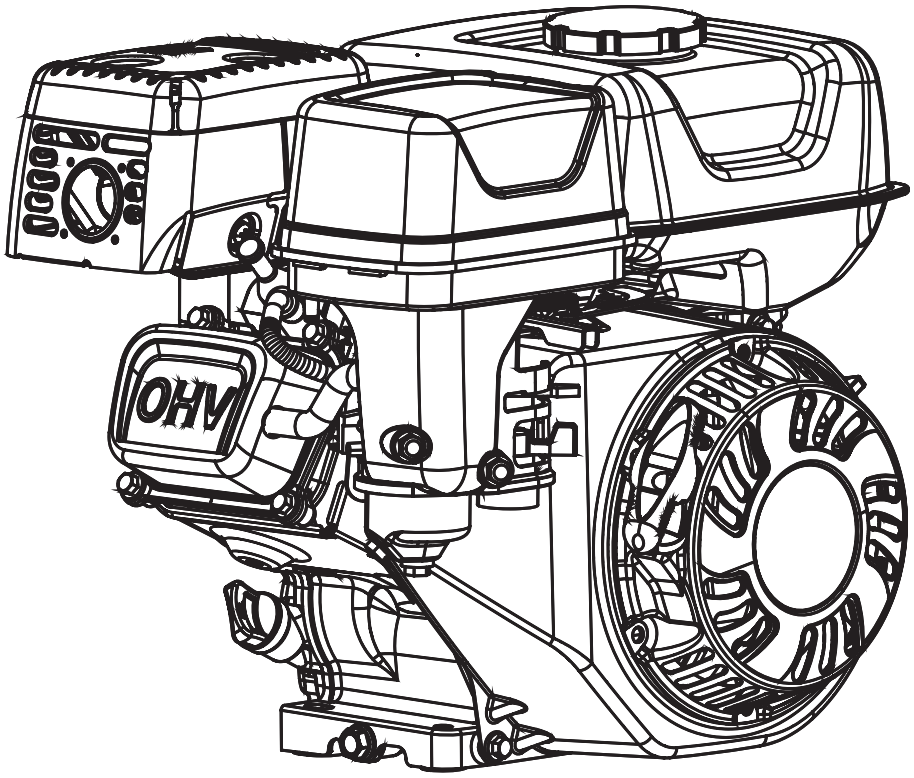
2. To winterize the pressure washer, disconnect the spark plug wire from the engine and remove the high -pressure hose from the pump. Add RV antifreeze through the garden hose connection. Pull the engine r ope several times until antifreeze comes out of the high-pressure hose connection.

3. Remove all water from the high-pressure hose, gun, and wand. To do so, disassemble the high-press ure hose from the gun. Drain all water from the hose. Hold the gun/wand assembly in a position with the nozzle pointing down, and pull the gun trigger to remove any remaining water.

Troubleshooting guide

PROBLEM	CAUSE	REMEDY
Engine will not start.	1. No fuel. 2. Pressure build up after initial use. 3. Spark plug wire not attached.	1. Add fuel. 2. Squeeze trigger gun to relieve pressure. 3. Attach spark plug lead.
No or low pressure (initial use)	1. Lance not set in high pressure mode. 2. Leak at high pressure 3. Obstruction in nozzle 4. Water filter screen clogged at water inlet 5. Air lock in hose or pump 6. Diameter of the supply hose too small. 7. Inadeuate water supply	1. Set into high pressure mode. 2. Repair leak. 3. Clean nozzle. 4. Remove and clean filter. 5. Turn off the engine.Ensure the water supply is on, squeeze the gun trigger and release all trapped air. When there is a steady stream of water, release the trigger and restart the engine. 6. Replace hose with one of a larger bore diameter. 7. Check garden hose for kinks and blockages.Ensure water tap is fully open.
Water leaking at gun/lance	1. Worn sealing ring. 2. Loose hose connection.	1. Replace sealing ring. 2. Tighten up water joints.

Gasoline Engine
Owner's Manual
R210-S



IMPORTANT:

Keep this manual for safety warnings and precautions, assembly, operating,inspection and maintenance procedures. Read all precautions and instructions carefully before operating this engine.

This manual should be considered as a permanent part of this engine, and should remain with the engine if resold.

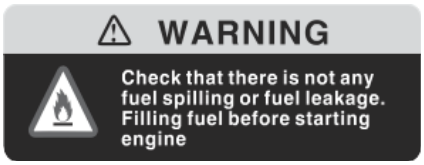
SAFETY PRECAUTION

WARNING **Ahazard that could result in death or serious injury.**

CAUTAION **Ahazard that could result in minor or moderate personal injury.**

NOTICE **Ahazard that could result in property damage.**

NOTE **Important installation, operation, or maintenance information.**







I. OPERATING PRECAUTIONS

WARNING Read all instructions carefully before operating this engine. Failure to follow all instructions may result in fire, serious injury or death.

The warnings and precautions listed in this manual cannot cover all possible conditions and situations that may occur. It must be understood by the operator that common sense and caution are factors that cannot be built into this product, but must be supplied by the operator.

