

**Limitation of Liability:** This limited warranty is in lieu of all other express warranties, obligations, or liabilities. Any implied warranties, obligations or liabilities, including, but not limited to, any implied warranty of merchantability shall be limited in duration to the applicable warranty period. Any action for breach of any warranties hereunder, including, but not limited to, any implied warranty of merchantability must be brought within the applicable warranty period.

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Product	<b>Tea-Leaf Harvester</b>	KisanKraft Invoice Date	
Brand	<b>KisanKraft</b>	KisanKraft Invoice No.	
Model	<input type="checkbox"/> KK-TH-525 <input type="checkbox"/> KK-TH4-34		
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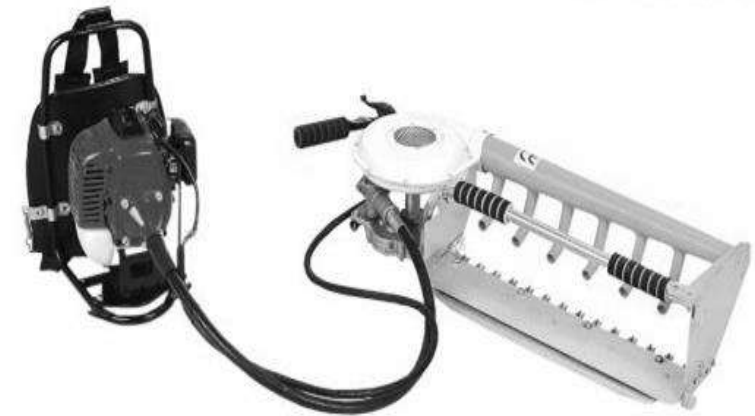
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**Wide Range of Products for Every Need**



# User Manual



## ***KisanKraft Limited***

Sri Huchhanna Tower, #4, 1<sup>st</sup> Main, 7-A Cross, Maruthi Layout, Dasarahalli,  
HAF Post, Hebbal, Bangalore 560024, Karnataka, INDIA

- ◆ Bangalore (HO) ◆ Ahmedabad ◆ Bhopal ◆ Bhubaneswar ◆ Coimbatore ◆  
◆ Jammu ◆ Guwahati ◆ Patna ◆ Hubli ◆ Hyderabad ◆  
◆ Jaipur ◆ Karnal ◆ Kolkata ◆ Lucknow ◆ Pune ◆ Raipur ◆ Shimla ◆

For more information give **MISSED CALL: 07676065555**



Many of our products have BIS: ISI certification.



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**KisanKraft has a large range of products to serve the farmers. A list of our products is given below:**

<p><b>Brush Cutters and Accessories</b></p> <ul style="list-style-type: none"> <li>Brush Cutter/Power Weeder</li> <li>Backpack Brush Cutter</li> <li>Tea Pruner</li> <li>Pole pruner with Engine</li> <li>Reaper Attachment</li> <li>Blades-Circular</li> <li>Blades (2 &amp; 3 points)</li> <li>Baffle</li> <li>Nylon Rope</li> <li>Tap &amp; Go</li> </ul> <p><b>Chainsaws</b></p> <ul style="list-style-type: none"> <li>Petrol Chainsaw</li> <li>Electric Chainsaw</li> <li>Chain Sharpening Machine</li> </ul> <p><b>Engines and Water Pumps</b></p> <ul style="list-style-type: none"> <li>Engine –Diesel-(Horizontal)</li> <li>Engine –Diesel(Vertical)</li> <li>Engine-Kerosene</li> <li>Water Pump with Petrol Engine</li> <li>Water Pump with Kerosene Engine</li> <li>Water Pump with Diesel Engine</li> </ul> <p><b>Hand Tools</b></p> <ul style="list-style-type: none"> <li>Secateurs</li> <li>Folding Saw</li> <li>Garden Rake</li> <li>Garden Shovel</li> <li>Hedge Shear</li> <li>Lopper</li> <li>Telescopic Hedge Shear</li> <li>Telescopic Lopping Shear</li> <li>Tree Pruner</li> <li>Telescopic Steel Pipe &amp; Fruit Picker Bag</li> <li>Sheep Shear</li> </ul> <p><b>Garden Tools</b></p> <ul style="list-style-type: none"> <li>Electric Pressure Washer</li> <li>Hedge Trimmer</li> <li>Lawn Mower (Electric, Petrol &amp; Manual)</li> <li>Leaf Blower</li> </ul>	<p><b>Cultivators and Accessories</b></p> <ul style="list-style-type: none"> <li>Petrol and Diesel</li> </ul> <p><b>Sprayers and Accessories</b></p> <ul style="list-style-type: none"> <li>Battery Sprayer</li> <li>Portable Power Sprayer</li> <li>Trolley Sprayer</li> <li>Manual Knapsack Sprayer</li> <li>Manual Pressure Sprayer</li> <li>Rose Cans</li> <li>Hose Crimping Machine</li> <li>HTP Sprayer</li> <li>HTP Delivery Hose</li> <li>HTP Hose Reel</li> <li>HTP Stand</li> <li>HTP Gun / Lance( Brass Rod)</li> <li>Knapsack Power Sprayer</li> <li>Mister / Duster / Granuel Spreader</li> <li>HTP Sprayer Set with Diesel Engine</li> <li>HTP Sprayer Set with Kerosene Engine</li> <li>Fogging Machine</li> </ul> <p><b>Milking Machine</b></p> <ul style="list-style-type: none"> <li>Wood Shredder</li> <li>Fodder Ensiling Chaff Cutter</li> <li>Fodder Grinder Chaff Cutter</li> <li>Fodder Mini Chaff Cutter</li> </ul> <p><b>Harvester</b></p> <ul style="list-style-type: none"> <li>Maize Sheller</li> <li>Maize Sheller + Dehusker</li> <li>Maize Combine Harvester</li> <li>Onion Digger Carlotti Italy</li> <li>Tea Leaf Harvester</li> <li>Sugarcane Combine Harvester</li> <li>Sugarcane Leaf Stripper</li> </ul> <p><b>Transplanter and Post Hole Digger</b></p> <ul style="list-style-type: none"> <li>Paddy Transplanter (2 &amp; 8 Rows)</li> <li>Transplanter-Vegetable &amp; Tobacco</li> <li>Post Hole Digger(4" to 14" Augers)</li> </ul>
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### Abnormal Situations during Operation:

Situations	Causes	Remedy
Rotating speed cannot be increased; insufficient power	Throttle is close. The ventilation of the muffler is not smooth. Moving members are worn. The ignition energy is low. The valve clearance is excessive. Carbon is deposited on the cylinder head.	Open the throttle. Replace the muffler. Inspect and replace them. Replace the igniter or the flywheel. Adjust or replace relevant parts. Remove the deposited carbon.
Spitting during operation	Blocked oil path of the carburetor Excessive or insufficient clearance of the spark plug	Replace the carburetor. Adjust the clearance.
Abnormal sound	Incorrect clearance of the throttle Damaged cam teeth	Replace relevant parts. Replace the cam shaft.
Oil leakage of carburetor	Failure of the non-return valve on fuel tank cap	Replace the non-return vent valve of the fuel tank cap.
	Damaged sealing elements of carburetor	Replace them.

Contact the dealer if the gasoline engine still has problems after inspection and repair based on the methods above.

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ignition plug. Pull the recoil starter again and stop it at the position where it is felt heavy.

4. Clean the external surfaces with soft cloth and store it at a dry place free from fires.

**NOTE:** If the unit is left over without draining fuel, impurities in the fuel could clog the fuel passages such as the carburetor, fuel filter, or others, and cause engine troubles. Make sure to drain the fuel when storing the unit for a long period of time.

▲ Sufficient care must be taken not to use fires at the vicinity when handling the fuel.

