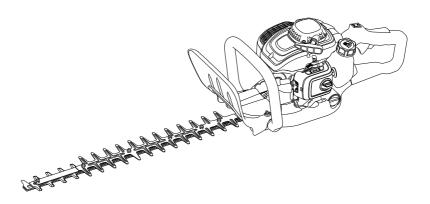


# INSTRUCTION MANUAL HEDGE TRIMMER TT-HT230H



#### **DEAR CUSTOMER**

In order to achieve the best performance of your product, please read this instruction manual carefully before using, and keep it for future reference.

About this instruction Thank you for purchasing our company hedge machine.It is honored to provide you with the hedge machine, which is our long-term research and development program, combined with the expertise and rich experience mastered over the years.		<b>O</b> t	Start the engine manually	
		STOP	emergency stop	
HT230 perfectly combines the latest technology and ergonomics, light weight, easy to use, is a professional			give first aid treatment	
tool with a variety of uses. Please read carefully and strictly follow this Some excellent performance of the hedge trimmer is introduced.These content helps you use your hedge trimmer most rationally. symbol			Indicates that when the choke switch is operated in this direction, the choke will close	
		141	Indicates that when the choke switch is operated in this direction, the choke will open	
	Warning / dangerous burning		Open / start	
$\wedge$	Read, understand, and follow operating instruction	0	Turn off / stop	
$\mathbf{X}$	prohibit		Beware of fire!	
$\otimes$	no smoking			
$\otimes$	Open flames are strictly prohibited	Safety instructions General instructions -This machine may result in serious personal injury.Read this guide carefully for the correct way to operate, prepare, maintain, start, and stop the machine.Be familiar with all the control and proper use of the machine.(A)		
	Wear protective gloves			
×	All people and pets Do not enter the operation area			
$\odot$	Wear eye and ear protection			

Fuel and mixed oil

+ ۱

- -It is recommended to only lend hedge machines to those with experience. The instruction manual shall also be handed over together.
- -Raw should inform the dealer of basic instructions and be familiar with the operation of the hedge machine driven by the engine.
- -Children, and minors under the age of 18, may not operate a hedge machine.Those over 16 years of age may use the equipment for training under the supervision of qualified trainers.
- -The hedge machine should be used with great care.

-Operating hedge machines only in good condition.Do all the work with calm and caution.The user must be responsible to others.

-Do not stop using the hedge machine after drinking or taking medication, after feeling tired or physically ill.(B)

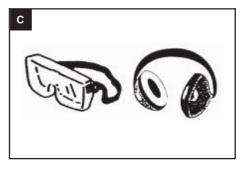


Hedge trimmers are designed for

- -The hedge machine is designed to trim shrubs and hedges and is strictly prohibited for any other purpose.Do not use the hedge machines improperly. personal protective equipment
- -Clothes should be appropriate and fit, for example, close to you but not inconvenient.Do not wear jewelry or loose

clothing that may be hung by bushes, bushes or machines.

- -In order to avoid damage to the head, eyes, hands and feet and to protect the hearing, the following protective equipment and clothing must be worn during the operation of the hedge machine.
- -Wear protective glasses or goggles to protect your eyes during the hedge machine operation.(C)



-It is strongly recommended for users to wear work clothes.(D)

-Special gloves are made of thick leather, which are part of the designated equipment, and must be worn throughout the operation of the hedge machine.(D)

-When using a hedge machine, wear strong shoes with non-slip soles throughout.This prevents injury and ensures a firm footing.(D)

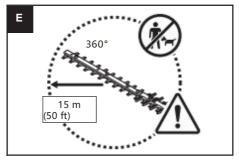


Start the hedge machine

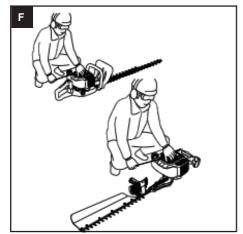
-Make sure that there are no children or other people within 15 meters of the work area, and also do not notice any animals (E) near the work area.

-Be sure to check the operation safety of the hedge machine before using it.

-Check the safety of the throttle bar.Check the smoothness of the throttle bar and Easy to operate.Check that the throttle bar lock is properly functional.check up Whether the handle is clean and dry, test the function of the I-O switch. Keep the handle oil-free. -The hedge machine can be started only as directed.



Do not use any other method to start the engine (F)!



-The hedge machine can only be used for specified purposes.