1. CARBON MONOXIDE HAZARD

Usingan engine indoors can kill you in minutes.

Engine exhaust contains carbon monoxide, a poison you cannot see or smell. NEVER use inside a home or garage, even if doors and windows are open. Only use it outside and far away from windows, doors, and vents.

2.Strictly set the engine according to the regulated specified in the owner's manual. Do not overload, overspeed the engine or run it with low load and at low speed for a long time.

3.Fire Hazard! Do not fill the fuel tank while engine is running. Do not operate the engine if gasoline has been spilled. Clean up the spilled gasoline before starting engine. Do not operate near an open flame.

4.Hot parts can cause severe burns. Do not touch the engine during use. Let the engine cool down after use.

5.Keep children away from the engine, especially while it is running.

6.Use proper transport devices to avoid rolling, slipping and tilting when transporting the engine.

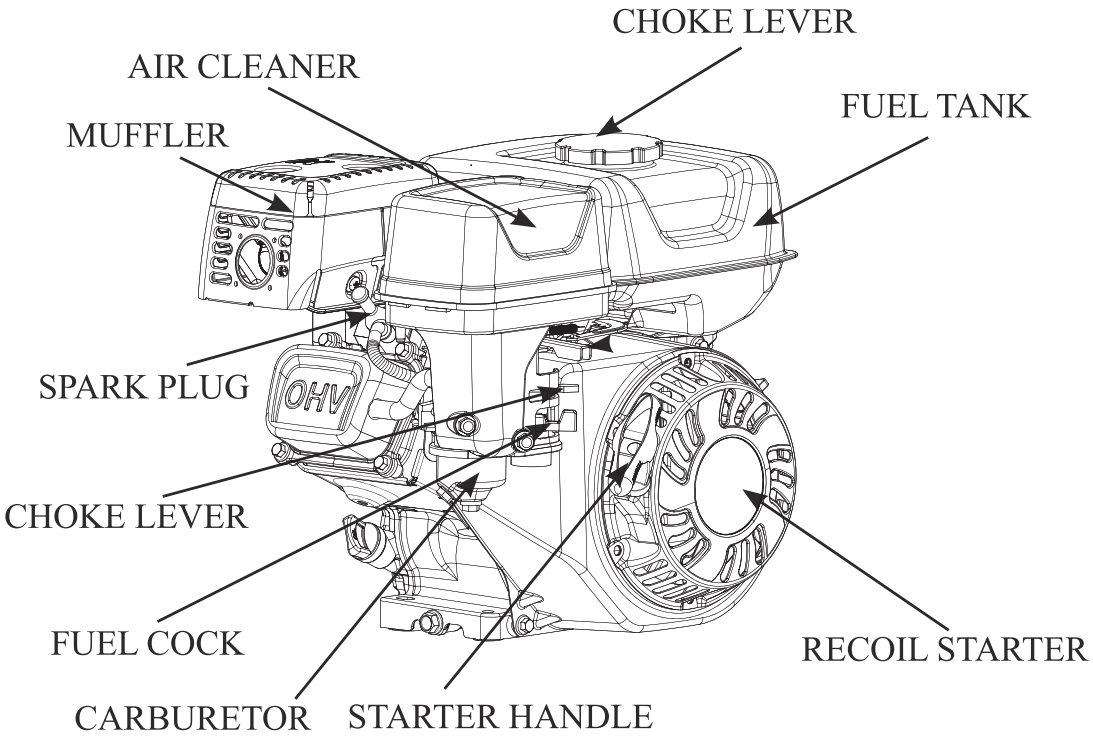
7.Use the recommended oil type and fuel type.

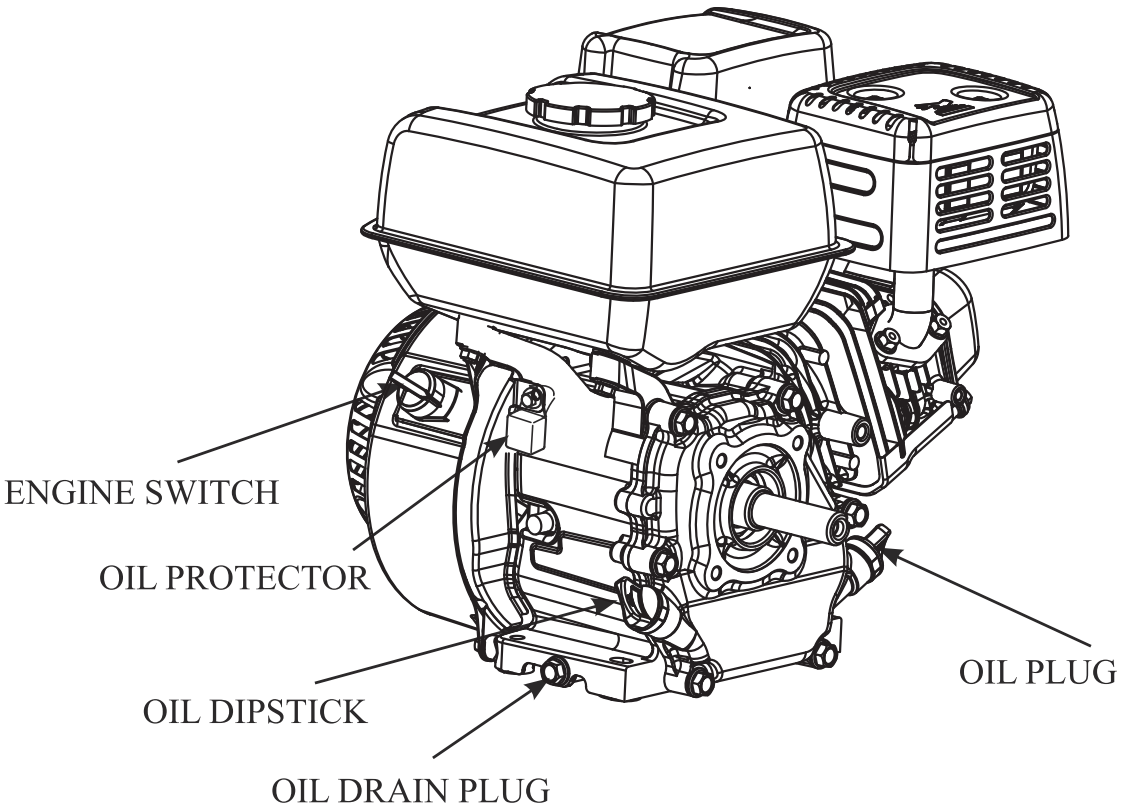
8.Wear ear protection when operating or working around the engine while it is running.