**TROUBLESHOOTING**

**Startup Failure or Difficulty in Startup**

Situations		Causes	Remedy
The spark plug is fireless.	Spark plug	Carbon deposition on the spark plug. Excessive or insufficient clearance of the spark plug. Damaged insulation of the spark plug.	Remove the deposited carbon. Adjust it to 0.6~0.7mm Replace the spark plug
	Others	Damaged igniter Weak magnetic force of the flywheel	Replace the igniter Replace the flywheel
The spark plug cannot generate spark.	Good compression	Too much fuel adsorbed in the cylinder Poor fuel, containing water, too dirty	Screw out the spark plug, dry it and screw it in again. Replace the fuel.
	The carburetor oil pump has (not) the ability to pump oil.	Blocked internal oil path	Clean or replace the carburetor.
	Normal oil supply but poor compression	Worn piston ring Loose spark plug Air leakage at the cylinder head, incorrect valve clearance or timing.	Replace it. Tighten it. Removal, re-adjustment or re-installation
	Normal ignition and oil supply	Poor contact between the high-tension line and the spark plug Malfunction or short-circuit of shutdown switch	Removal and connection Removal

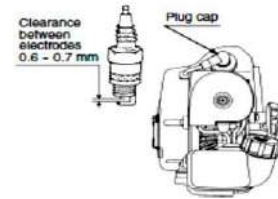
### INSPECTION AND SERVICE AT EVERY 50-HOUR

#### Cleaning and adjustment of ignition plug

After removing carbon accumulated on the electrodes and the insulator, adjust the clearance between the electrodes at 0.6 ~ 0.7 mm



When mounting the plug cap, push it in securely



#### Cleaning of fuel filter

Using a piece of wire, or the likes, pull out the fuel filter and wash with clean white kerosene. When it is fouled heavily, replace the filter and also wash the tank inside.



Use of fire is strictly prohibited

#### Carbon removal

Remove carbon from the muffler in-/outlet, cylinder and piston. This work requires engine servicing skill and some tools. Consult the dealer or nearest service center.



#### CAUTIONS DURING INSPECTION

- Disconnect the ignition plug wires before inspection or adjustment to prevent unexpected start of engine.
- Do not touch the engine immediately after operation to prevent burn.
- Use of fire is strictly prohibited when handling the fuel (gasoline).
- Make sure to clean spilled fuel sufficiently before using the engine.
- Do not wash the engine with water.
- Do not change the setting revolution speed carelessly. (Consult your dealer when changing the revolution speed.)

### STORAGE

When releasing the engine from operation for more than 30 days, it must be serviced and stored as follows with care to prevent the starting trouble or malfunction due to degeneration of fuel.

1. Drain the fuel from the fuel tank and start to run the engine till it is stopped due to use-up of fuel.
  2. Wash the inside of fuel tank and fuel filter with white kerosene.
- Use of fire is strictly prohibited
3. Removing the ignition plug, inject a small quantity of new engine oil through the plughole. After idling slowly for few revolutions operating the recoil starter, install the

### BEFORE GETTING STARTED

We wish to thank you for choosing our product. We are confident that the high quality of our product will meet your requirement and will give you long-lasting service. In order to avoid accidents or injury, please read this manual and that of gasoline engine carefully before using the machine. After reading, preserve this manual for further reference.

### SAFETY INSTRUCTIONS

1. When a borrower or a new operator is using this unit, please read the guide for safe operation before using.
2. The following shall not be allowed to operate the machine:
  - A). Children
  - b). Pregnant Woman
  - c). Mentally challenged
  - d). Person who is sick, tired, is under the influence of alcohol or any other drug.
3. Operator's Clothes
  - Do not wear loose clothing that might get caught in moving parts.
  - Please wear brimmed cap and eye protection glasses.
  - Please wear gloves during inspection and maintenance.
  - Please wear anti-skid shoes.
4. In order to ensure there is no fire or smoke:
  - Don't store the fuel at places liable to catch fire.
  - Don't smoke when starting the engine or refilling the fuel.
  - Stop the engine when refilling the fuel, in case of accidental turning over of the machine or spattering fuel into machine body. Please wipe out the fuel on the machine body with dry cloth.

### ASSEMBLY INSTRUCTIONS

1. Pull the flexible pin on the power take-off point. Insert the flexible shaft-blanket's with a hole into the hole.
2. Turning round the flexible shaft-blanket, insert the flexible pin into the hole so that this end is fixed.
3. At the end of the flexible shaft-blanket with the slot, turning round the quadrate flexible shaft synchronously, insert the hole to the power.
4. Adjust the flexible shaft to meet the quadrate hole. Put the flexible shaft-blanket with a slot in the socket.
5. Insert the flexible shaft-pin and put the split pin on so that the installation of the flexible shaft is complete.

### OPERATING INSTRUCTIONS

Instructions **before** operation:

1. Before every operation, please inspect the machine and make necessary adjustments.
 

If you notice any abnormality, please get the machine repaired, and if necessary, to take it to the authorized dealer for service.
2. The following inspections are to be done before the operation:

Location	Check content	Correction
Appearance	Wearing-out or loose	Reinforcing
Fasteners	Loose	Tighten
Gearbox	Sufficient grease	Replenishing every 20 to 30 hours
Blades	Rounding, breaking or deforming of blades	Replacing the components
	Lubricating of blades	
Air Filter	Contamination	Cleaning
Oil tank	Sufficient fuel and loosing of tank cover	Cleaning & Lubricating
Throttle Switch	Smooth operation	Replenishing or reinforcing
Gasoline Engine Blade Adjusting	Proper on/off operation	Adjusting or replacing the components
Nut Handle	Proper adjustment of the gap between blades	Adjusting
	Proper fixation of the handle	Adjusting

**Instructions during operation:**

1. Inspection of fuel must use the mixture of 90# ordinary gasoline and 2-stroke purpose machine oil. The mixing ratio should be correct. During the first 20 hours, the ratio between volume of 90# ordinary gasoline: and a volume of 2-stroke purpose machine oil should be 20:1, and then it can be changed to 25:1.
2. The gasoline engine can't stop suddenly. The speed should be adjusted to 2300-2700 rotations/min.
3. After every one hour of operation, the blades should be oiled with HG-10# lubricating oil. The space between the blades should be adjusted correctly.
4. Every 8-10 hours fill the gearbox with ZFG-2 lubricating oil once a time.
5. Avoid great impacts when moving the machine.
6. This machine cannot be used as a cropper.
7. When the gasoline engine is working, don't touch the blades even when the clutch is apart.
8. Do shut off the gasoline engine once the work is done.
9. When working, do not touch the spark plug.
10. The banding angular magnitude of flexible shaft can't be too big to break. Before working, insert the flexible shaft with grease on it into the flexible duet and pull it for several times.

**INSPECTION AND SERVICE**

Table of regular inspections

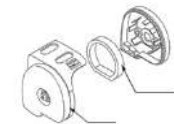
Item	Time	Before Each Operation	At Every 50-hours	At Every 100-hours	2 Years
		Inspection and retightening of bolts, nuts	✓		
Inspection of fuel leakage	✓				
Inspection, cleaning of air cleaner	✓				
Cleaning at cooling air inlet, cooling fin and around muffler	✓				
Inspection, cleaning of ignition plug			✓		
Inspection, cleaning of fuel filter			✓		
Removal of carbon from muffler, cylinder			✓		
Cleaning of spark arrestor			✓		
Replacement of ignition plug				✓	
Replacement of fuel piping (fuel pipe and grommet)					✓

**INSPECTION AND SERVICE BEFORE EACH OPERATION**

**Cleaning of air cleaner**

Wash the element with white kerosene and then immerse it in engine oil. Squeeze it tightly with single hand.

**⚠ Use of fire is strictly prohibited**



**Cleaning and service at respective sections**

- Clean thoroughly around the muffler.
- Clean the cooling fins and the cooling air inlet.
- Inspect and retighten bolts and nuts.
- Inspect the fuel leakage.



### ADJUSTING THE CARBURETOR

**!** Engine revolution speed is adjusted at the optimum condition before shipping from the factory. It should be adjusted only when it fails to operate properly. (Consult your dealer when adjustment is necessary.)

- Use the slow speed adjusting screw to adjust the slow speed revolutions.
  - Right turns: Increase the revolution speed.
  - Left turns: Slow down the revolution speed.

