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Chapter I. Safety

User responsibility

Please read and follow the instructions carefully before using the engine, otherwise it will cause personal injury or engine damage.

Known to quickly stop the engine and all control operations, no one can operate at will. Never operate the engine. Keep children and pets away from the operating area.

Carefully fill fuel

Gasoline is flammable. In the outdoor, well ventilated area, stop the engine and fill the fuel.

Do not smoke when refueling, stay away from fire and sparks.

It is forbidden to start the engine when the gasoline splashing area is not dry.

Hot exhaust

The muffler is very hot during engine operation, even after a period of downtime. Be careful not to touch the hot muffler. Put the engine indoors and let the engine cool down.

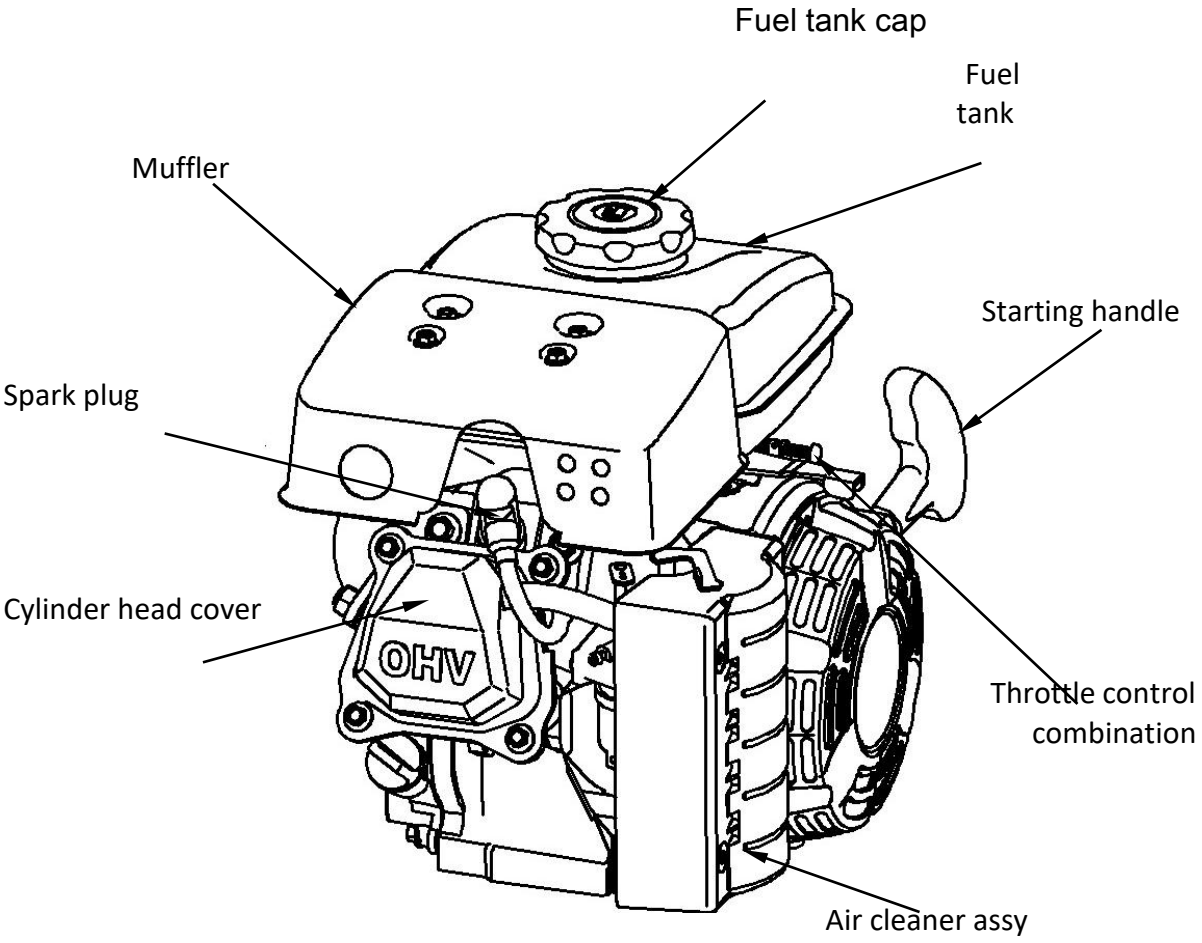
To prevent fires, keep at least 1 meter away from walls and other equipment while the engine is in operation. Flammables should be kept away from the engine.