9.Do not cover the engine while it is running.

10. Follow the maintenance schedule to keep the engine in good working condition.

I I.PARTS DESCRIPTION





III. PRE-OPERATE INSPECTION

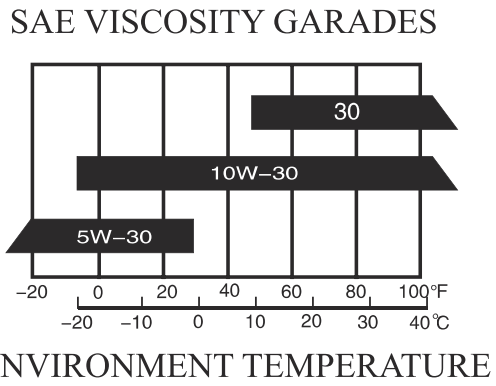
1. ENGINE OIL

NOTE **Your Warranty is void if the engine is not properly filled with oil before each use. Running the engine with a low oil level or no oil can cause severe engine damage.**

The oil alert system(if equipped) will automatically stop the engine before the oil level falls below a safe limit. However, to avoid an unexpected shutdown, be sure to check the engine oil before starting the engine.

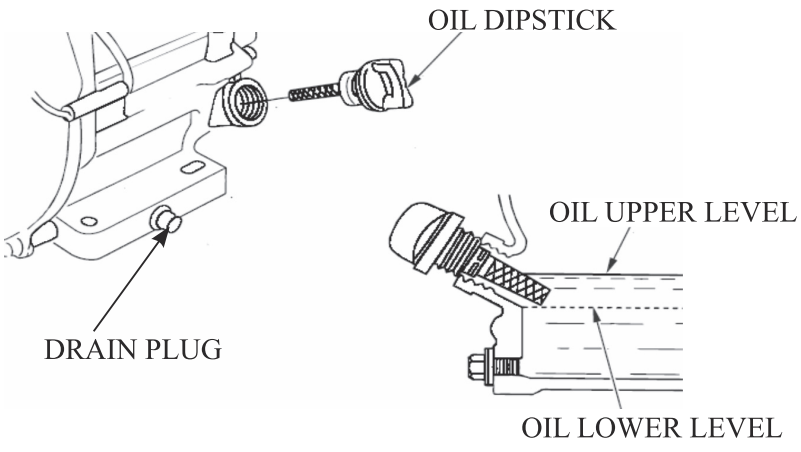
Use 4-stroke engine oil. API (American Petroleum Institute) service class SJ or higher are acceptable.

SAE 10W-30 oil is recommended for general use.
The SAE Viscosity Grades chart below shows other viscosities to use in different average temperatures.



CHECKING AND FILLING OIL

1) Make sure the engine is stopped and in a level position.
2) Remove the dipstick and clean it.
3) Reinsert the dipstick into the oil filling hole without threading it in, and remove it to check the oil level.
4) If the oil level is too low, add the recommended engine oil up to the upper limit level.
5) Reinstall the dipstick.
6) Lubrication oil capacity:
   R210-S 0.5L



2. AIR CLEANER

Remove the air cleaner cover and inspect the air filter element. Clean or replace the filter element if it is dirty if necessary.

NOTICE **Operating the engine without an air filter or with a damaged air filter will damage the engine. This type of damage is not covered by the Warranty.**

3. CHECKING AND ADDING FUEL

NOTICE **Use clean, fresh, regular unleaded gasoline with a minimum octane rating of 87 and an ethanol content of 10% or less by volume. (E10) Any damages or hazards caused by using improper gasoline are not covered by the Warranty.**

1) Remove the fuel tank cap and check the fuel level.