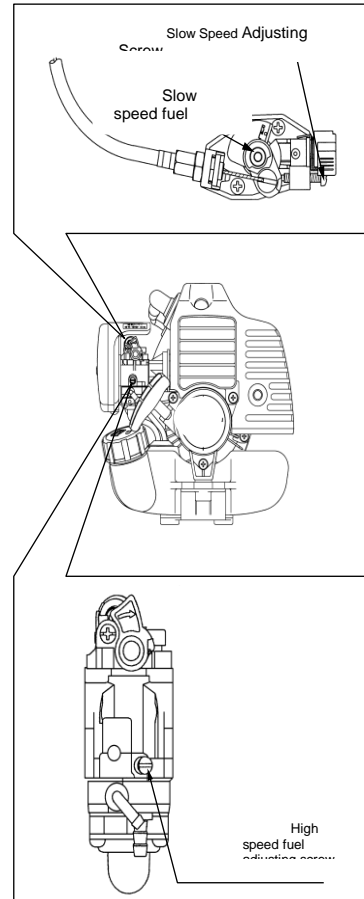
**!** Increasing the slow revolution excessively causes the driven equipment unable to stop even if the throttle lever is returned. The revolution speed should not be increased excessively.

- In case with the slow speed fuel adjusting screw Normal position is where it is returned by one turn from the fully closed position (right turn).
  - Right turns: Increase the thickness of fuel.
  - Left turns: Decrease the thickness of fuel.

- In case with the high speed fuel adjustment screw
  - Right turns: Decrease the thickness of fuel.
  - Left turns: Increase the thickness of fuel.

**!** Fuel adjustment for the carburetor is completed at the optimum condition before shipping from the factory. When it is necessary to adjust, consult your dealer.

**!** Do not decrease the thickness of fuel too much. (It could result in the seizure trouble of engine.)



### Starting of the gasoline engine:

- Press the primer pump several times before working. The fuel goes into the carburetor. All the throttles should be shut off.
- When the gasoline engine is under cool state or in winter, close the red chokes of the carburetor before opening the electric circuit.
- Fix the machine and pull the starting rope.
- After starting, add the throttle for some time and run free for 2-3 minutes to warm-up. Later, add the throttle and work normally.

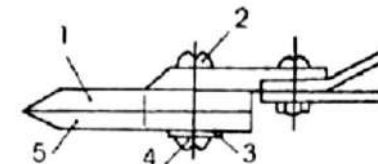
### Stopping of the gasoline engine:

Switch the throttle to low-speed to slow it down. Work 2-3 minutes for cold running and then switch off the machine.

### MAINTENANCE AND ADJUSTMENT

- Because the blades work at a high speed, it should be oiled once in every hour during working. Please use non-toxic, edible lubricating oil for blades, as that comes in contact with tea leaf.
- Inspect and adjust the space between the blades. After some time of working, blades are worn out and screws become loose, which can change the normal space (about 0.05mm), so please pay regular attention to their working condition.
- Inspect the firmness of the screws and the space between the blades. Improper spacing may reduce the working ability of the machine. Too much space may lead to breakage of the blades. It not only reduces the quality of the tea, but also roughens the surface of the tea tree. Too small space may lead to a large load and hardship of working or harm the blades.

The space between the edges can be adjusted as follows.



- Upper blade
- Nut
- Washer
- M6 crew
- Bottom blade

- Unscrew the nut
- Use the plus driver to screw the crew to the end lightly and then turn back 3/8 round.
- Screw the nut tightly. The adjusting washer should be flexible.
- Put the non-toxic, edible lubricating oil on the blades.
- Start the gasoline engine and let the blades work at a high speed for 1 minute.
- Switch off the gasoline engine and touch the nut. If hands can withstand the temperature, it means the adjustment is successful. If hands feel hot, loosen the crew slightly, and adjust it until it is OK. (Note: Please adjust it when the machine is shut off. The screw should be in the narrow hole. If there is dirt in it, clean it.)
- Keep the air-filter system clean.

8. Cleaning of the carbon in the spark plug and the adjustment of the space: After every 25 hours of working, please take off the spark plug and clean it. Adjust the space between the electrodes (0.5-0.6mm)
9. Dismantle the air filter after 15 hours of usage. Use the gas line to clean it thoroughly. Then dry and reinstall it. Dismantle the casing lid, clean the carbon and the dirt.
10. Cleaning of carburetor. When working in bad conditions, carbon powder and dust on the tree may contaminate the machine, so besides cleanings after each usage, cleaning after every 100 hours usage is necessary. (Cleanings must be held when the oil box is switched off.) (Note: The inside parts have matched the machine, please do not adjust it.)
11. Do not use for a long time, without allowing to cool or clean the machine
12. When the machine is cooled off, let the fuel go out and press the oil pump so the fuel remaining in the pump goes back to the oil tank. At last, empty the fuel in the oil tank.
13. Take off the spark plug, and drop the oil into the hole. Pull the starter so that the oil covers the inner well. Put the spark plug back.
14. Clean the outside parts, blades and blade edges of the machine. Put it in a dry room.

**NOTE:** Necessary repairs must be done by the authorized dealer.

### TROUBLESHOOTING

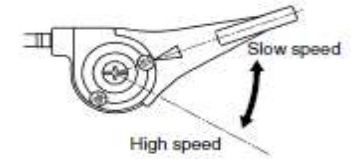
#### STARTING PROBLEMS:

Symptom	Category	Cause	Remedy	
Lighting a fire without a spark.	Spark plug	The electrodes are damped.	Drying	
		Carbon got deposited in the electrodes of the spark plug.	Cleaning	
		The ramous insulator of the electrode is bad.	Replacing the spark plug	
		The space between electrodes is too small or too large.	Adjust it to 0.5 -0.6mm	
		The electrodes are overheated	Replacing the spark plug	
Lighting a fire with a spark.	Good Compression	High density of the fuel	Adjusting carburetor	
		Bad quality of the fuel	Use better fuel	
	Bad compression	The casing piston and the piston ring have been badly damaged due to wear and tear.	Replacing the piston ring or piston whichever is necessary	
		Carburetor	Lack of fuel	Fill the fuel
			Measuring hole jammed	Clearing
	Cleaner-net jammed		Clearing	
Failure to supply the fuel.		Fasteners have become loose	Reinforcing	

abnormal sound, severe vibration, unstable rotating speed, blasting and other adverse phenomena of the gasoline engine.

### PRECAUTIONS DURING OPERATION

- After starting the engine, set the throttle lever at the slow speed position and warm up the engine for approx. 2~3 minute. As the engine worms up, the engine will be accelerated smoothly.
- Do not attempt to raise the engine speed abruptly immediately after the start because the lubrication oil may not be distributed yet all over the engine.
- If the throttle lever is turned to the fully opened position, the revolution speed picks up to a considerably higher level, which could not only shorten the life of engine but also cause trouble. It should be avoided to race the engine at high speed under no load condition or raise the speed unnecessarily.
- Before starting operation, make sure to inspect the engine in accordance with the "Inspection before starting the engine".
- Do not operate the engine at the indoor or a place with poor ventilation. (Exhaust gas contains odorless and harmful carbon monoxide.)
- Do not insert in or approach hands or foot at the moving or rotating sections.
- Stop the engine immediately if it has been discovered any leakage of fuel or gas from the carburetor, muffler, fuel tank, crankcase, cylinder or mating face at respective sections. (Contact a dealer or service center for repair.)
- Do not change the setting revolution speed of engine unnecessarily.
- Be careful not to touch highly heated muffler or sections on the engine to avoid possible risk of burn.
- Do not operate the engine while withered grasses, leaves or other inflammable substances are sticking in or around the muffler cover.
- Do not touch the ignition plug cap or high-voltage cord during operation. (There is risk of electric shock or physical injury.)
- Do not operate the engine with the muffler or air cleaner cover removed



In case of using the gasoline engine in the plateau region, the air and fuel mixture of the carburetor in the normal state will be too dense, which will reduce the running performance of the gasoline engine and increase the fuel consumption. Thus, the carburetor shall be replaced with a special one for use in the plateau region.

With the increase of the elevation, the power of the gasoline engine will have some decline.

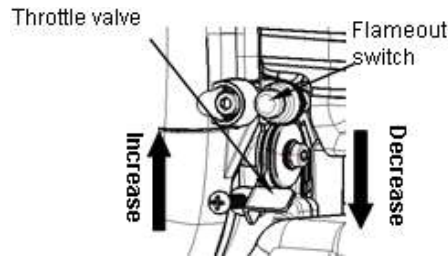
Handle of choke valve



**Operation:**

When preheating the gasoline engine, gradually move the handle of the choke valve to the "OPEN" position.

Then, adjust the handle of the throttle valve upward and set it at the position of the required running speed of the engine.



**CAUTION**

To give full play to the product performance, It is suggested to run the gasoline engine for about 15 minutes in the low-speed state if the engine is used for the first time. Heat the engine for 3~5 minutes and then get it into the working state every time when it is to be used.