-Can start the hedge engine only after the complete assembly. The hedge machine can be permitted only after all suitable fitting installation!

-Before starting, make sure that the blade does not contact any objects, such as branches, stones, etc.

-If any engine fails, stop the engine immediately.When operating, hold the handle with your fingers and hold it front and back.defend

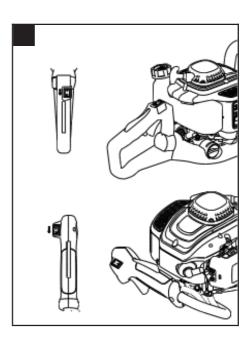
Handle is clean, free of water, resin, oil or grease.

-Always stand firm body.Outdoor use only. -Always look around and be alert to



possible hazards as you may not hear them due to machine noise.

-Avoid suction gases when operating the hedge machine.Cannot operate the engine in a closed space (at risk of suffocation and gas poisoning).Carbon monoxide gas is tasteless.Always keep it well ventilated.(G)



-Stop the engine when resting and when the hedge trimmer is unattended. Keep it in a safe place to prevent injury to others, ignition of combustible materials, or damage to machinery.

-Do not place hot hedge machines on hay or on any combustible material.



-To reduce fire hazards, avoid the absence of debris, leaves, or excessive lubricants on the engine and muffler.

-Do not operate the engine when the muffler is faulty.

-Stop the engine (H) during transport.

-Before stopping the engine:

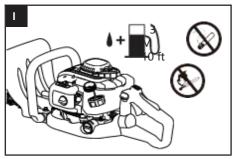
-Cleaning and blocking

-Check, maintain, or operate the machine. -When transported by car or truck, place the hedge machine safely to avoid oil leakage.

-When transporting the hedge machine, ensure that the fuel tank is completely empty and avoid oil leakage.Always install a blade sheath when transporting or storing the machine. Refuel

- -Stop the engine before refueling (H), stay away from the open fire (I), and do not smoke.
- -Do not try to fuel the hot or running engines.
- -Avoid skin contact with petroleum products.Do not inhale fuel steam.Protective gloves should be worn all during the refueling process.Change and clean the protective clothing regularly.
- -Be careful not to spill fuel or lubricating oil to prevent soil contamination (environmental protection). Wipe the oil off the hedge trimmer immediately after the fuel spills. Dry in a well-ventilated area before disposing of a rag that has been wiped with fuel. Otherwise, spontaneous combustion may occur. -Do not let the fuel to clothing. If the fuel splashes on the clothes, change the clothes immediately (very dangerous).

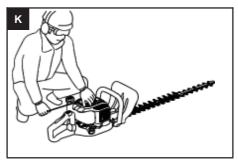
-Check the tank cover regularly to ensure that the tank cover is tightly secured.

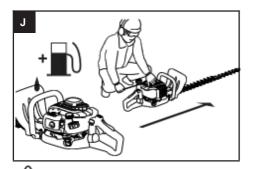


- -Carefully tighten the fuel tank cover.Start the engine in another place (at least 3 m from refueling) (J).
- -Do not refuel in an enclosed space.Fuel steam accumulates on the ground (with an explosion hazard).

-Do not stand on unstable surfaces or on steep terrain.

- -Do not stand on the ladder and operate the hedge machine.
- -Do not climb to the tree to use the hedge
- -To reduce the risk of tripping or runaway, do not step back while running the machine.





Fuel can only be transported and stored with approved containers. Make sure that the child is not exposed to the fuel being stored.

-When gasoline is mixed with two-stroke engine oil, only gasoline without ethanol or alcohol (alcohol) can be used.

-This will help prevent damage to the fuel lines and other engine components. method of operation

-Always grasp each handle with both hands while operating.

-Use a hedge machine only with good light and visibility.In the cold season, pay more attention to slippery areas, snow and ice, etc. (at risk of slipping).Always stand firm body. ⚠

Be sure to close the engine while cleaning, repairing the machine, or replacing the components.

-Do not operate a machine with damaged or excessively worn blades.Maintenance instructions

-environmental protection.Minimize noise and pollution while operating the hedge machine.In particular, check that the carburetor is set up correctly.

-Clean the hedge machine regularly and check that the screws and nuts are fastened.

-Do not repair or store hedge machines near an open fire or spark, etc.(K)

-Empty the oil pot before storing the hedge machine.

-No hedge machines near open fires to prevent fires.

-Store the hedge machine at heights well ventilated and not touched by children.