2) Slowly add gasoline to the tank. The recommended fuel level is 1 inch below the filling port.

⚠ WARNING

1) Gasoline and gasoline vapors are highly flammable and explosive. Fire or explosion can cause severe burns or death.

2) Fill the tank in a well-ventilated area with the engine stopped and away from heat and ignition sources.

3) Do not fill the tank indoors.

4) Do not mix oil and gasoline.

5) Do not fill the tank when the engine is running or hot.

6) Do not overfill the fuel tank. Gasoline expands when ambient temperature rises.

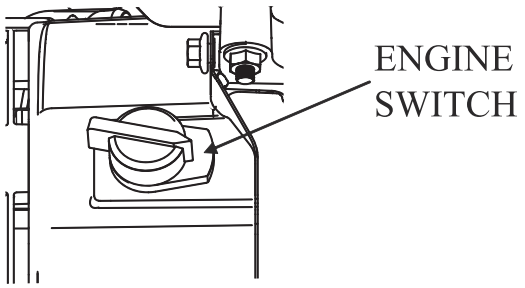
7) Gasoline is a skin irritant and needs to be cleaned up immediately if spilled on skin or clothes.

8) Keep out of reach of children.

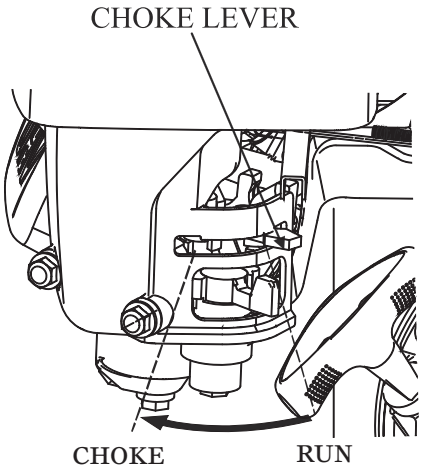
Fuel tank capacity： R210-S 2.6L

IV.STARTING THE ENGINE

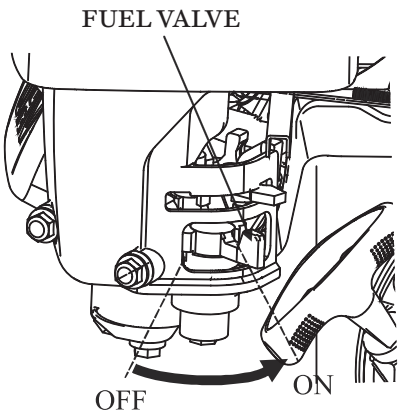
1. Start the engineRecoil starter:Turn the engine switch to the"ON"(OPEN) position.
   Pull the starter grip gently until resistance is felt. Allow cable to retract fully and then pull it quickly. Repeat until the engine starts.



2. To start a cold engine, move the choke lever to the CHOCK position. To restart a warm engine, leave the choke lever in the RUN position.



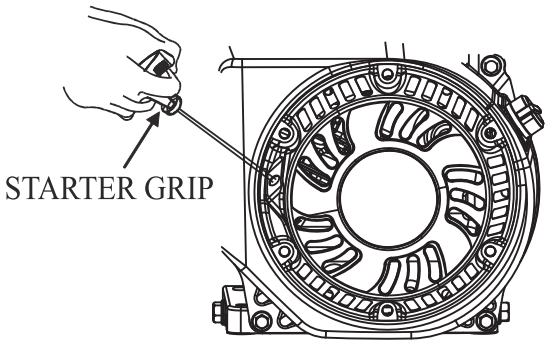
3. Move the fuel valve to the "ON" position.



NOTICE

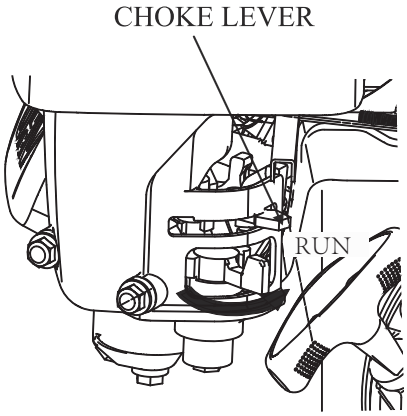
Don't allow the starter grip to snap back against the engine.

Hold it as it recoils so it doesn't hit the engine.



V.RUNNING THE ENGINE

1. Allow the engine to run for several slowly to the "RUN" position.



ENGINE OILALARM

The engine oil alarm system is designed to function when engine oil in the crankcase is insufficient. Running the engine with no oil or with a low oil level can cause severe damage to the engine. The engine oil alert system will automatically stop the engine when the oil falls below the threshold level.

NOTE

If you cannot start the engine, check the engine oil level first before any other inspection.

HIGH ALTITUDE KIT REPLACEMENT

FOR EPAIII ENGINES

3000-6000ft. / 6000-8000ft. ofelevation

At high altitude, the standard carburetor air-fuel mixture will be too rich. Performance will decrease and fuel consumption will increase. A very rich mixture will also foul the spark plug and cause hard starting. Operation at an altitude that differs from that at which this engine was certified, for extended periods of time, may increase emissions.