**Shutdown**

Directly press down the stop switch or pull off the spark plug cap in case of shutdown in an emergency. Generally, conduct the operation based on the following steps:

1. Release the load firstly; then press down the handle of the throttle valve to reduce the rotating speed of the gasoline engine.
2. Press down the stop switch after 2~3 minutes of no-load running.

**CAUTION**

Under normal circumstances, it is strictly prohibited to directly shut the engine down in the case of no load off.

For the sake of your health, please be far away from the muffler and do not directly face the exhaust port during operation of the gasoline engine. Pay attention to the unusual change of the gasoline during its operation. Immediately shut down the engine in case of

**INSUFFICIENT POWER:**

Symptom	Cause	Remedy
Good Compression but failure to burn	Air goes into the seam of the fuel pump	Reinforcing
	Air goes into the carburetor	Changing the seal or reinforcing
	Water mixed with the fuel	Use good fuel
	Burnt smell in the piston	Clean all components carefully
	Surround some carbon	Decompounding and clearing
Overheated	Low density of the fuel	Adjust the carburetor
	Dusts on the fan guard and the cylinder fin	Cleaning
Having the tendency to produce noise	The quality of the fuel is not so good	Change to a better fuel
	Carbon in the fuel room	Clearing
Others	The air - Cleaner is blocked	Clean the block.
	Overload	Limit the load.

**STOPPING DURING OPERATION:**

Symptom	Cause	Remedy
Stop abruptly during operation	Piston sintering	Use a file to clean the piston and the casing. The damaged ring should be changed.
	Short circuit of the electrode due to the carbon	Cleaning
	Problems of the inner part of the magneto electric coil.	Dismantle and inspect it
	Sparking cap jumps out	Embed it as before
Stop with running spend descend	Lack of fuel	Fill the fuel
	Blocking in the inner part of the carburetor	Inspection and clearing
	Water mixed with the fuel	Empty it and refill the fuel

**DIFFICULTY IN STOPPING:**

Symptom	Cause	Remedy
Itself of gasoline engine	Overheat of casing and piston spontaneous combustion	Clearing carbon of casing and piston
Others	Heating top of spark plug	Clearing electrode
	Dropping connecting wire	adjusting gap 0.5-0.6 mm

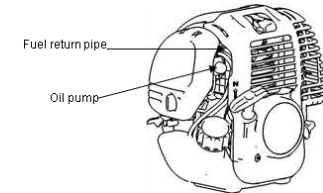
**TECHNICAL SPECIFICATIONS**

Product Code	KK-TH-525	KK-TH4-34
HP	0.7kW	0.9kW
CC	26 cc	34 cc
Engine Type	2- Stroke	4- stroke
RPM	7500	7800
Fuel Used	Petrol	
Fuel Tank Capacity	750 ml	
Oil (Mixing)	40ml (2T) oil per 1 liter of Petrol	20W40 grade
Blade (cutter) Length	525 mm	600 mm
Weight of the Machine	10 kg	7.5 kg (net)
Fuel Consumption	2 liter/hour (Engine)	
Out Put Capacity	400 kg/hour(Output)	

**OPERATION INSTRUCTIONS-4 STROKE ENGINE**

**Startup of Petrol Engine**

Forcibly press the oil pump until the fuel in the fuel pipe (transparent oil pipe) can be seen

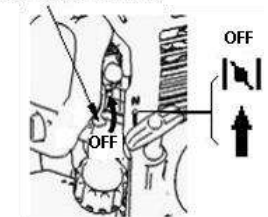


Pull the choke valve to the "OFF" position and return

**CAUTION**

Do not use the choke valve when the gasoline engine is hot or in the high-temperature state.

Handle of choke valve

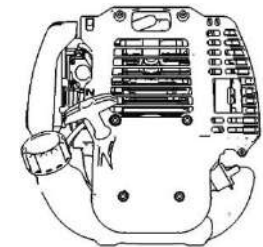


Startup:

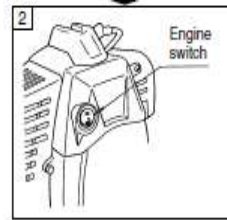
Grasp the starter handle and slowly pull until you feel the resistance, then firmly pull it outwards.

**CAUTION**

- It is required to slowly lay back the handle along the resilience of the starter rope rather than abruptly release the handle and allow it to rebound and strike the gasoline engine, which will damage the starter.
- It is required to quickly pull the starter, or the electrode of the spark plug cannot spark, which will consequently result in the starting failure.

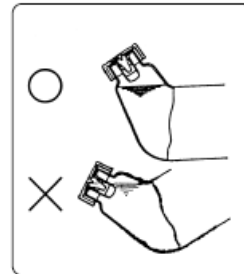


- Turn the engine switch to the "OFF" position.  
(Switch position may vary depending on the specifications. Refer to the instruction manual of driven equipment.)  
In case of a push button type switch, keep pressing the push button till the engine stops completely.
  - Replenish the fuel before using up completely. It will make easier at the next starting.
  - When there is no subsequent work, drain the fuel from the fuel tank and restart the engine to use up the fuel remaining in the carburetor.



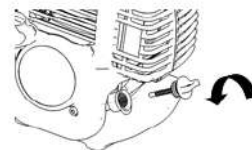
**CAUTION**

- Place the engine at a horizontal position when the driven equipment is not used at the rest time, or others, in summer season. (If the tank is tilted as much as the inside of fuel cap is submerged in the fuel, the fuel may leak.)
- Do not touch the engine body, especially the muffler, during or immediately after stopping the operation. (There is risk of burn.)



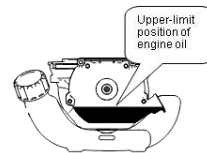
**Before operating a 4-Stroke engine:**

**Caution** The gasoline engine is not filled with engine oil before it is delivered from the factory. Please fill it with engine oil firstly

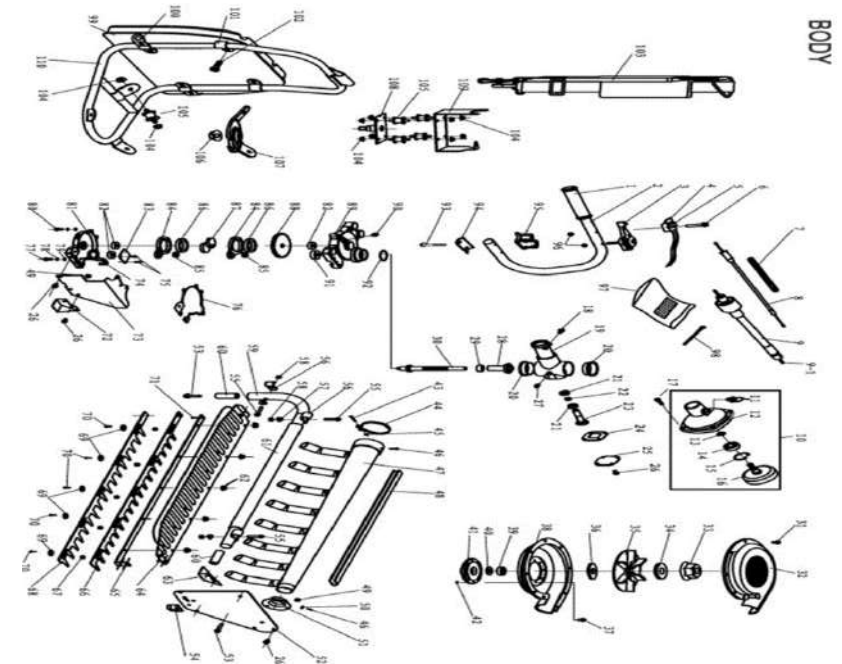


**Check the lubricating oil level**

- Shut down the gasoline engine and place it at horizontal level.
- Dismount the engine oil rule and check the oil level, which shall be up to the oil filler.
- If the oil level is low, fill the recommended lubricating oil to the oil filler
- Remount the oil rule.