-Do not try to repair the machine without

repair qualification.Please comply with the relevant accident prevention regulations issued by the relevant trade associations or insurance companies.

Do not modify the hedge machine, or it will endanger your safety.

Maintenance or maintenance work performed by the user is only the activities described in this guide.All other work must be done by an authorized service agent. Only the original parts or accessories authorized by the Company or provided by the factory repair center shall be used. Use of unapproved accessories or tools increases the risk of accidents and injury.The Company is not liable for any accident or damage resulting from the use of unapproved accessories.

give first aid treatment

In case of accident, ensure there are well-preserved and standard first aid kits near the shear operation. Items removed from the first aid kit should be replaced immediately.

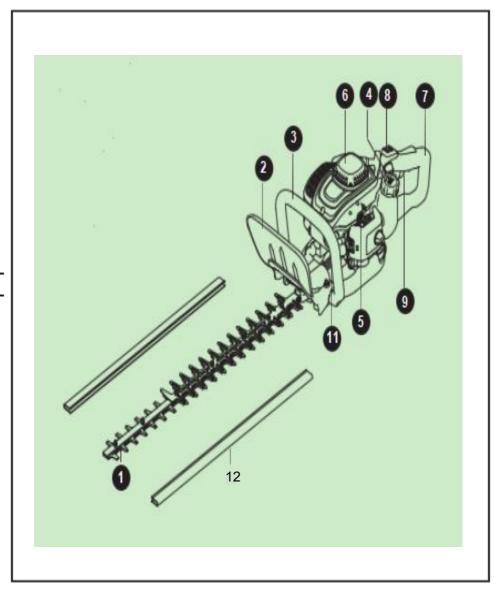
Provide the following information when asking for help:

- -accident spot
- -What accident happened
- -Phone number of the injured person
- -extent of injury
- -surname and personal name

#### PACK

To prevent damage during transportation, the hedge machine is packaged for protection Sex in a cardboard box.Cardboard box is a basic raw material,

Can be reused or recycled (waste paper recycling).



## parts

7. The ar handle
8. Turn off the fire switch
9. Throttle trigger
10. muffler
11. gear case
12. Blade sheath

Some of the accessories mentioned in the illustrations or text are not included in the scope of

supply.

# technical parameter

product model	TT-HT230H	
product description	Hedge Trimmer	
size	106*25*25	
weight	7kg	
Effective cut length	650mm	
Fuel tank volume	580ml	
engine type	TT-1E32F-2	
Power (maximum)	0.65kw/7500rpm	
idling speed	3000±300rpm	
high speed	10000±500rpm	
Fuel mixing ratio	25:1	
gear ratio	10: 45	

# Fuel / refueling

Fuel and mixed oil (L) (M)

Follow the Safety Instructions " operation -The hedge engine uses an efficient two-

stroke engine. It uses a mixture of fuel oil and two-stroke engine oil. The engine was designed to use unleaded-free conventional fuel.

If not, have a higher octane can be fuel instead. This will not damage the engine, but will cause low operation efficiency. Similar situations can also be caused by the use of a leaded fuel oil.

For optimal engine performance and to protect your health and environment, use only leaded-free fuel!

-For lubrication, the engine uses two-stroke engine oil, which is added to the fuel. The engine design is combined with twostroke engine oil with a mixing ratio of 40:1 to protect the environment.In addition, it can guarantee a long service life, reliable operation and minimum exhaust emissions.Strict adherence to the 25:1 mix ratio (two-stroke engine oil) is essential, otherwise reliable hedge function is not guaranteed.

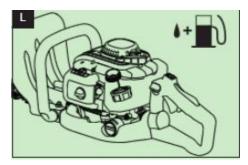
-Correct mix ratio:

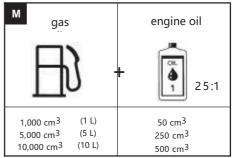
Gasoline: Engine oil = 25:1 recommended

# ⚠ pay attention to:

When preparing oil mixing, first mix all the engine oil with half of the required fuel in the approved container.The container shall meet or exceed all local regulations.Then add the remaining fuel fuel.Shake and mix the oil thoroughly before pouring it into the hedge machine fuel tank.

To ensure safe operation, do not add the specified oil to the engine. That will only produce more combustion residue, pollute the environment, and block the discharge channels of cylinders and silencers.