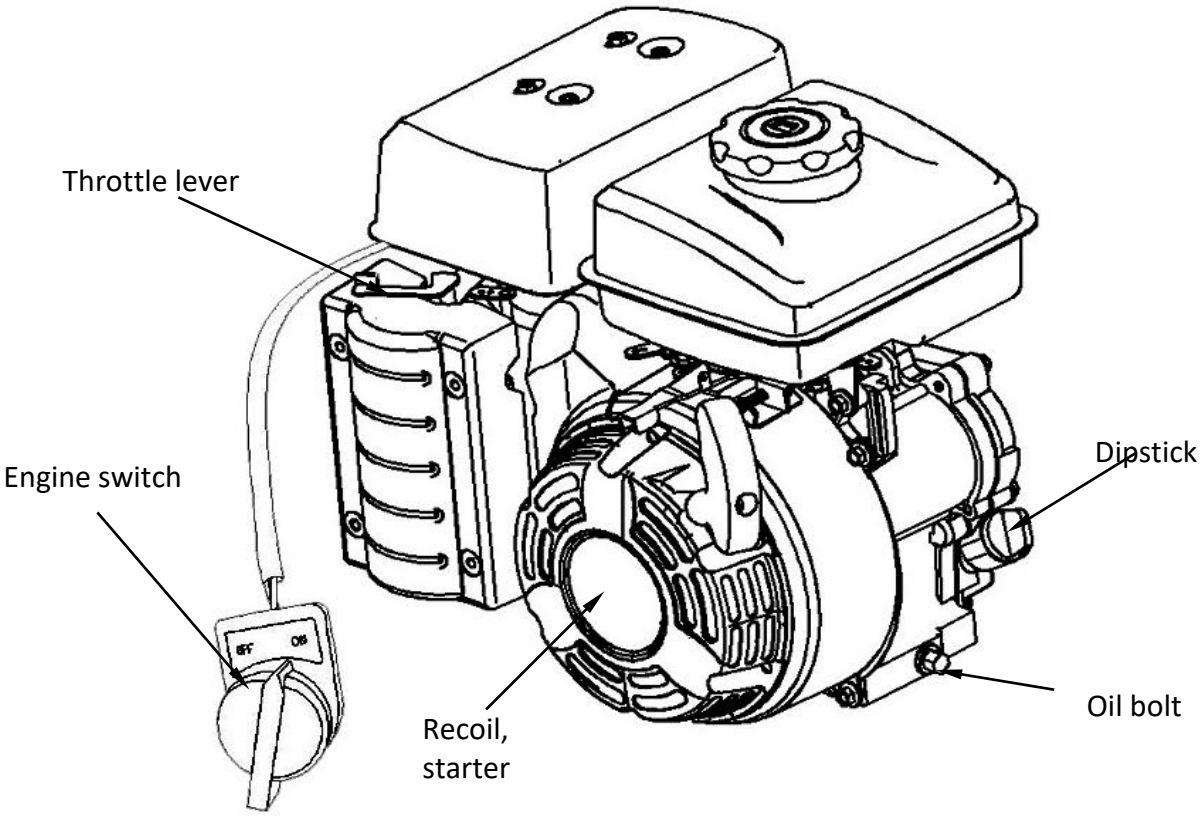
Poisoned by carbon monoxide

The exhaust contains toxic carbon monoxide. Inhalation of exhaust should be avoided. Do not use indoors.

Do not run the engine in a closed garage or enclosed area.

Chapter II. Part name

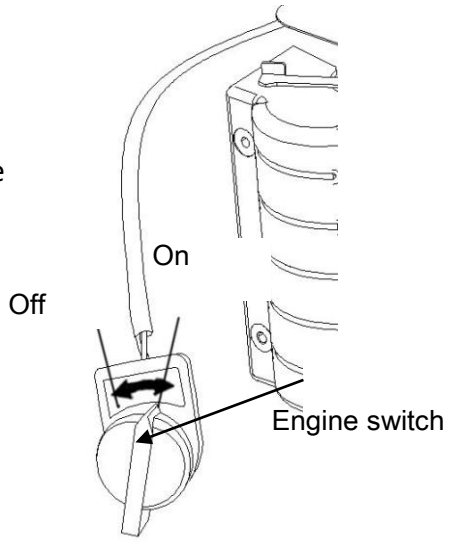




Chapter III. Use of the engine

Engine switch

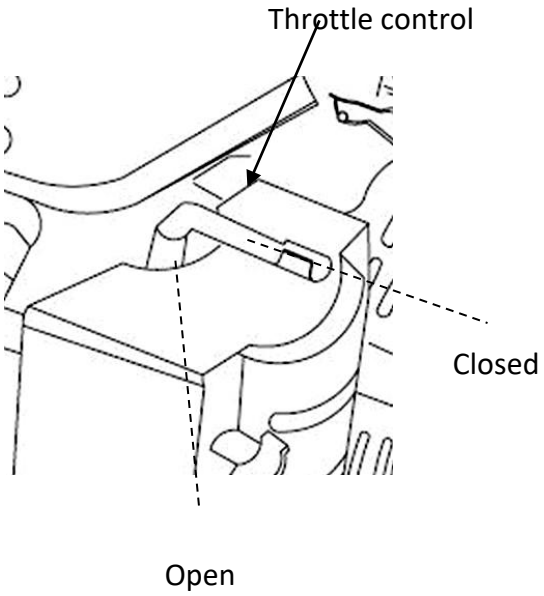
The engine switch is to turn the ignition circuit on and off: The engine can only be operated when the engine switch is in the "open" position; it can be turned on when the engine switch is in the "off" position to stop the engine.



Throttle control

The purpose of the choke handle is to open and close the choke.