The fuel system on this engine/equipment may be influenced by operation at higher altitudes. Proper operation can be ensured by installing an altitude kit when required. See the table below to determine when an altitude kit is required. Operating this engine/equipment without the proper altitude kit installed may increase the engine's emissions and decrease fuel economy and performance. Kits may be obtained from any dealer, and should be installed by a qualified individual.

Equipment *	Fuel	AltitudeRange**	KitPartNumber
Equipmentwith enginesabove80 cc	Gasoline	0 – 3000 ft	NotRequired
		3000 – 6000 ft	Altitudekit1#
		6000 – 8000 ft	Altitudekit2#

*Engine, Generator Set, Pressure Washer, Walk-Behind Lawnmower, Compressor, Pump, Tiller etc.

**Elevation above sea level.

This high altitude jet is to be used at elevations above 3000 feet.

● At elevations above 8000feet,the engine / equipment may experience decreased performance, even with the high altitude kit.

● If a carburetor is replaced, the proper high altitude kit jet will need to be installed into the replacement carburetor.

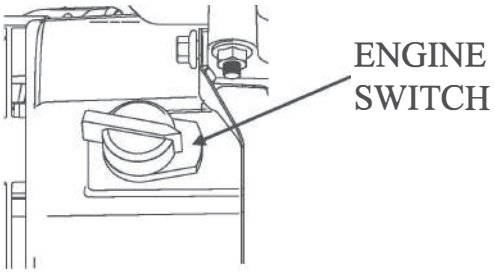
WARNING! To prevent serious injury from fire: Follow the kit procedures in a well-ventilated area away from ignition sources. If the engine is hot from use, shut the engine off and wait for it to cool before proceeding.

NOTICE: The warranty may be void if necessary adjustments are not made for high altitude use.

VI.STOPPING THE ENGINE

In emergency, push the engine switch to the OFF". In normal, please do as following

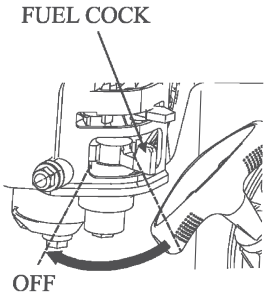
1. Push the engine switch to the "OFF" position.



2. Set the fuel cock to “OFF” position.

NOTICE

Sudden stopping at high speed under heavy load is forbidden, otherwise damage will result.



VII.EXHAUST CONTROL SYSTEM

Running the engine can produce carbon monoxide, hydrocarbons and oxides of nitrogen. Carbon monoxide is toxic. Hydrocarbons and oxides of nitrogen can react chemically to produce smoke. To keep the exhaust of your engine within the EPA emission standard, pay special attention to the following:

1. Maintenance

The owner/operator should strictly follow the Maintenance schedule and complete all scheduled maintenance in a timely manner. If the engine always works under severe conditions, maintenance should be performed more frequently.

2. Problems affecting exhaust emissions:

a.Difficult starting or stopping

b.Unstable idling speed

c.Abnormal black smoke or fuel consumption

d.Poor ignition,sparks or backfire

e.Premature ignition

If you are experiencing any of above problems, contact an authorized service dealer for help.

VIII. MAINTENANCE

1. The engine must be properly maintained to ensure its operation is safe, economical, trouble-free, and eco-friendly.

In order to keep your gasoline engine in good working condition, it must be serviced periodically.The following maintenance schedule and routine inspection procedures must be carefully followed:

Frequency / Items		Eacht ime	First 1 monthor first 20hrs of operation	Thereafter, every 3 months or every 50hrs of opera tion	Every year orevery 100 hrs of operation
Engine oil	Check-Refill	√			
	Replace		√	√	
Reduction gear oil(if equipped)	Oillevel check	√			
	Replace		√	√	
Airfilter element	Check	√			
	Clean		√		
	Replace			√	
Deposit Cup(if equipped)	Clean				√
Spark Plug	Check - adjust				√*
Spark arrester	Clean			√	
Idling (if equipped)**	Check - adjust				√
Valve clearance **	Check-adjust				√
Fuel tank&fuel filter**	Clean				√
Fuel line	Check	Every 2 years(change if necessary)			
Cylinder head,piston	Clean up carbon **	＜225cc，Every125hrs ≥225cc，Every250hrs			

*These items should be replaced if replacement needed.

**These items should be maintained and repaired by our authorized dealer,unless the owner has appropriate tools and is proficient with mechanical maintenance.

NOTICE

●If the gasoline engine frequently work under high temperature or heavy load, change the oil every 25 hours.

●If the engine frequently work under dusty or other severe circumstances, clean the air filter element every 10 hours; If necessary, change the air filter element every 25 hours.

WARNING

Stop the engine before servicing. Put the engine on a level surface and remove the spark plug cap to prevent the engine from starting. Do not operate the engine in a poorly ventilated room or other enclosed area. Be sure to keep good ventilation in working area. The exhaust from the engine may contain poisonous CO, inhalation can cause shock, unconsciousness and even death.

2. Maintenance method

1) Engine oil change

a.Place the stopped engine on a flat and level surface.

b.Place a drain pan underneath the crankcase's drain plug.

c.Remove the oil drain bolt and tilt the engine slightly to drain the oil.