Refueling (N) (O) (P)

Stop the engine when refueling, keep away from open flames, and no smoking.

Do not spill fuel on the engine. If fuel is spilled, wipe it up.

If fuel is spilled on clothing, change clothing immediately (to prevent clothing from catching fire).

Carefully tighten the fuel tank cap. Start the engine in a different place (at least 3 meters away from the place where the fuel is added).

Never refuel in an enclosed space. Fuel vapors accumulate on the ground. (explosion hazard)

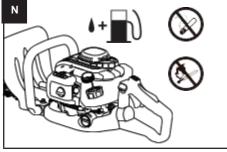
Make sure that children do not have access to stored fuel.

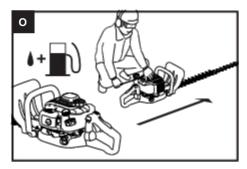
Unscrew the fuel tank cap and fill the tank with fuel. Use a mesh funnel to filter the fuel.

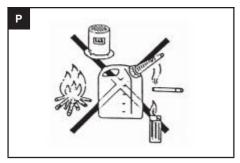
Tighten the fuel tank cap (hand only).

-Clean the screw plug and the area around the tank after refueling.

-Always erase spilled fuel to prevent fire.







#### Store fuel

-Fuel oil cannot be stored indefinitely. -Only purchase the amount of oil required for

the 4-week operation period.

-Fuel can only be stored with

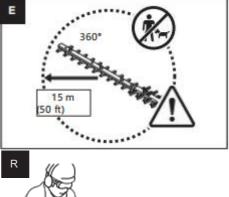
approved

containers.PrecBefore Start

(E) (R)



- -Make sure that there are no children or other personnel working at 15 m.Pay special attention to the animals near the work area.
- -Always check the operation safety of the hedge machine: check that the blade is damaged, whether the control lever is easy to operate, and whether the I-O switch is properly functional.
- -Make sure that the blade is not running with the engine idling.
- -If doubtful, please consult the dealer about the adjustments.Check the handle for clean and dry and test the function of the I-O switch.
- -The hedge machine can be started only as directed.Do not use any other method to start the engine!(See Startup)
- -The engine can only be started after the complete assembly.Engine operation is allowed only after installing all suitable accessories.Otherwise, there is a danger of injury.
- -Before starting, make sure that the blade does not contact any objects, such as branches, stones, etc.
- -Before trimming, check the cables, glass, or other external objects that will contact the blade.
- -electric shock.Notice all of the wires and hedges.Before cutting, check the wires in all areas.





Start the machine (S) (T) (U) (V) (W)



At least 3 meters away from the refueling position.Place the hedge machine on the clean floor.Make sure that the blade does not touch the ground or any other items. Cold start: (when the engine cooled or stops for more than 15 minutes or when

fuel has been added to the engine.)

1 Push the I-O switch (1) to the "I" position.

2 Push the oil bubble repeatedly (2) (7 to 10 times) until the fuel enters the oil bubble.

4 Hold the hedge machine down to avoid out of control when starting the

engine.Failure to do so may cause serious personal injury or property loss from contact with the blade.

5 Slowly pull the starter handle 10 to 15cm until resistance is felt.

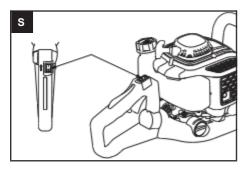
6 Pull the starter handle and feel resistance to start the engine.

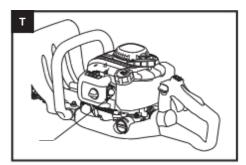
7 Turn the damswitch when the engine starts, eops, or stops

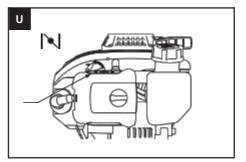
(4) Place it in "".| | |

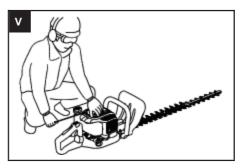
8 Add to full speed and run the engine for about 1 minute at medium speed.

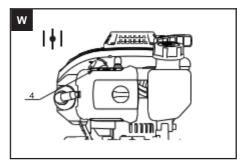


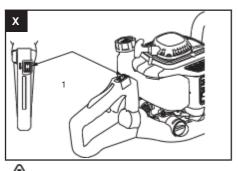












### Notes for body rebound:

Body rebound refers to the high-speed rotating blade in the stone, trees, concrete, piles, pillars and other hard fixed objects, because of the reverse force, the body in a moment of violent shaking

phenomenon.When the rebound occurs, the body will suddenly appear in an unexpected vibration, which may cause the operator to be unable to operate normally.To prevent a rebound, observe the following:

-Be careful not to expose the blade to hard objects, posts, wire, and rock to avoid damage to the blade.