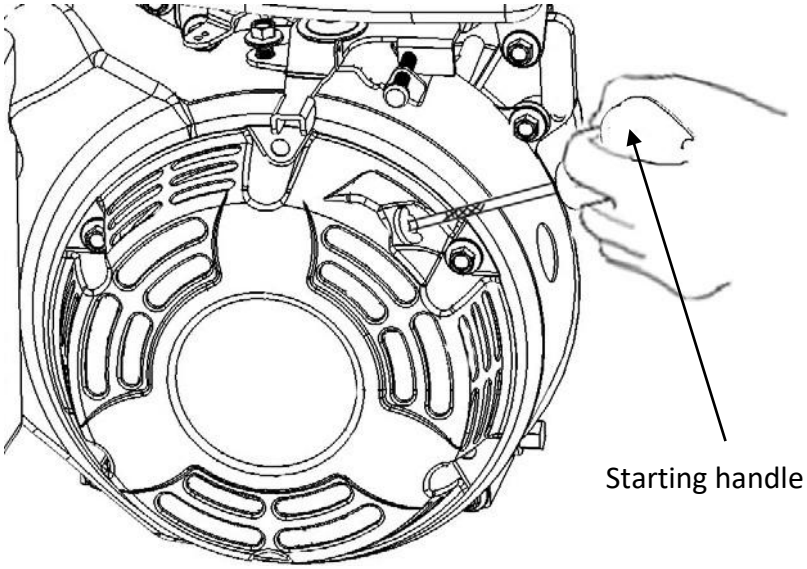
The choke handle should be placed in the "closed" position when the engine is started; After the engine is started, the choke should be placed in the "open" position.



Starting handle

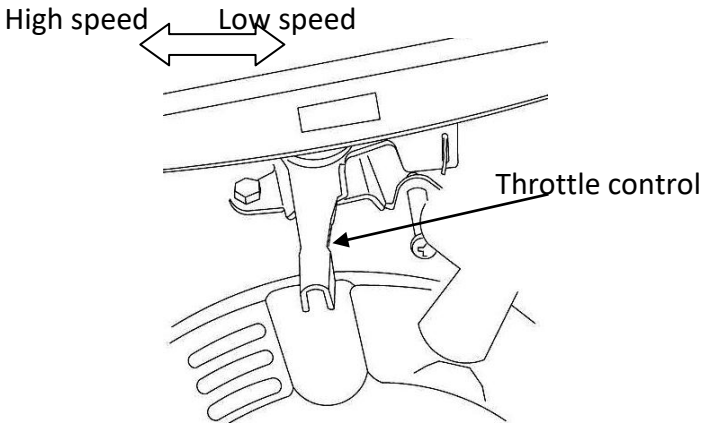
Pulling the starter handle causes the recoil starter to drive the engine crankshaft together to start the engine.

Warning! Do not let the starter handle spring back after starting, but gently put the handle back.



Speed control handle

Adjust the position of the speed control handle to achieve the desired engine speed.



For reasonable engine speed, please refer to the instructions provided by the engine equipment.

Chapter IV. Pre-operation check

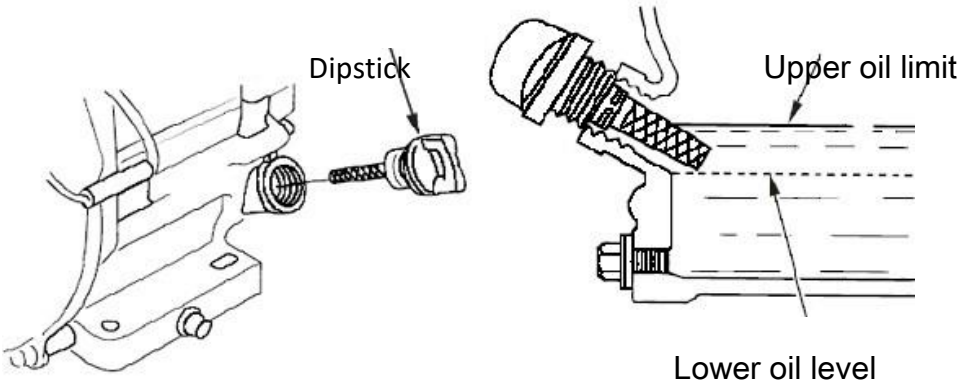
Routine inspection

Observe the leakage of oil and gasoline.
Observe the signs of damage.
Check all the positions of the shroud and cover, tighten the bolts, nuts and screws.

Check the oil

After stopping the engine, place the engine in a horizontal position and check the oil.

1) Remove the oil gauge from the oil filler and wipe it clean.
2) Insert the oil gauge and check the oil level without tightening.
3) If the oil level is too low, add the recommended oil to the upper limit.
4) After adding the oil, remember to install and tighten the oil gauge.

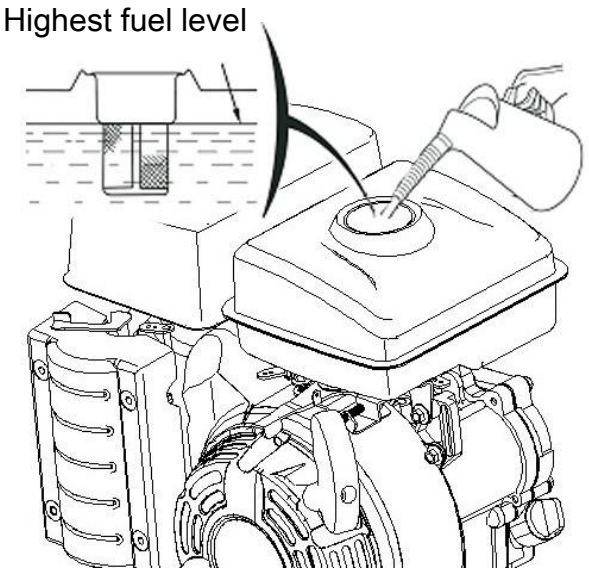


When the oil level is lower than the safety line, the oil protection system automatically stops. To avoid unexpected downtime,
Check the oil level before each start.

Stop first, then unscrew the fuel tank cap and check the fuel level. If the fuel level is too low, fill up the fuel tank. After adding fuel, tighten the fuel tank cap.