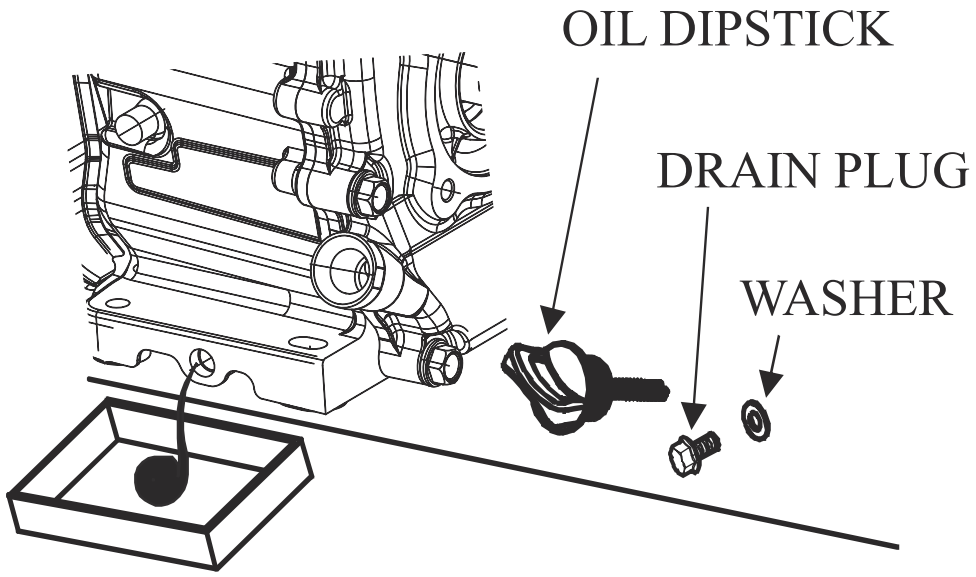
d.Reinstall the oil drain bolt and tighten it.

e.Remove the oil dipstick and fill with the appropriate type of oil until the oil level is at the upper limit.

f. Thread the dipstick back in and clean the area around it.

NOTE

For the sake of environmental protection, we suggest you collect the drained oil in a sealed container and take it to a designated recycle bin.



2) Maintenance of air cleaner

Air filter/air cleaner is to protect the engine by filtering dust and debris from the intake air. A dirty air filter will restrict air flow to the carburetor, reducing engine performance. If you operate the engine in very dusty areas, clean the air filter more often than specified in the MAINTENANCE schedule.

⚠ WARNING

Never clean the air cleaner element with gasoline or low flash-point detergents, or explosion may happen.

NOTICE

Running the engine without an air filter or with a damaged air filter can cause engine damage and will void the Warranty.

a.Remove the air cleaner cover.

b.Remove the foam or paper element.

c.Clean the filter element as described below:

For paper filter element:

In a well-ventilated area away from bystanders, use pressurized air to blow dust out of the air filter. If this does not get the filter clean, replace it.

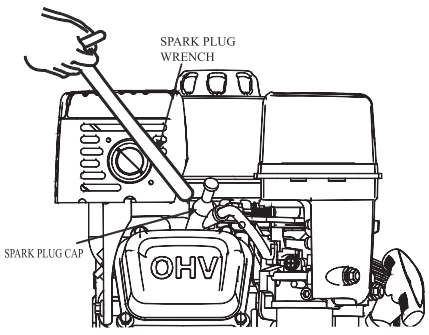
For foam element:

Wash the element in warm water and mild detergent several times. Squeeze thoroughly dry in a clean cloth. Soak the filter in lightweight oil briefly, then squeeze out the excess oil.

d.Place the new filter or cleaned filter in the assembly and secure the cover before use.

3) Spark plug maintenance

Spark plug type: F6RTC, F6TC or equivalent types.



a.Remove the spark plug cap from the spark plug.

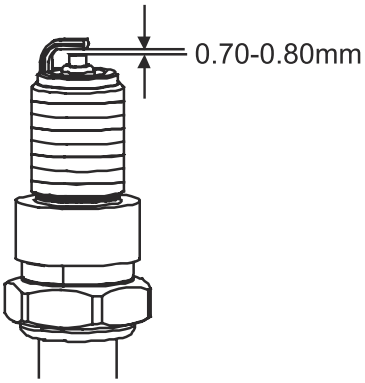
b.Use a spark plug socket tool to remove the plug.

c.Inspect the electrode on the plug. Clean out debris around the spark plug or replace it with a new one if necessary.

d.Make sure the spark plug gap is 0.7~0.8mm.

e.Firmly reinstall the plug.

f.Attach the spark plug cap to the spark plug.



⚠ WARNING

Be careful of unintentional contact with the hot surface around the spark plug area. Allow the engine to cool before any maintenance.

NOTICE

Using an incorrect spark plug may damage the engine.
Tighten the spark plug properly. If loose, the spark plug will cause overheat. If overtightened, the threads in the engine block will be damaged.