-When working, always shake hands and do not hold other parts.

-When working, keep your eyes on the blade.When you need to leave the blade, release the throttle trigger and return to the start speed position (when the blade stops in motion).

-Do not raise the blade close to your feet or just above the waist.

# Stop the Machine (X)

-Release the throttle trigger completely.

-Push the I-O switch (1) to the "O"

position.The engine will slow down and stop.

Operation hedge machine (Y) (Z) (A1)  $\bigwedge$ 



-Do not operate the hedge machine during a light grip.

- -Never contact the blade when the engine is starting or operating.
- -Avoid suction gases when operating the hedge machine.Cannot operate the engine in a closed space (at risk of gas poisoning).Carbon monoxide gas is tasteless.
- -All protective facilities, such as guards, must be used during operation.
- -Do not operate the engine if the muffler is faulty or missing.

-Use a hedge machine only with good light and visibility.

- -In winter, pay more attention to slippery areas, snow and ice, etc. (at risk of slipping).Always stand firm body.
- -Do not stand on the ladder and operate the hedge machine.Let all your feet stand on the ground.
- -Do not climb to the tree to use the hedge machine.
- -Do not perform operations on unstable surfaces.
- -Remove sand, nails, wires, etc.External objects may damage the blade.
- -Cut branches 8 mm or thicker before cutting.
- -The blade must reach full speed before starting the cutting.
- -Always hold your hands firmly on the handle of the hedge machine.
- -Form a firm clip with your thumb and other fingers around the handle.

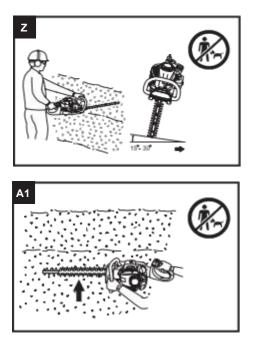
-It takes time to stop after the throttle trigger is release.

- -Do not operate the hedge machine at high speed. If the idling speed is too high, the cutting speed cannot be adjusted by the throttle control.
- -When cutting, hold the hedge machine and let the blade form a 15-30° angle with the cutting line.
- -Pay special attention when the cut hedges are close to or against the barbed wire.
- -Do not touch hard objects with razor blades, such as barbed wire, stone, or

ground, etc.This may cause the blade to crack, break or break.

- -If the blade touches a rock or other hard object, turn off the engine and check the blade.Replace the damaged blade before reoperation.
- -Take regular breaks. A 10 to 20 minute break is recommended for every 50 minutes of use. Shut off the engine immediately if the engine fails.
- -Reduce the noise and pollution while operating the hedge machine. Also check that the carburetor and fuel / engine oil ratio is set correctly.
- -Do not remove the blocked cut material when the blade runs.Put the machine down, turn it off, and remove the dust.





## Adjust the rear handle angle (B1)

The rear handle can turn left or right for 90° and each set at 45°.

switchback:

- -Press the release lever to release the lock.
- -Turn the handle to an angle of  $0^{\circ}$ ,  $45^{\circ}$ , or  $90^{\circ}$ .
- -Make sure that the release lever returns to the initial position to engage and lock.

-Do not pull the throttle trigger when releasing the lock.

-Do not release the lock while working.

## maintenance instruction



- -Shut off the engine and remove the spark plug cap before cleaning / replacing / grinding the blade or performing any maintenance.
- -Do not straighten or weld the damaged blades. -Check the damage to the blade frequently
- (under engine shutdown).
- -Keep the blade sharp.
- -Clean the hedge machine regularly and check the tightening of all screws and nuts.

-Never repair hedge machines near open fires to prevent fires.

- -Cortical gloves are always worn when holding or polished due to the sharp blade.
- Grishing blade (C1)

If the blade edge becomes blunt and does not cut very well, polish the shadows in the picture component. The contact surface (sliding surface) of the top and bottom edge edges shall not be polished.

- -Before grinding, hold the blade firmly, close the engine and remove the spark plug cap.
- -Wear gloves, goggles, etc.
- -Don't polish too much material.That would lose hardness and the blade would become blunt.