Warning! When filling the fuel, the oil level should not exceed the shoulder of the fuel filter (the highest fuel).

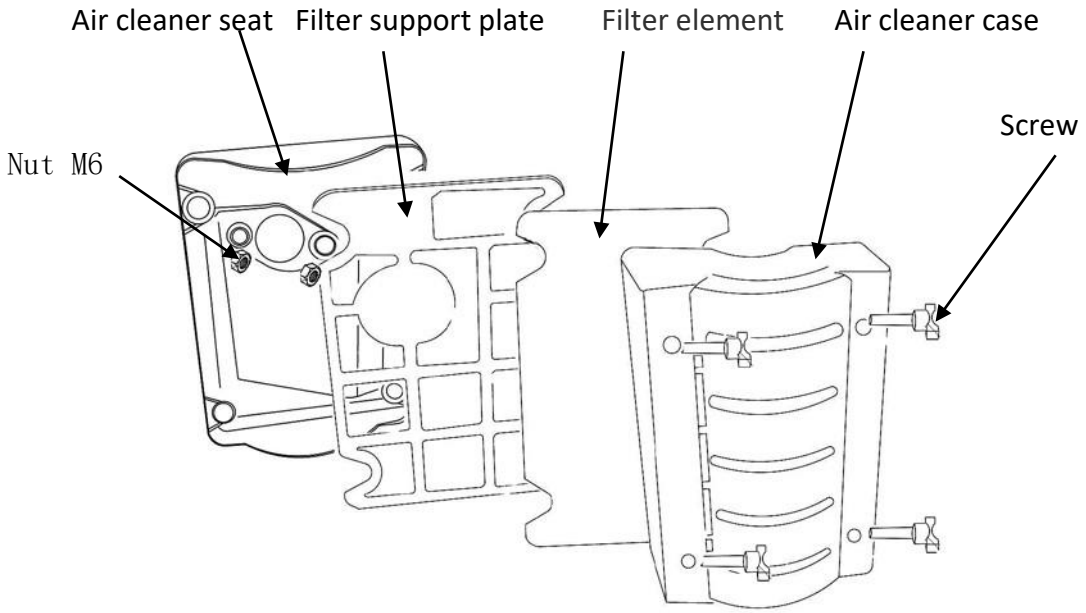
Fuel tank capacity:
1.6 L



It is recommended to use leaded gasoline with an octane number greater than or equal to 92#.
Unleaded gasoline can reduce carbon deposits and extend the life of the exhaust system.
It is strictly forbidden to use stale or contaminated or mixed organic oil. Avoid dust or water entering the fuel tank.

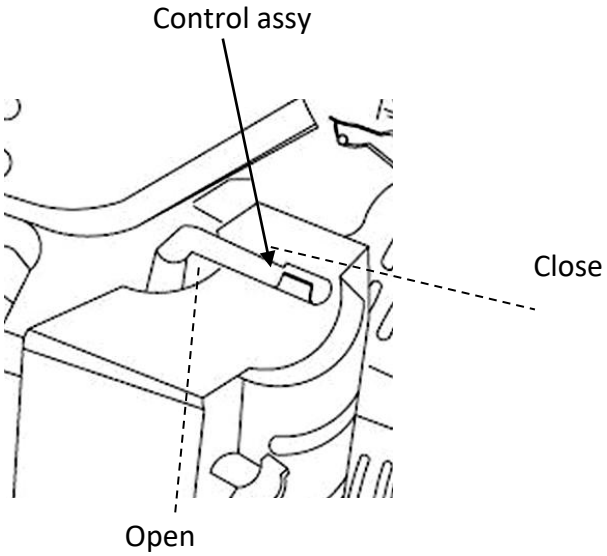
Check the air filter

Remove the air filter housing and check the filter element. Clean the filter element when it is dirty. If it is damaged, replace it with a new one.

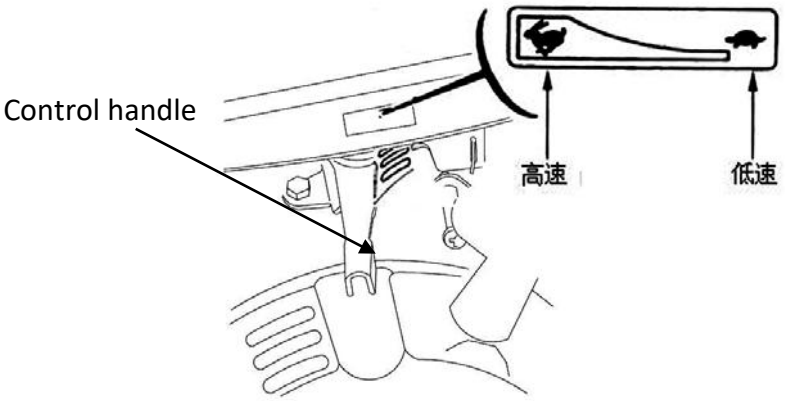


Chapter V. Starting engine

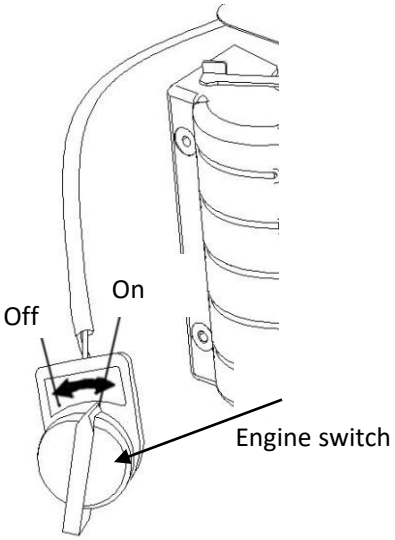
1) When the cold starter is started, place the choke handle in the “off” position. When the heat engine is started, the choke handle should be placed in the “open” position.