**PARTS DIAGRAM & LIST- BODY (KK-TH-525)**



Part No	Part Name	Part No	Part Name
1	Handle bar sheath/Grip	41	Seat-Fan Housing
2	Handle Bar Tube	42	Nut M4-Nylon
3	Flex Accelerator	43	Screw M4x25-Star
4	Fix Plate-Switch On/Off	44	Fixing Ring/screw clip
5	Switch On/Off	45	Nut M4-Nylon
7		47	Wind Pipe
6	Screw M5x30-Star	51	Fixed Ring-Wind Pipe
8	Throttle Cable	52	Side Plate-Right
9	Protection Seat/Outer Cable	54	Bag Hook

Part No	Part Name	Part No	Part Name
9-01	Inner Cable	56	Cooper Cover
10	Clutch Comp Assembly	58	Bag Hook
11	Active Bolt(Flexible Soft pin)	59	Long Handle
12	Linker/Left Cover	60	Bush-Long Handle
13	Stop Ring 15-Outer	61	Rack/Grip-Long Handle
14	Bearing 6202 2RZ	63	Guide Plate-Right
15	Stop Ring 35-Inner	64	Plate Comp
16	Clutch Drum	65	Blade Edge Press Piece
17	Screw M6x20-Hex	66	Blade Upper
19	Flexible Shaft Seating	67	Blade Adjusting-Spacer
20	Cover/Bush Shaft Seating	68	Blade Lower
21	Bearing 6002 2RZ	72	Guide Plate-Left
22	Bush-Gear & Gear Shaft	73	Side Plate-Left
23	Gear and Gear Shaft Drive	74	Plate
24	Washer/Gasket-Side Plate	75	Screw M3x8-Star
25	Side Plate	76	Gasket Gear case
27	Cup/Grease Nipple	81	Gear Box Lower
28	Gear-Shaft	82	Bearing 608
29	Cover/Bush Gear Axis	83	Washer/Steel Plate
30	Gear Axis	84	Connecting Cover/Rod
31	Screw ST M4x12	85	Bearing 618
32	Upper Fan Housing	86	Bearing 6806 Z
33	Nut M10-Hex	87	Cam
34	Washer 10-Plain	88	Gear
35	Fan Leaflet	89	Gear Box Upper
36	Fixed Spline Sheath	90	Grease Nipple
37	Screw M4x12-Star	91	Bearing 6001 2RZ

- If you move the throttle lever to the high-speed side a little after the engine has started, the starter lever returns to the operating position. Continue the warm-up operation for 2 to 3 minutes in this condition. Observing the condition of the engine, move the throttle lever to a desired engine speed.

**START**

**⚠ CAUTION**

- Before starting the engine, confirm that the area of radius 15 m around the engine is completely evacuated.
- Do not operate the engine when any flammable material (gasoline, volatile chemicals, or others) is present around it.
- Driven equipment may start simultaneously with the start of engine. Carefully read the instruction manual of the equipment and start the engine carefully.
- When a class FC oil is used, a larger resistance may be felt when pulling the recoil starter grip under low temperature condition or at the initial operation at the next season. This is related to the characteristic of the oil and there is no problem on the engine. Once started, it will return to the normal condition

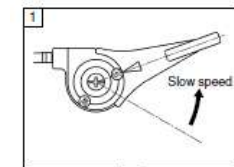
**Concerning New Start System**

It can start even if it is pulled slower than normal.

- If the rope is pulled (vigorously) till it will not come out any more, it could damage the recoil mechanism.
- Do not disassemble the recoil.  
It is dangerous to disassemble the inside of recoil. (Consult your dealer when it is necessary to replace related parts.)
- If the decompression slot of cylinder is clogged, the engine may start slower than normal. Clean the slot to restore the normal condition.

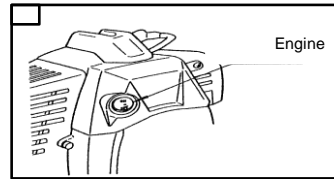
**STOP**

- Set the throttle lever at the slow speed position.

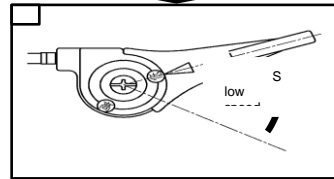


### START (STARTER LEVER TYPE UNIT)

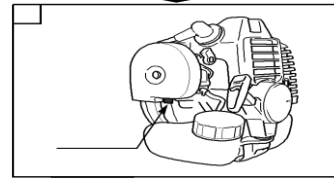
1. Turn the engine switch to the "ON" side.



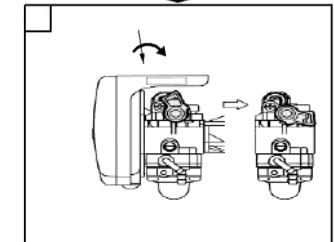
2. Set the throttle lever at the slowest speed position.



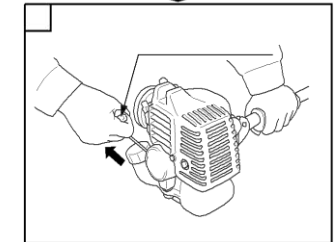
3. Push the priming button repeatedly with finger till it hits the top. (More than 10 times)  
Pressing the priming button is necessary to prime the fuel to facilitate the start-up. Since any excess amount of primed fuel returns to the tank, there is no problem of over-priming. Prime the fuel rather more than sufficiently to avoid starting trouble.



4. Turn down the starter lever of carburetor to set it at the start position.  
It is not necessary to operate the starter lever when the engine is warmed up (For about 15 minutes after stopping the engine.)  
(To be left in the operating position)  
Depending on specifications, the starter lever may be provided at the throttle wire side.



5. While holding down the engine firmly, grasp the recoil starter grip and pull vigorously



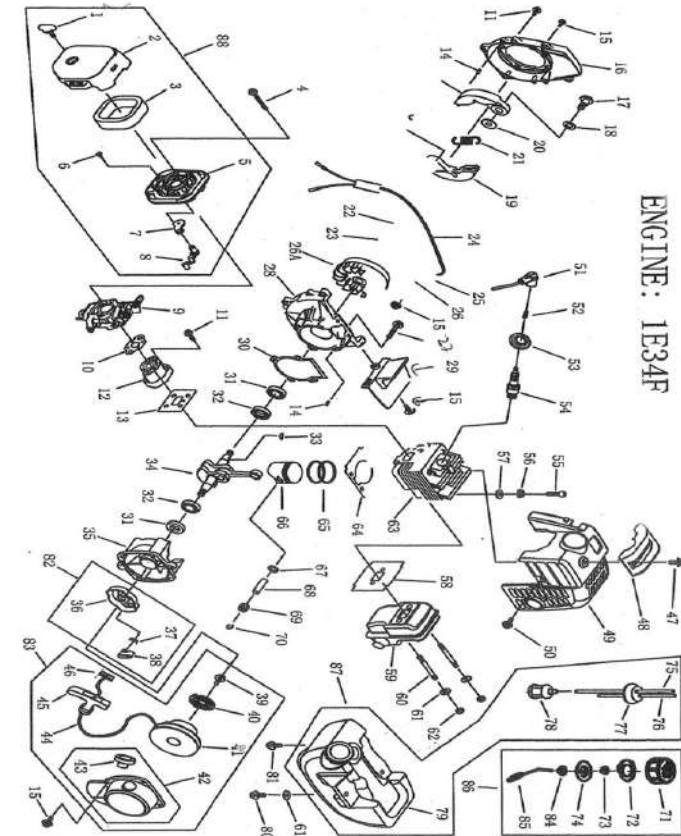
#### ⚠ CAUTION:

- a) When the engine stops on the way after starting, or
- b) When the engine fails to start after trying the recoil operation for 7 to 8 times.

Return the starter lever to the operating position and try the recoil operation.