IX. TRANSPORT AND STORAGE

Before transporting the engine, allow the engine to properly cool andmake sure that the fuel valve is in the OFF position.

NOTICE

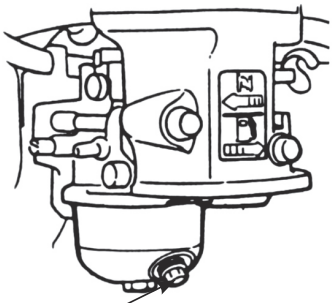
Allow the engine to cool completely before storage.

For short-term storage (up to 1 month)

1.Turn off the fuel supply at the fuel valve.

2.Use a funnel under the carburetor drain bolt to avoid spillage.

3.Remove the carburetor drain bolt to drain the fuel.



CARBURETOR DRAIN BOLT

For long-term storage (more than 1 month)

1. Turn the fuel valve to ON position.
2. Place a fuel container under thecarburetor. Use afunnel under thecarburetor drain bolt to avoid spillage. Remove the drain bolt to empty the fuel tank.
3. Replace and tighten the carburetor drain bolt. Be sure to properly dispose of the drained fuel according to local guidelines.

⚠WARNING

Gasoline and gasoline vapors are highly flammable and extremely explosive. Store away from sparks, open flames, pilot light, heat or other sources of ignition.

Removing from storage

If the gasoline tank and carburetor have been properly emptied of all gasoline prior to the engine being stored, follow the steps below when removing from storage.

1. Add fuel according to CHECKING AND ADDING FUEL.
2. Turn the fuel valve to ON position.
3. After 5 minutes check the carburetor and air filter areas for any gasoline leakage. If leakage occurs, clean or replace the carburetor. If no leakage is found, turn the fuel valve to OFF position.
4. Add engine oil according to CHECKING AND FILLING OIL.
5. Check the air filter for any obstructions. Clean or replace the air filter if necessary.
6. Start the engine according to the instructions.

X.TROUBLESHOOTING

PROBLEM	CAUSE	SOLUTION
Difficult Engine Starting Or Engine Not Start.	No fuel or fuel valve closed.	Add fuel or turn on the fuel valve
	For cold engine, choke not in CHOKE position.	Move chock lever to CHOCK position.
	Wrong fuel type.	Use clean, fresh, regular unleaded gasoline with a minimum octane rating of 87 and an ethanol content 5 of 10% or less by volume. (E10)
	Water in fuel or old (deteriorated) fuel.	Drain fuel and replace with fresh fuel.
	Carburetor not primed.	Pull on starter grip to prime.
	Dirty fuel passageways.	Clean out passageways using fuel additive.
	Engine is flooded.	Wait 5 minutes. Move choke to RUN position, pull the starter grip and repeat until engine starts.
	Clogged fuel filter.	Replace with a new filter.
	Spark plug cap not connected securely.	Tighten the spark plug cap.
	Spark plug electrode wet or dirty.	Clean spark plug.
	Incorrect spark plug gap.	Adjust spark plug gap or replace.
	Damaged spark plug cap.	Replace a new cap.
	Incorrect spark timing or faulty ignition system.	Have qualified technician repair.
	Loosen or broken spark plug. (Hissing occurs)	Tighten spark plug or replace with a new spark plug.
	Loosen or broken cylinder head or damaged head gasket. (Hissing occurs)	Tighten head or replace with a new head gasket.
	Engine valves misadjusted or stuck	Have a qualified technician repair.

PROBLEM	CAUSE	SOLUTION
Engine Runs Roughly	Choke in the wrong position.	Move choke lever to the RUN position.
	Dirty air filter.	Clean or replace with a new one.
	Dirty fuel valve.	Clean the fuel valve.
	Clogged spark arrester.	Clean spark arrester.
Engine Stops Suddenly	Low oil level.	Fill engine oil to proper level.
	Empty fuel tank or wrong fuel type.	See CHECK AND ADDING FUEL.
	Wrong fuel tank cap.	Replace fuel cap.
	Disconnected spark plug cap.	Secure spark fuel cap.
Engine stops under Heavy load	Dirty air filter.	Clean or replace with a new one.
	Engine running cold.	Allow engine warms up before operation.
Engine Knocks	Engine overloaded.	Do not exceed rating load.
	Wrong fuel type.	See CHECK AND ADDING FUEL.
Engine Backfires	Impure gasoline or wrong fuel type.	Drain the old fuel and refill with fresh gasoline. See CHECK AND ADDING FUEL.
	Intake valve stuck or overheated engine.	Have a qualified technician diagnose the engine.
	Incorrect timing.	Check engine timing.
Engine overheated	Low engine oil level.	Add engine oil to proper level.
	Clogged exhaust pipe.	Clean exhaust pipe.
	Cooling fan blocked.	Clean cooling fan.
Other	Contact an authorized service dealer for technical support.	