2) Move the speed control handle from “low speed” to “high speed,” about 1/3 from “high speed”.

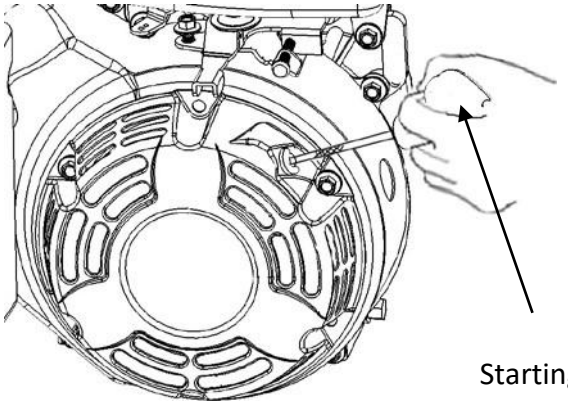


3) Set the engine switch to the "on" position.

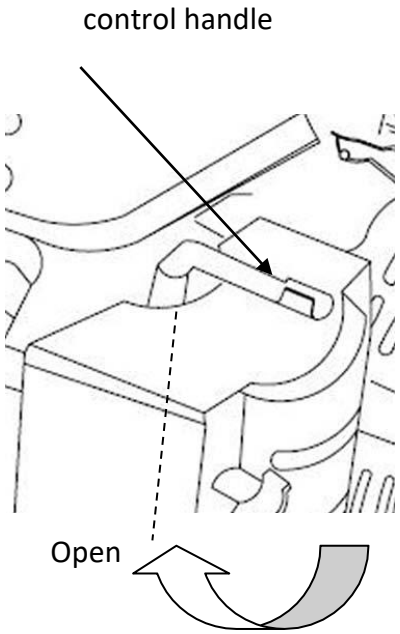


4) Pull the starter handle gently to feel resistance and then pull it out suddenly.

Do not let the starter handle snap back after starting, but gently put the handle back.



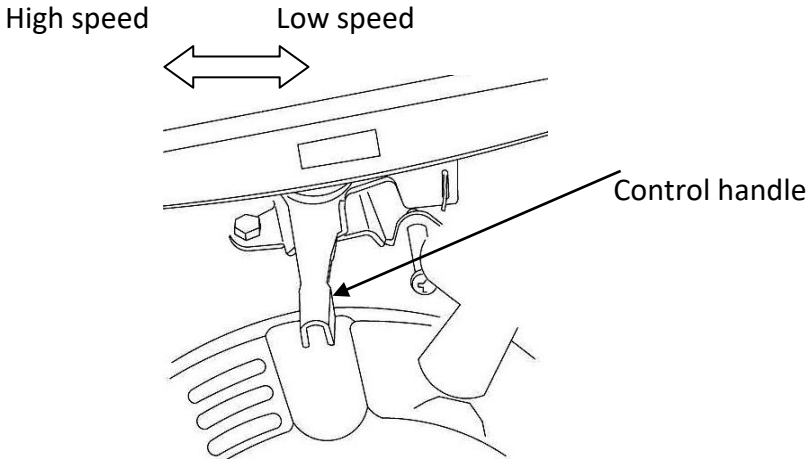
5) If the engine is started with the choke handle in the “off” position, the choke handle should be slowly moved to the “open” position when the engine is warmed up. If the heat engine is starting, place the choke handle in the "open" position.



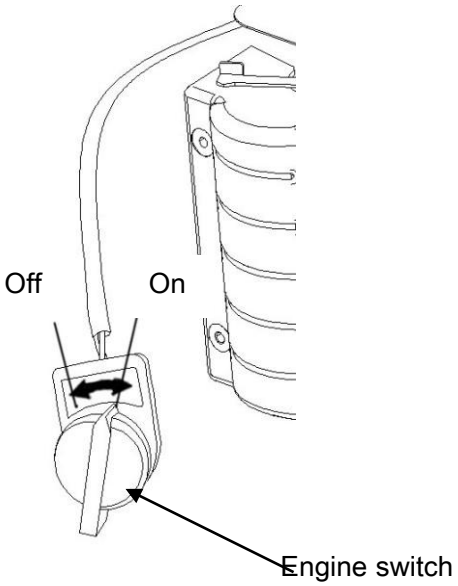
Chapter VI. Stop the engine

In an emergency, an easy way to stop is to put the engine switch in the "off" position. Under normal circumstances, the shutdown steps are as follows:

1) Move the speed control handle to the "low speed" position.



2) Turn off the engine switch.



Chapter VII. Maintenance

Maintenance schedule

Regular maintenance schedule		Every time	20 hours or the first month of initial use	50 hours or every 3 months	100 hours or every 6 months	300 hours or per year
Oil	Check the oil level	○				
	Replace		○		○	
Air cleaner	Check	○				
	Clean up			○(1)		
	Replace					
Fuel precipitation	Clean up				○	
Spark plug	Clean up				○	replace
Valve clearance	Re-adjust					○(2)
Cylinder head	Cleaning	Every 300 hours(2)				
Fuel tank and filter	Cleaning	Every 2 years (2)				
Tubing	Replace	Every 2 years (2)				

1) Use in dusty areas should be more frequent maintenance.
2) It should be carried out by your after-sales service provider. Unless you have the right tools and expertise.