Part No	Part Name	Part No	Part Name
38	Down Fan Housing	92	O' Washer-Gear Box Upper
39	Bearing 6000 2RZ	94	Plate-Handle
40	Washer 10-Shim	95	Gasket/Bracket-Handle

### PARTS DIAGRAM & LIST- ENGINE ((KK-TH-525))






Part No	Part Name	Part No	Part Name
1	Screw-Air Filter	45	Starter Handle
2	Air Cleaner Outside Cover	46	Gasket-Starter Handle
3	Air Filter Sponge	47	Screw M5x14-Star
4	Screw M5x55-Star	48	Cover-Spark Plug Protective
5	Air Cleaner Inside Cover	49	Guide Cover Assembly
6	Screw ST 4.2 x 12	50	Screw M4x12-Star
7	Choker	51	Cap-Spark Plug
8	Choker Handle	52	Spring-Spark Plug
9	Carburetor	53	Dust Cover-Spark Plug
10	Gasket-Carburetor	54	Spark Plug
11	Screw M5x20-Star	55	Screw M5x20-Allen
12	Insulator	56	Washer 5-Spring
13	Gasket-Insulator	57	Washer 5-Plain
14	Pin B3x10-Crankcase	58	Gasket Muffler
15	Screw M4x16-Star	59	Muffler
16	Fan Cover	60	Stud Bolt/ Screw
17	Clutch Bolt	61	Washer 5-Spring
18	Washer A-Clutch	62	Nut M5-Flanged Hex
19	Clutch Shoe Assembly	63	Cylinder
20	Washer B- Clutch	64	Gasket-Cylinder
21	Spring Clutch	65	Piston Ring
22	Nut M8-Flanged Hex	66	Piston
23	Washer 8-Plain	67	Needle Bearing Ring
24	Cord comp-Wire	68	Piston Pin
25	Grommet Coil	69	Needle Bearing-Piston Pin
26	Ignition Coil	70	Circlip-Piston Pin
26a	Fly wheel	71	Fuel Tank Lid
27	Screw M5x25-Star	72	Gasket Fuel Tank Lid

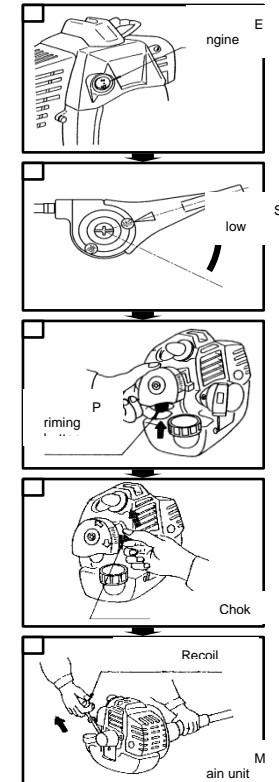
- Check respective sections for loose or missing screws or nuts.
  - Service them if necessary.
- Inspection of fuel pipes**
- Check for cracks or fissures on the fuel pipe and grommet, disconnection or fuel leakage from joints on the fuel tank and carburetor.

## OPERATION INSTRUCTIONS - 2 STROKE ENGINE

### Methods of starting & stopping the engine

#### START (CHOKE TYPE UNIT):

1. Turn the engine switch to the "ON" side.
2. Set the throttle lever at the slow speed position.
3. Push the priming button repeatedly with finger till it hits the top. (More than 10 times) Pressing the priming button is necessary to prime the fuel to facilitate the start-up. Since any excess amount of primed fuel returns to the tank, there is no problem of over-priming. Prime the fuel rather more than sufficiently to avoid starting trouble.
4. Turn the choke lever to the fully closed position (at the  Mark). When sufficient fuel is retained and the engine is warm, set the choke lever at the fully opened position (at the  mark)
5. While holding down the engine firmly, grasp the recoil starter grip and pull vigorously
6. When the engine has started, return the choke lever gradually to the fully opened position (at the  Mark).



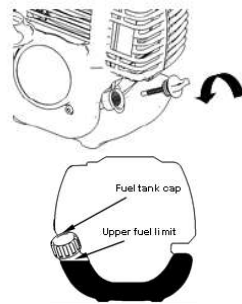
If only exploding sounds are heard, but it does not start, return the choke lever to the fully closed position and pull the starter grip vigorously once again.



### For 4-Stroke engine:

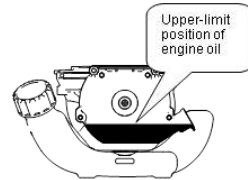
**⚠ Caution** The gasoline engine is not filled with engine oil before it is delivered from the factory. Please fill it with engine oil firstly

The fuel tank shall not be overfilled (The fuel level shall not be higher than the neck of the oil filler); inspect whether the fuel tank cap is properly covered after the refueling is completed.



### Check the lubricating oil level

1. Shut down the gasoline engine and place it at horizontal level.
2. Dismount the engine oil rule and check the oil level, which shall be up to the oil filler.
3. If the oil level is low, fill the recommended lubricating oil to the oil filler
4. Remount the oil rule.



### INSPECTION OF RESPECTIVE SECTIONS:

Make sure to inspect these sections before operating the engine.

#### Inspection of fuel

- Is sufficient quantity of oil reserved?
- Is not the fuel degenerated?
- Use the proper fuel referring to the "Fuel" section.

#### CAUTION

- Sufficient care must be taken on the fire not only when replenishing but also handling fuel. It could cause fire or explosion.
- Securely close the oil tank cap. Fuel may leak if the cap is tightened aslant. It will never leak if the cap is tightened properly.  
(Excluding: TL tank cap breather type)

#### Inspection of clogging

- Check the cooling fins, around the muffler and cooling air inlet for trash or withered grasses trapped.
- Remove them if necessary

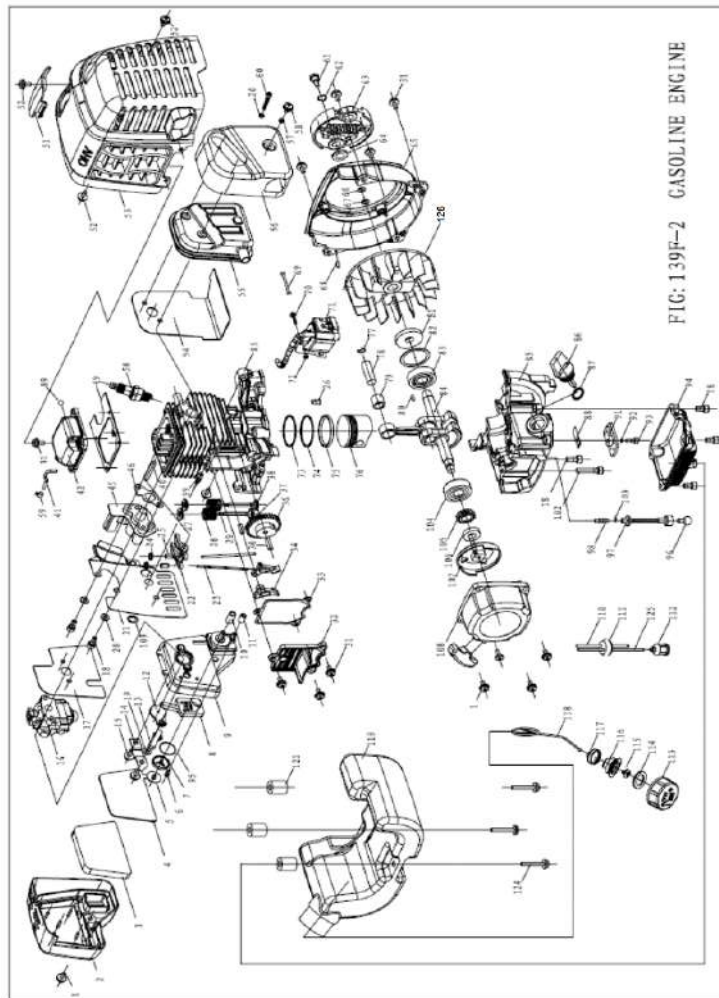
#### Inspection of air cleaner

- Is not fouled the air cleaner element?
- When the element is fouled or it is not impregnated with oil, inspect and service it in accordance with "Inspection and servicing before each operation"

#### Inspection of screws and nuts

Part No	Part Name	Part No	Part Name
28	Crankcase Big	73	N/A
29	Guide Plate	74	N/A
30	Gasket-Crankcase	75	Fuel Pipe Long
31	Oil Seal 12x22x7	76	Fuel Pipe Short
32	Bearing 6001	77	Fuel Pipe Grommet
33	Key-Crank Shaft	78	Petrol Filter
34	Crank Shaft Assembly	79	Fuel Tank
35	Crankcase Small	80	Screw M5x16-Star
36	Start Reel	81	Screw M5x16-Star
37	Claw Spring	82	Start Reel Assembly
38	Start Claw	83	Starter Assembly
39	Screw M5x10-Hex	84	N/A
40	Recoil Spring	85	N/A
41	Rope Reel	86	Buy #71 Fuel Tank Lid
42	Starter Cover	87	N/A
43	Guide-Starter Rope	88	Air Filter Assembly
44	Starter Rope		

PARTS DIAGRAM & LIST- ENGINE (KK-TH4-34)



(Types vary depending on specifications.)