Adjust the blade spacing (D1)

Upper / lower blade wear. If the blade does not cut well even if it is sharp, adjust the spacing as follows.

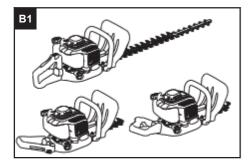
1 Release screw and remove the extension blunt teeth.

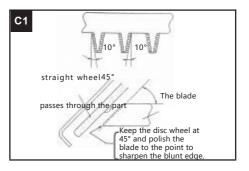
2 Release the nut (1) using the box or open wrench.

- 3 Gently tighten the truss bolt (2) with a hexagon wrench until it stops and turn a quarter circle.
- 4 Tighten the nuts (1) and secure the truss bolts (2).

5 Apply light oil on the friction surface of the blade.

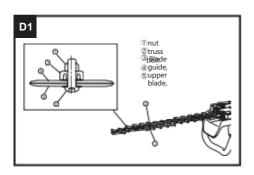
6 Start the engine, open and close the throttle trigger for one minute.





7 Measure the time required for the blade to stop after releasing the throttle trigger. If it is two seconds or more, stop the engine and repeat steps 2 through 7.

8 Stop the engine and touch the blade surface. If they are not quite too much



Hot, you can touch, it means that it has been adjusted. If hot to touch, rotate the truss bolts (2) and repeat steps 6 to 8.

9 Tighten the screw and

install the blunt teeth.

Day attention to:

Before adjusting, stop the engine and wait for the blade to stop.

The blade has a slot next to the screw (2).If dust is found at the end of the groove, clean it.

Check and adjust the idling speed (E1) The blade should not run when the engine is idling.

-The idling speed shall be set at 3000 r/min (rpm).

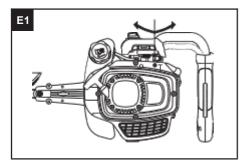
- -if required, adjust the idling screw (the blade does not operate when the engine is idling).
- -Blade running while idling-Turn the idling screw counterclockwise to reduce the idling speed.

-Engine stops while idling-Turn the idling screw clockwise to increase the idling speed.

 -If the blade is still running idle after adjustment, contact your nearest authorized repair agent.

-The clutch shall be engaged at 4000 r/min (rpm) or higher.

-Check for the normal operation of the I-O switch, lock lever, and throttle trigger.



Clean the empty filter (F1)

danger: Flammable

Check and clean the air filter once daily or every 10 working hours.

-Turn the damper switch to the full off position and close the carburetor to avoid entering dust or dirt.

-Release the empty filter lock mother.

-Pull out the tail of the empty filter and move forward to remove it.

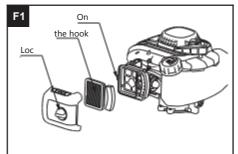
-If oil is stuck to the filter element (sponge), apply force cleaning.

-For heavy pollution:

-Remove the filter element (sponge), dip the element in warm water or water-diluted neutral detergent, and dry it thoroughly.

-Clean the filter element (linoleum) with gasoline and dry it thoroughly.

-Make sure that the filter element is fully dried before installing it.Insufficient dry



filter elements may be difficult to start. -Wipe the oil from the empty filter with waste cloth.

-After cleaning, install the empty filter cover immediately and secure with the retaining bolts.(When reinstalling, install the grab hook first.)

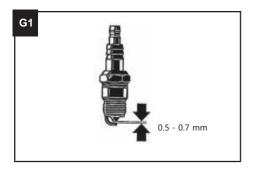
Important matters handling empty filter elements

- -If the dust is particularly high on the filter element, it should be cleaned multiple times in a day.
- -If the operation continues without removing the oil from the filter element, the oil in the empty filter may fall outside, causing oil contamination.

Check the spark plug (G1) Check and clean the spark plugs daily or every 8 working hours.

-Only remove or install the spark plug using the attached universal wrench.

-The spacing between the two electrodes of the spark plug shall be 0.5-0.7 mm.If the spacing is too wide or too narrow, adjust.If the spark plugs are carbon-blocked or contaminated, they should be thoroughly cleaned or replaced.Make an accurate replacement.



Rebricating oil and lubricant (H1)

Grease was replenished by using the oil injection port every 50 working hours.

pay attention to:

Be sure to follow the specified time and grease supplement amount.Otherwise, an inadequate supply of grease will cause a machine failure.