Replace crankcase oil

Allowing the engine to warm up and then draining the oil ensures that the oil is drained quickly and cleanly.

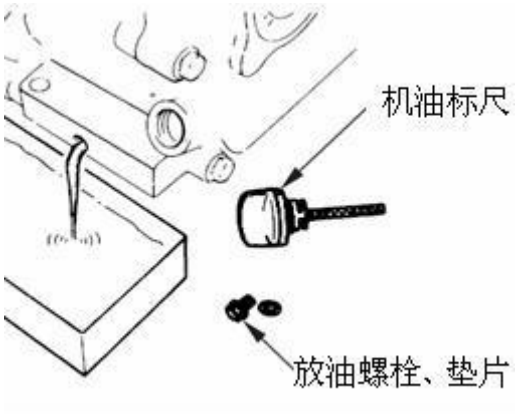
1) Place a suitable container under the engine to hold out the old oil. Then remove the oil gauge, remove the oil drain bolts and gaskets.

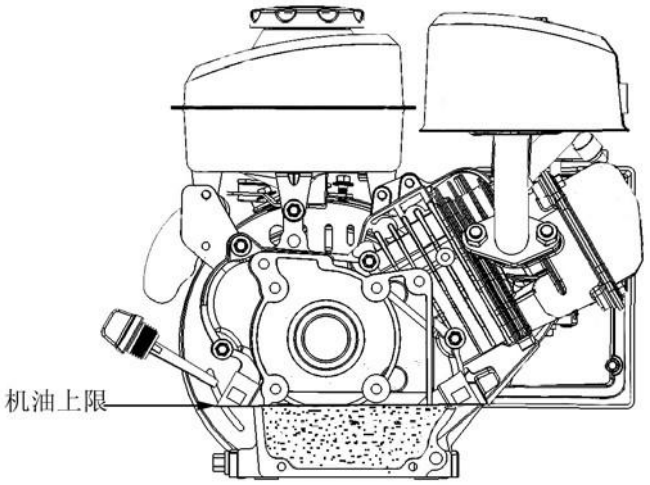
2) After completely draining the oil, reinstall the oil bolts and washers and tighten them.

From the perspective of environmental protection, please properly dispose of used motor oil after use. We strongly recommend that you pour the used oil into a sealed container and send it to your local service station or waste oil recycling center. Remember not to throw it into the garbage dump or dump it on the ground or in the ditch.

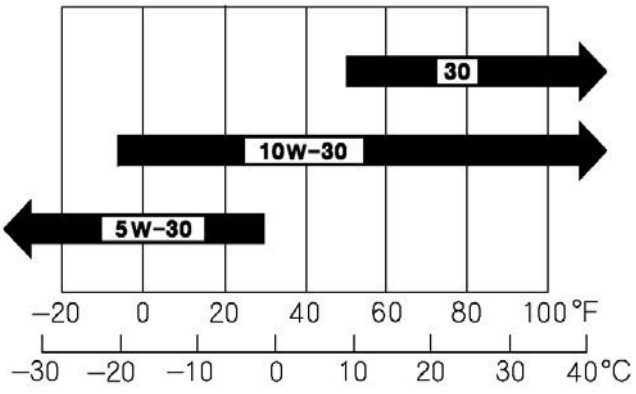
3) Place the engine in a horizontal position and add the recommended oil to the upper limit.

Engine oil quantity: 0.35 L





4) Install the oil gauge and tighten.
Recommended oil:
Four-stroke gasoline engine oil.
API classification of SE, SF or
Equivalent to SG grade SAE 10W -30.



Environment temperature

Use this grade if the temperature change in your area is within the temperature range of a certain grade of oil in the chart.

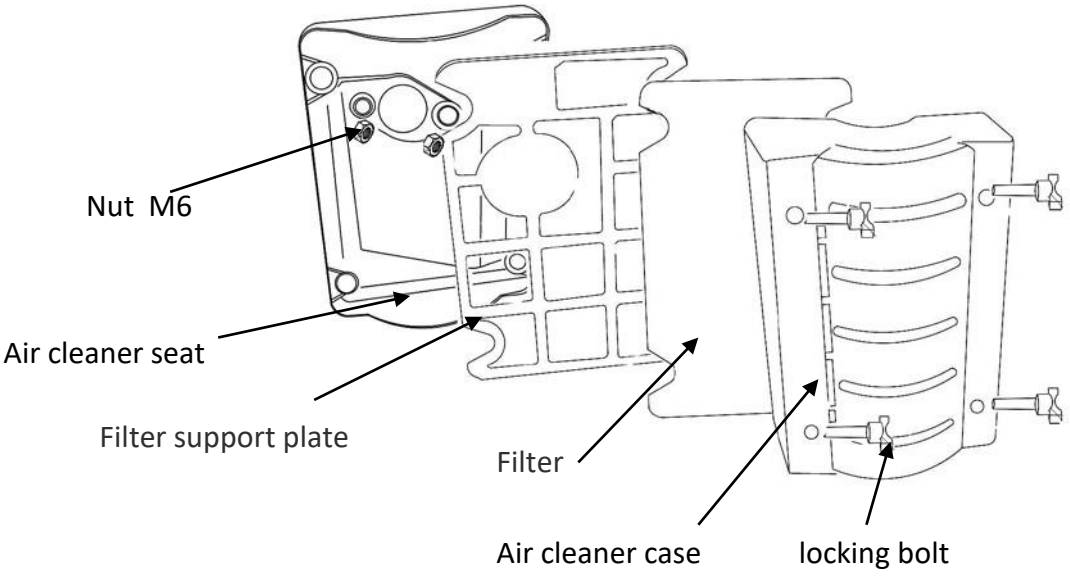
Air cleaner maintenance

When the air filter element becomes dirty, it will affect the intake air and engine power. If the operating area is dusty, it should be maintained more frequently than the maintenance schedule.