INSPECTION BEFORE OPERATING THE ENGINE

**NOTE:** In **2 Stroke** engine the gasoline and engine oil are mixed and poured together.

In **4 Stroke** engine the gasoline and engine oil are poured separately

**FUEL:** Use mixed oil of ordinary regular gasoline for vehicle and special 2-cycle engine oil with the proportion as shown by the following table.

Mixing ratio (Volumetric ratio):

Petrol : 2-cycle engine oil
40: 1

- Do not use degenerated oil (with sour smell).
- (It could cause engine trouble such as the starting error, insufficient output, etc.)
- Make sure to clean spilled fuel. It could foul clothes or cause fire.
- Do not use 4-cycle engine oil. (It could cause fouled plug, bound piston ring, clogged muffler, or other problem.)
- Take care while handling gasoline. (As there is a risk of explosion.)

**ADJUSTMENT OF THROTTLE WIRE:**

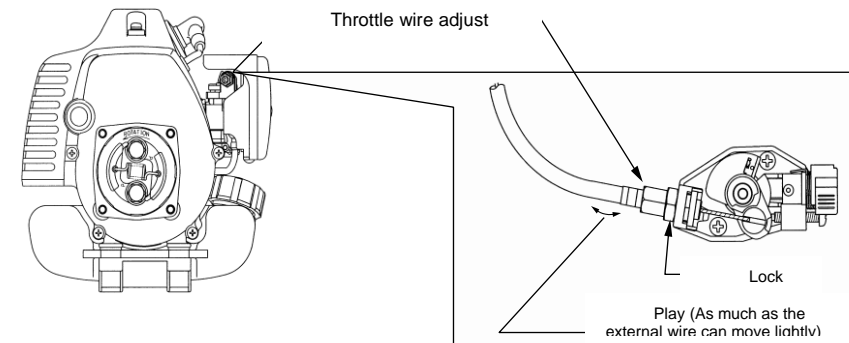
Adjust the play on the throttle wire to 0.5 ~ 1.0 mm.

**LARGER PLAY**

- It could cause the starting trouble.
- Revolution speed could rise unexpectedly when the external wire of throttle wire comes off from the position.

**NO PLAY**

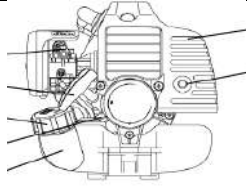
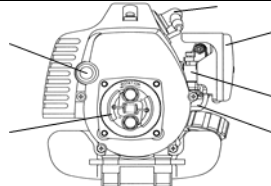
- Driven equipment may fail to stop even if the throttle lever is returned.



- Do not operate the engine with the muffler or air cleaner cover removed. (Inspect particularly the muffler at regular intervals for loose mounting screws, breakage or leakage, and repair or replace it if any abnormality is observed.)
- Do not operate the engine when grass, leaves or inflammable substances are sticking in or around the muffler.
- Do not touch parts of muffler or engine at high temperatures. (There is risk of burns.)
- Do not touch the ignition plug or high-voltage cord during operation. (There is risk of electric shock or physical injury.)
- Make sure to stop the engine whenever the work is interrupted or moving the engine to another place.
- Do not operate the engine alone. (It must be connected to the driven equipment when it is operated).
- Check frequently the parts used on the fuel line for cracks or leakage, and replace them if necessary.
- Remove dirt, grass or other trash from the cooling fins and the cooling air inlet. (Make sure to stop the engine and the driven equipment before the cleaning.)
- Make sure to use always new gasoline. (Old gasoline may cause sticky substance adhering at the inside of carburetor causing trouble in operation.)
- Before starting the engine, confirm that the area of radius 15 m around it is evacuated and no tank filled with fuel, or others are not left over.
- Use only genuine parts supplied from the manufacturer. Use of parts other than the genuine parts could cause engine trouble or premature abrasion.

**Note:** Important safety items quoted in this manual do not necessarily cover all situations or conditions that could occur. Although sufficient care has been taken to assure the safety of the engine, operators or service personnel must observe necessary precautions to operate it safely and protect themselves from possible dangers.

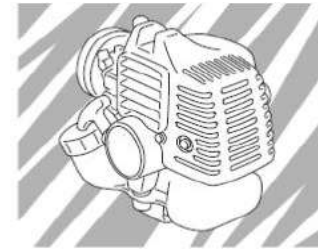
### COMPONENTS OVERVIEW (2 Stroke)

	
<ol style="list-style-type: none"> <li>Recoil starter grip</li> <li>Starter lever</li> <li>Cooling air inlet</li> <li>Fuel tank cap</li> <li>Fuel tank</li> <li>Muffler</li> <li>Exhaust outlet</li> </ol>	<ol style="list-style-type: none"> <li>Engine switch (Types vary depending on specifications.)</li> <li>Clutch</li> <li>Ignition plug cap</li> <li>Air cleaner</li> <li>Carburetor</li> <li>Priming button</li> </ol>

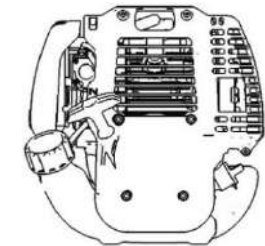
KK-P-No	KK-Part Name	KK-P-No	KK-Part Name
E-1	Screw M5x16-Star	E-64	Washer B-Clutch
E-2	Air Cleaner Outside Cover	E-65	Fan Cover
E-3	Air Filter Sponge One	E-66	Screw M6x16-Hex
E-4	Air Filter Sponge Two	E-67	Washer-Fly Wheel
E-5	Air Check Valve-1	E-68	Pin-B4x8
E-6	Air Check Valve-2	E-69	Cord Comp-Wire
E-7	Air Check Valve Bracing	E-70	Screw M4x16-Hex
E-8	Separator	E-71	Ignition Coil
E-9	Air Cleaner Inside Cover	E-72	Heat Insulation Mat-Coil
E-10	Returning Oil Pipe (7 Inches)	E-73	<b>Piston Rings Set</b>
E-11	Wind Pipe(3 Inches)	E-74	
E-12	Choker	E-75	
E-13	Choker Handle	E-76	Piston
E-14	Baffler	E-77	Circlip-Piston Pin
E-15	Screw M5x68-Star	E-78	Piston Pin
E-16	Carburetor	E-79	Needle Bearing-Piston Pin
E-17	Gasket-Carburetor	E-80	Key C3x8-Crank Shaft
E-18	Screw M5x16-Allen	E-81	Oil Seal-12x32x5.5x3
E-19	Gasket-Rubber	E-82	Check Ring
E-20	Washer 5-Plain	E-83	Bearing-6201
E-21	Eliminating Vane	E-84	Crank Shaft Assy

KK-P-No	KK-Part Name	KK-P-No	KK-Part Name
E-22	Rocker	E-85	Cylinder & Crankcase
E-23	Jib	E-86	Oil Dip Stick
E-24	<b>Jib Seat &amp; Adjusting Nut</b>	E-87	O Ring 14x3-Oil Dip Stick
E-25		E-88	Reed
E-26	Air Check valve	E-89	Ball-4
E-27	Spring Seat	E-90	N/A
E-28	Valve Spring	E-91	Board
E-29	Input Valve	E-92	Washer 4-Spring
E-30	Pin-Cam Wheel	E-93	Screw M4x10-Allen
E-31	Screw M5x16-Allen	E-94	Sump
E-32	Side Cover	E-95	O Ring-Air Filter
E-33	Gasket-Side Cover	E-96	Ball Oil Pipe
E-34	Below Rocker	E-97	Oil Pipe
E-35	N/A	E-98	Tie In-Oil Pipe
E-36	Cam Wheel	E-99	N/A
E-37	Pin-Below Rocker	E-100	N/A
E-38	Output Valve	E-101	N/A
E-39	Tie In-	E-102	Screw M5x35-Allen
E-40	Rocker Pin	E-103	Clip-Oil Pipe
E-41	Copper Pipe-(Breather)	E-104	Bearing 6201-2 RS
E-42	Cylinder Cover	E-105	Gear
E-43	N/A	E-106	Oil Seal-10x20x5

**USER MANUAL - PETROL ENGINE**



**2-STROKE**



**4-STROKE**

**BEFORE GETTING STARTED**

This manual describes various cautions necessary to operate the engine properly. Before starting the engine, read the manual and understand the proper method of use. (Improper use of the engine could result in accident or injury.). Use the engine after reading and understanding also the manual of equipment driven by the engine. Keep the manual at a safe place where you can refer whenever needed.