Clean the oil filter (the fuel filter in the oil tank) (I1)

warn:

Flammable products are strictly prohibited

Check and clean the fuel filter once daily or every 50 working hours.

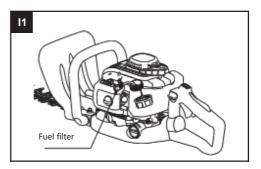
Fuel filter (1) is used to filter the fuel required for the carburetor.Visually check the fuel filter regularly. When checking the fuel filter, open the tank cap and hook the fuel filter from the tank hole.

Change the fuel filter if it becomes hard, contaminated, or blocked.Change the fuel filter at least once a quarter to ensure adequate oil supply to the carburetor.Inadequate oil supply can cause an engine start failure and limit the maximum speed.

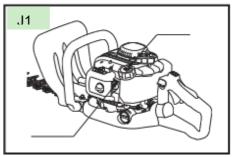
## Replacement (J1)

#### >pay attention to:

Flammable products are strictly prohibited Check and clean the tubing once daily or every 10 working hours.Change the tubing once every 200 working hours or every year (regardless of working frequency).Otherwise, the oil spill may cause a fire.



If a leak is found during the inspection, replace the tubing immediately.Replace the fuel tank cover If the fuel tank cover is cracked or damaged, it should be replaced.The fuel tank cap is worn out over time.Replace it every two or three years.



For maintenance or adjustment not described in this manual, consult your local authorized repair center.

Routine inspection and maintenance To ensure a long service life and avoid damage to the equipment, the following maintenance operations shall be performed regularly.

Before use:

Check screws on hedge machine for loose or missing parts.Pay special attention to the tightening degree of the blade screws.

Check whether the cooling air channel and the cylinder heat sink are blocked.Clean it up as required.

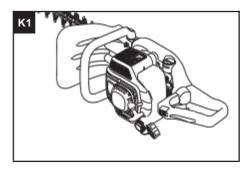
Clean and check the tank for oil leaks or foreign objects falling into the tank. After use:

-Clean the exterior of the gasoline hedge machine and check for damage. -Clean the air filters.When operating in dusty environments, clean the filters multiple times a day.

-Check the damage to the blades and make sure they are firmly installed.

#### Storage (K1)

- -When storing the machine for a long time, empty the gasoline in the tank and carburetor as follows: empty all the gasoline in the tank.
- -Remove the spark plug and drop a few drops of engine oil into the spark plug hole.Then, gently pull the starter to spread the oil film throughout the engine and tighten the spark plug.
- -Clean the dust and dirt outside the blades and engine, wipe them off with an oilsoaked cotton cloth, and place the machine as dry as possible.



Maintenance plan
------------------

After each refueling	The throttle rod	audit function
	I-O switch	audit function
Before each use	engine pack	Visually inspect the damage and the tightening degree
	Nail and nut	Check the general conditions and safety conditions
	air filter	cleaning
	cutter	Check for damage and sharpness
	load-free speed	Check (tool immovable)
	oiler	Check and clean
Every 50 hours	gear case	make-up oil
weekly	sparking plug	Check and replace it (if necessary)
annually	oil pipe	renewal
per biennium	fuel tank cap	renewal
Before long-term storage	fuel tank	Empty and clean
	carbureter	Run until the engine will consume fuel
	Fuel filter	renewal

#### abort situation

hitch	system	observe	cause
The engine did not start or difficult to start	ignition system	An ignition spark occurred	Oil supply system or compression system failure, mechanical failure
		There is no ignition spark	I-O switch turned on, wiring failure or short circuit, spark plug or plug failure, ignition module failure
	fuel feeding	The fuel tank is filled with oil	Carburetor failure, fuel filter, oil supply line bent or blocked
	compress	Inside the engine	Wrong cylinder bottom gasket, damaged shaft seals, cylinder or piston ring failure
		Outside the engine	Spark plug seal error
	mechanical breakdown	The starter is not engaged	Starter spring damage, parts inside the engine
Warm start fault		The tank was filled up and had ignition sparks	If the carburetor is contaminated, it shall be cleaned
The engine starts and stops immediately	fuel feeding	The tank was filled with oil	Improper idling adjustment, fuel filter or carburetor contamination
			Oil tank ventilation problem, oil supply line interruption, line or l- O switch failure
Poor use performance	Multiple systems may be affected simultaneously	race of engine	The air filter was contaminated, carburetor contaminated, silencer blocked, and exhaust pipe in the cylinder blocked