The absence of a filter element or the use of a damaged filter element can cause dust to enter the engine, resulting in rapid engine wear.

Air cleaner

1) Unscrew the air filter fixing bolt and remove the outer casing.



2) Remove the foam filter.
Check the filter element and replace it if it is damaged.
Cleaning foam filter:
Rinse in hot water with detergent, or in a non-flammable or flashing solvent; after drying, immerse in clean oil and squeeze out excess oil.

3) Clean the air filter lower body, outer cover and rubber pad. Dust should be prevented from entering the inlet to the carburetor.

4) Reassemble the foam filter and note that the pad is placed under the filter.

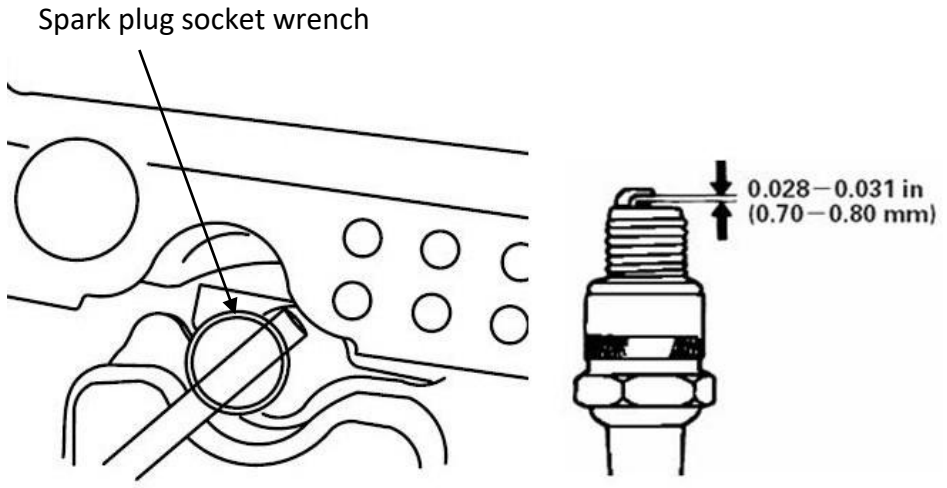
5) Install the outer casing and tighten the air filter fixing bolts.

Spark plug

Recommended spark plug: E5TC or equivalent spark plug. The wrong type of spark plug can damage the engine.

1) Remove the spark plug cap and remove dust from the spark plug.

2) Unscrew the spark plug with a spark plug socket wrench.



3) Check the spark plug. Replace the spark plug if the electrode is damaged or the insulator is broken. The gap between the spark electrodes is 0.70 mm-0.80mm. Adjust the side electrodes if necessary.

4) Carefully screw the spark plug by hand to avoid damage to the threads of the cylinder head.

5) When the spark plug is seated, tighten and compress the washer with a spark plug socket wrench.

If the used spark plug is reinstalled, when the spark plug is seated, tighten 1/8 turn to 1/4 turn.

If a new spark plug is installed, tighten the 1/2 turn when the spark plug is seated.

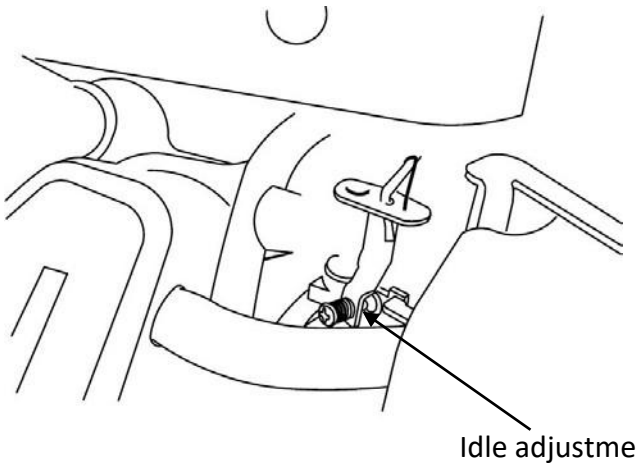
6) Install the spark plug cap.

Adjust idle speed

1. Start the engine outdoors and let it warm up.

2. Set the speed control handle to the lowest speed position.

3. Use the tool to adjust the idle adjustment screw so that the speed is within the standard idle speed range.



Standard idle speed: 1800 rpm ±150 rpm.

Chapter VIII. Engine storage

After the engine is shut down, allow it to cool for at least half an hour. Clean all exterior surfaces, repair damaged paint, and apply a thin layer of rust preventive oil to other areas that may rust.

The pressurized water can enter the air filter and muffler and even enter the cylinder along the air passage, causing rust damage.
Water splashing can be damaging on a hot engine. Therefore, the cleaning must be performed after the engine is cooled.

1) Change the oil.

2) Remove the spark plug.

3) Fill a spoonful (5-10 ml) of clean oil into the cylinder head.

4) Pull the actuator to rotate for several weeks to spread the oil in the cylinder head.