**SAFETY INSTRUCTIONS**

	You have to observe the descriptions indicated with this mark because they contain very important information to assure the safety
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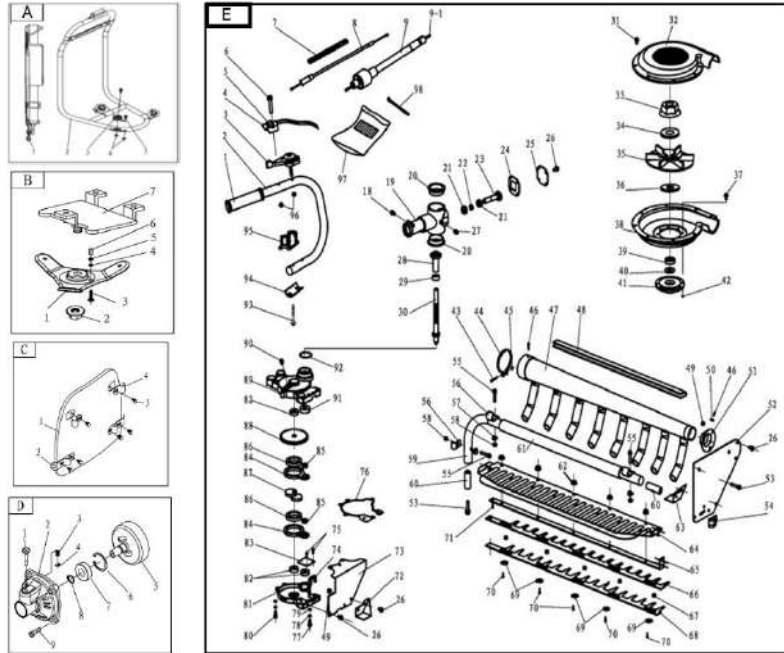
- No person who does not understand the content of this manual should be allowed to operate the engine.
- Engine should not be operated indoors or in places with poor ventilation. (Exhaust gas contains odorless and harmful carbon monoxide.)
- Do not insert in or approach hands or foot near the moving or revolving sections.
- Do not store, spill or use gasoline at the vicinity of fire, stove, furnace or devices using the pilot flame or sparks like water heater or others. (There is risk of explosion.)
- Do not refill the fuel indoors or at a place not well ventilated.
- Do not smoke while filling the fuel.
- Do not remove the fuel tank cap or refill the fuel while the engine is still running or immediately after operation when the engine is still hot. (Wait for more than 2 minutes after terminating the operation before refilling the fuel.)
- Do not operate the engine when gasoline has spilled, smell of gasoline is felt as there is a risk of explosion.
- Do not adjust the setting engine speed unnecessarily.
- Do not check sparks while the ignition plug is removed.

KK-P-No	KK-Part Name	KK-P-No	KK-Part Name
BE-28	Gear-Shaft	BE-78	N/A
BE-29	Cover/Bush Gear Axis	BE-79	N/A
BE-30	Gear Axis	BE-80	Screw M5x20 Allen
BE-31	Screw ST M4x12	BE-81	Gear Box Lower
BE-32	Upper Fan Housing	BE-82	Bearing 608
BE-33	Nut M10-Hex(left thread)	BE-83	Washer/Steel Plate
BE-34	Washer 10-Plain	BE-84	Connecting Cover/Rod
BE-35	Fan Leaflet	BE-85	Bearing 618
BE-36	Fixed Spline Sheath	BE-86	Bearing 6806 Z
BE-37	Screw M4x12-Star	BE-87	Cam
BE-38	Down Fan Housing	BE-88	Gear
BE-39	Bearing 6000 2RZ	BE-89	Gear Box Upper
BE-40	Washer 10-Shim	BE-90	Grease Nipple
BE-41	Seat-Fan Housing	BE-91	Bearing 6001 2RZ
BE-42	Nut M4-Nylon	BE-92	O' Washer-Gear Box Upper
BE-43	Screw M4x25-Star	BE-93	Screw M6x35 Hex/Star
BE-44	Fixing Ring/screw clip	BE-94	Plate-Handle
BE-45	Nut M4-Nylon	BE-95	Gasket/Bracket-Handle
BE-46	Screw ST 3.5x9.5	BE-96	Nut M5
BE-47	Wind Pipe	BE-97	Bag tea leaf collecting
BE-48	N/A	BE-98	N/A
BE-49	Nut M4	BE-50	Washer-4 plain

KK-P-No	KK-Part Name	KK-P-No	KK-Part Name
E-44	N/A	E-107	Start Reel
E-45	Insulator	E-108	Starter Assy
E-46	Gasket-Insulator	E-109	Plug
E-47	N/A	E-110	Fuel Pipe Short
E-48	N/A	E-111	Fuel Pipe Grommet
E-49	Gasket-Cylinder Cover	E-112	Petrol Filter
E-50	Spark Plug	E-113	Fuel Tank Lid
E-51	Spark Plug Protective Cover	E-114	Gasket-Fuel Tank Lid
E-52	Screw M5x10-Star	E-115	<b>Buy #113</b>
E-53	Guide Cover Assy	E-116	<b>Buy #113</b>
E-54	Gasket-Muffler	E-117	<b>Buy #113</b>
E-55	Muffler	E-118	<b>Buy #113</b>
E-56	Muffler Cover	E-119	Fuel Tank
E-57	Washer 5-Plain	E-120	N/A
E-58	Screw M5x6-Star	E-121	Metal Tube-Tank
E-59	Clip-Pipe	E-122	N/A
E-60	Screw M5x40-Allen	E-123	N/A
E-61	Clutch Bolt	E-124	Screw M5x30-Star
E-62	Washer A-Clutch	E-125	Fuel Pipe Long
E-63	Clutch Shoe Assy	E-126	Fly Wheel

**PARTS DIAGRAM & LIST- BODY (KK-TH4-34)**

**BODY-TH-4-34**



KK-P-No	KK-Part Name	KK-P-No	KK-Part Name
BE-1	Handle bar sheath/Grip	BE-50	Washer-4 plain
BE-2	Handle Bar Tube	BE-51	Fixed Ring-Wind Pipe
BE-3	Flex Accelerator	BE-52	Side Plate-Right
BE-4	Fix Plate-Switch On/Off	BE-53	Screw M5x20 Star
BE-5	Switch On/Off	BE-54	Bag Hook
BE-6	Screw M5x30-Star	BE-55	Screw M5x35 Star

KK-P-No	KK-Part Name	KK-P-No	KK-Part Name
BE-7	wire sleeve	BE-56	Bag Hook
BE-8	Throttle Cable	BE-57	Washer Plain Curved
BE-9	Protection Seat/Outer Cable	BE-58	Nut M5
BE-9-1	Inner Cable	BE-59	Long Handle
BE-10	N/A	BE-60	Bush-Long Handle
BE-11	N/A	BE-61	Rack/Grip-Long Handle
BE-12	N/A	BE-62	Nut-M5 Nylon
BE-13	N/A	BE-63	Guide Plate-Right
BE-14	N/A	BE-64	Plate Comp
BE-15	N/A	BE-65	Blade Edge Press Piece
BE-16	N/A	BE-66	Blade Upper
BE-17	Screw M6x20-Hex	BE-67	Blade Adjusting-Spacer
BE-18	Screw M5x25 Allen	BE-68	Blade Lower
BE-19	Flexible Shaft Seating	BE-69	Washer (BLADE)
BE-20	Cover/Bush Shaft Seating	BE-70	Screw m5x16 HEX
BE-21	Bearing 6002 2RZ	BE-71	Screw M4x12 Star (CS)
BE-22	Bush-Gear & Gear Shaft	BE-72	Guide Plate-Left
BE-23	Gear and Gear Shaft Drive	BE-73	Side Plate-Left
BE-24	Washer/Gasket-Side Plate	BE-74	Plate
BE-25	Side Plate	BE-75	Screw M3x8-Star
BE-26	Screw M4x10 Star	BE-76	Gasket Gearcase
BE-27	Cup/Grease Nipple	BE-77	Screw M5x25 Star