XI.SPECIFICATIONS

1) MAIN SPECIFICATION

Model / Specification	R210-S
L x W x H (mm)	360 x290 x325
Dry Weight (kg)	12.5
Gasoline Engine Type	4-Stroke, OHV, Single Cylinder
Displacement(ml)	209
Compression Ratio	8.2:1
Bore x Stroke (mm)	74.5 x 48
Maximum Output Power (kW/r/min)	4.3*3600
Maximum torque (N.m/r/min)	12.4/2500
Cooling System	Forced Air-cooled
Ignition System	Transistorized Magneto Ignition (TCI)
Spark Plug	F6TC or F6RTC
Lubrication System	Forced Splash
PTO Shaft Rotation	Counterclockwise
Spark Plug Gap	0.7 -0.8mm
Valve Clearance	Intake:0.05-0.10mm Exhaust: 0.05-0.10mm

2) TORQUE OF IMPORTANT BOLTS

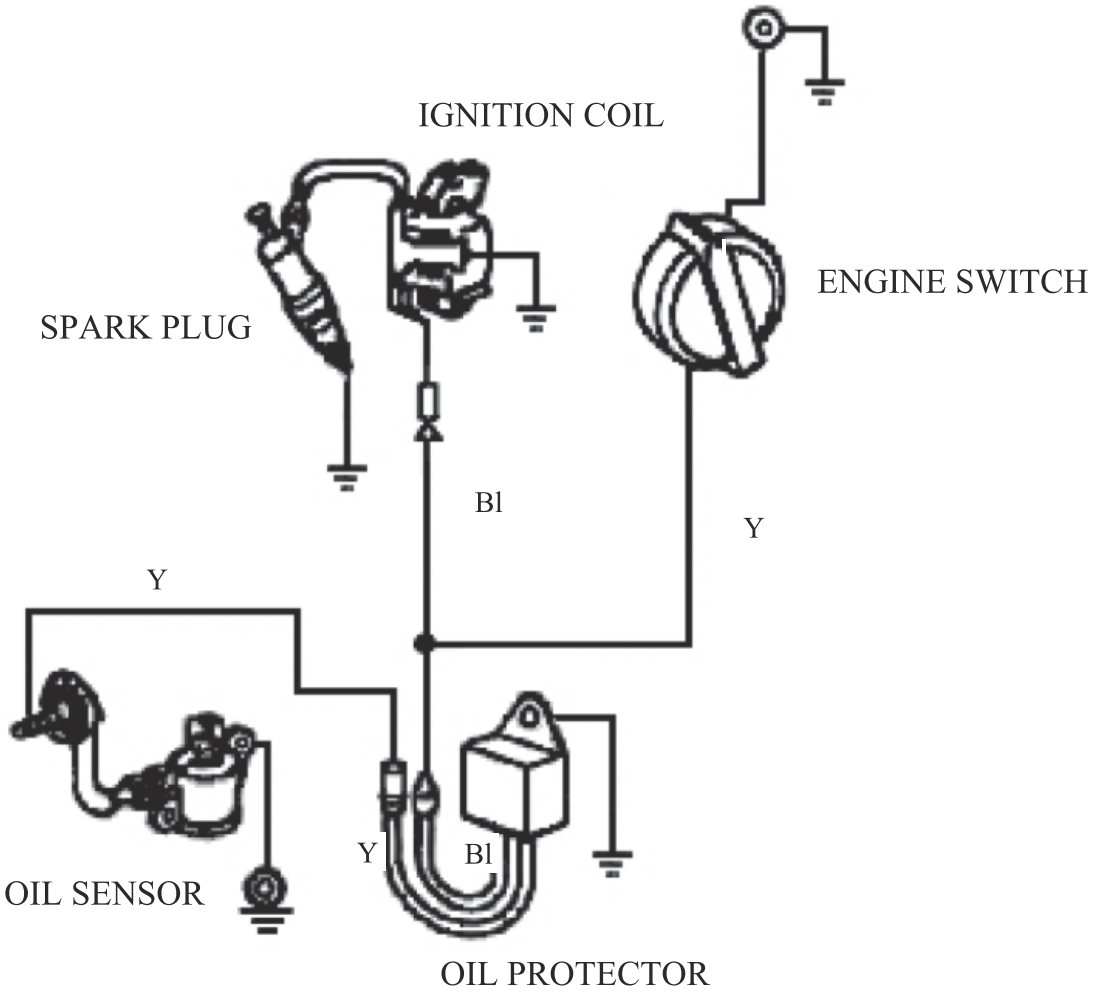
	Specifications	Torque Valve	
		N·m	Kg·m
Connection-Rod Bolt	M7 x 32 (special)	13±1	1.0
Cylinder Head Bolt	M8 x 60	28±2	1.0
Flywheel Nut	M14 x 1.5 (special)	75±7	7.5
Lock Nut of Rocker Arm Shaft	M6	10±2	1.0

XII.ELECTRIC DIAGRAM

Bl BLACK

Y YELLOW

G GREEN



XIII.WEARING PARTS ANDACCESSORIES LIST

WEARING PARTS:
CRANKCASE GASKET
CYLINDER HEAD COVER GASKET
CARBURETOR GASKET
CARBURETOR INSULATION GASKET
AIR CLEANER GASKET
EXHAUST VENT GASKET
SPARK PLUG
RECOIL STARTER
SEAL GUIDE
OIL SEALING

ACCESSORIES:
SOCKET
FORCE BAR