5) Replace the spark plug.

6) Pull the starter slowly until you feel resistance. At this point, the intake and exhaust valves are closed, preventing moisture from entering the cylinder head. Then gently put back the starter handle.

7) Put a dust-proof jacket on the engine cover and place it in a ventilated and dry area.

Chapter IX. Troubleshooting

1) Difficulty in starting

Phenomenon				reason	method
Normal cylinder pressure	Spark plug sparks normal	Fuel system is abnormal	Oil road is not smooth	Oil tank without oil	Filling fuel
				Fuel tank cap vent hole	dredge
				Oil switch blocked	Cleaning
				The main hole is improperly adjusted or blocked	Re-adjust, clean, blow through
				Needle valve or float stuck	Repair or replacement
			Oily road is smooth	Fuel is too dirty or	Replace fuel and clean oil
				There is water in the fuel	Replace fuel and clean oil
				Excessive fuel in the cylinder	Drain and dry the spark plug
				Fuel grade is wrong	Add the specified grade fuel
	Fuel system is normal	Normal spark	Poor spark plug	Carbon deposits, electrode contamination	Remove carbon deposits and dirt
				Insulator damage	Replace the spark plug
				Severe ablation of the electrode	Replace the spark plug
				Spark plug gap is wrong	Adjustment gap
		Spark plug is normal	No spark	High voltage line damage	Replace the high voltage line
				Ignition coil is damaged	Replace the high voltage coil
				Insufficient magnetic field strength	Magnetizing or replacing
Cylinder pressure is abnormal	Fuel system is normal	Ignition system normal	Spark plug is normal	Piston ring wear overrun and break	Replace
				Piston ring cementation	Clear carbon deposit
				Spark plug without washer or untightened	Install washer or tighten
				Cylinder and cylinder head joint surface leaking	Replace the cylinder head gasket
				Valve seal is not strict	Grinding or replacing

2) Insufficient power

Phenomenon	reason		method
When the throttle is increased, the speed increases slowly, and when it is severe, the speed decreases or the flame is turned off.	Ignition	Ignition time is wrong	Replace the
	Fuel System	Air in the oil road	Exhaust air
		Improper adjustment of the	Retuning
		Needle valve hole, main	Cleaning and
		Oil switch blocked	Cleaning or
		Combustion carbon deposit	Clear carbon
	Intake system	Air filter blockage	Cleaning or
		Air intake system leaking	Repair or
	Poor compression	Piston, cylinder, piston ring	replace
		Cylinder and cylinder head joint surface leaking	Replace the cylinder head gasket
		The valve clearance is	Retuning
		Valve seal is not strict	Grinding or

3) Suddenly stalled

Pheno	reaso		method
Sudden flameout during operation	Fuel System	Fuel exhaustion	Fill fuel, dredge
		Carburetor blockage	Check the oil road, dredge
		Carburetor float oil leakage	Repair the float
		Needle valve stuck	Repair needle valve
	Ignition system	Spark plug breakdown,	Replace the spark plug
		Spark plug electrode off	Replace the spark plug
		High voltage line off	Repair or replacement
		Ignition coil breakdown	replace
	Other	Severe pull cylinder or	Repair or replace damaged

4) Engine overheating

Phen	re	method
Gasoline engine overheating	Ignition time is wrong	Replace the ignition coil
	Insufficient oil	Fill enough oil
	Exhaust pipe blocked	Clean the exhaust pipe
	Air hood leaking	Repair the damaged place
	Debris in the air duct	Cleaning the heat sink
	Cooling fan is bad	Reinstall
	Failure of the piston ring causes the	Replace worn parts
	Gasoline engine speed is too high	Overhaul the speed control
	Crankshaft bearing burned	Replacement or repair

6) Abnormal sound

Phenomenon	reason	method
Knocking	Piston, piston ring wear	Replace worn parts
	Connecting rod, piston pin and pin hole wear	Replace worn parts
	Crankshaft bearing wear	Replacement or repair
	Piston ring break	Replace the piston ring
Detonation and metal sound	Excessive carbon deposits	Clear carbon deposit
	Spark plug electrode gap is too small	Adjust electrode gap
	Gasoline engine is heavily rich	Check carburetor
	Fuel grade is wrong	Replace fuel
	Gasoline engine overheating	Refer to the overheat fault column
Other abnormal sounds	Valve clearance adjustment is wrong	Adjustment of valve clearance
	The flywheel is loosely connected to the crankshaft	Replace the connection button and reinstall it

Chapter X. Engine parameters

Model		W80F
Engine type		Single cylinder, four stroke, strong cooling air, overhead valve
Rated output (kW/3600rpm)		1.2Kw
Max output (Kw/3600rpm)		1.4Kw
Max torque (N・m/rpm)		3.8N.m/3800rpm
Fuel tank capacity(L)		1.4
Oil capacity(L)		0.35
Cylinder diameter × stroke (mm)		52×37
Displacement (cc)		79
Lubrication method		Splash lubrication
Starting method		Hand start
turn around		Hour hand (from the axis of the transmission)
Valve clearance (mm)		intake valve 0.10~0.15 Exhaust valve 0.15~0.20
Spark plug gap(mm)		0.7~0.8
Ignition method		Crystal Point ignition
size(mm)	Length	335
	Width	290
	High	350
Net weight(kg)		10

Chapter XI. Wiring diagram

Engine switch connection

	IG	E	ST	BAT
OFF	O	O		
ON				
START			O	O

