



Wide Range of Products for Every Need



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



Many of our products have BIS: ISI certification.



Operation Manual



FB-CSP-4518/5818/5820

All '**FarmBoy**' products are sold without any warranty or guarantee. Please satisfy yourself before buying this product. No returns, exchanges or refunds allowed.

Note: The purchase is not contingent upon a product demonstration. The purchaser shall satisfy himself with the product, including any product demonstration or verification of any function, before buying. KisanKraft Limited or its authorized dealers, including online sellers, shall not be liable to give any on-site demonstration after purchase of any of the product.

KisanKraft Limited

(Formerly known as KisanKraft Machine Tools Pvt Ltd)

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

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

CONTENTS


BEFORE GETTING STARTED.....	3
SAFETY SYMBOLS	3
SAFETY INSTRUCTIONS.....	5
PARTS OVERVIEW	8
OPERATION	9
INSTALLING GUIDE BAR AND SAW CHAIN	9
OPERATING THE ENGINE	11
SAWING	14
BUCKING AND LIMBING	15
TECHNICAL SPECIFICATION.....	16
MAINTENANCE.....	17
PARTS DIAGRAM & LIST	20
2 STROKE GASOLINE ENGINE- MANUAL	26

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


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

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 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.

BEFORE GETTING STARTED

The instructions contained in WARNING within this manual marked with a symbol  concern critical points which must be taken into consideration to prevent possible serious bodily injury and for this reason you are requested to read all such instructions carefully and follow them without fail. After reading, preserve this manual for further reference.

SAFETY SYMBOLS

Note:

 **WARNING**

This mark indicates instructions which **must** be followed in order to prevent accidents which could lead to serious bodily injury or death.







IMPORTANT

This indicates instructions which must be followed else may lead to mechanical failure, breakdown, or damage.

NOTE

This indicates hints or directions to use the product.

Key to symbols

	Read owner's manual before operating this machine
	Always wear: <ul style="list-style-type: none"> • Approved protective helmet • Approved hearing protection • Protective goggles or a visor
	Use the chain saw with both the hands
	WARNING! Kickback danger
	WARNING/Attention
	Both of the operator's hands must be used to operate the chainsaw

	Contact with the guide bar tip with any object must be avoided
	Tip contact may cause the guide bar to move suddenly upward and backward (so called kickback), which may cause serious injury.
	Never operate a chain saw holding it with one hand only
	Wear gloves to protect your hands
	Wear safety boots to protect your feet
	Never cut with the tip of blade, as this may result in kickback and person injury

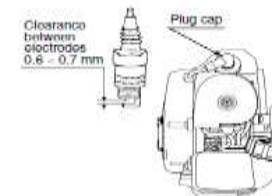
Symbol	Symbol Position	Description
	Fuel Tank Cap	The port to refuel the 'MIX PETROL'
	Oil Cap	The port to refuel the 'CHAIN OIL'
	Rear (back) side of the unit	The indication regarding the switch. Flipping the engine switch to the "O" (STOP) direction, the engine stops.
	Rear (back) side of the unit	The indication regarding the choke. Pulling out the choke knob, make the choke close.

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.)

INSPECTION AND SERVICE

Table of regular inspections

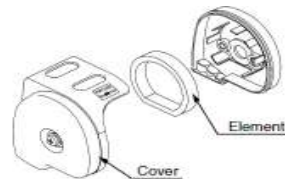
Item \ Time	Before Each Operation	At Every 50-hours	At Every 100-hours	2 Years
Inspection and retightening of bolts, nuts	✓			
Inspection of fuel leakage	✓			
Inspection, cleaning of air cleaner	✓			
Cleaning at cooling air inlet, cooling fin and around muffler	✓			
Inspection, cleaning of ignition plug		✓		
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.



	Bottom of the clutch side	The indication regarding the chain oil adjuster nut. "MIN" direction-the oil flow will decrease "MAX" direction-the oil flow will increase
<p>H</p> <p>L</p> <p>T</p>	Rear-left of the unit	The position of H-needle, L-needle and Idle adjusting screw

SAFETY INSTRUCTIONS

1. Read this owner's manual carefully to understand how to operate this unit properly.
2. You should never use the product when under the influence of alcohol, when suffering from exhaustion or lack of sleep, when suffering from drowsiness as a result of having taken cold medicine, or at any other time when a possibility exists that your judgment might be impaired or that you might not be able to operate the machine properly and in a safe manner.
3. Avoid running the engine indoors. The exhaust gases contain harmful carbon monoxide
4. Never use the product under circumstances like those described below:
 - a) When the ground is slippery or when other conditions exist which might make it not possible to maintain a steady posture
 - b) At night, at times of heavy fog, or at any other times when your field of vision might be limited and it would be difficult to gain a clear view of the area.
5. During rain storms, during lightning storms, at times of strong or gale-force winds, or at any other times when weather conditions might make it unsafe to use this product
6. When using this product for the first time, before beginning actual work, learn to handle it from skilled worker.
7. Lack of sleep, tiredness, or physical exhaustion results in lower attention spans, and this in turn leads to accidents and injury. Limit the amount of time of using the machine continuously to somewhere around 10 minutes per session and take 10 - 20 minutes of rest between work sessions. Also try to keep the total amount of work performed in a single day under 2 hours or less.
8. Be sure to keep this manual handy so that you may refer to it later whenever any questions arise.
9. Always be sure to include this manual when selling, lending, or otherwise transferring the ownership or the product.
10. Never allow children or anyone unable to fully understand the directions given in this manual to use this product

WORKING GEAR AND CLOTHING

- a) When using the product, you should wear clothing and protective equipment as follows.
 - Helmet
 - Protection goggles or face Protector

- Thick work gloves
- Non-Slip-sole work boots
- Ear protectors
- b) And you should carry with you.
 - Attached tools and files.
 - Properly reserved fuel and chain oil.
 - Things to notify your Working area (Rope, WARNING signs)
 - Whistle (for collaboration or emergency)
 - Hatchet or saw (for removal of obstacles)
- c) Never use the product when wearing pants with loose cuffs, when wearing sandals, or when barefoot.

Warning considering handling of fuel

- a) The engine of this product is designed to run on a mixed fuel, which contains highly flammable Petrol. Never store cans of fuel or refill the fuel tank in any place where there is a boiler stove, wood fire, electrical sparks, welding sparks or any other source of heat or fire which might ignite the fuel.
- b) Smoking while operating the product or refilling its fuel tank is extremely dangerous. Always be sure to keep lit cigarettes away from the product at all times.
- c) When refilling the tank always turn off the engine first and take a careful look around to make sure that there are no sparks or open flames anywhere nearby before refueling.
- d) If any fuel spillage occurs during refueling, use a dry rag to wipe up spills before turning the engine back on again.
- e) After refueling, screw the fuel cap back tightly onto the fuel tank and then carry the product to a spot 3m or more away from where it was refueled before turning on the engine.

Kickback:

Warning: Kickback may occur when the nose or tip of the guide bar touches an object, or when the wood closes in and pinches the saw chain in the cut. The tip contact in some cases may cause a lightning-fast reverse action, kicking the guide bar rapidly back towards the operator. PINCHING the saw chain along the BOTTOM of the guide bar may PULL the saw forward, away from the operator.

Pinching the saw chain along the top of the guide bar may push the guide bar rapidly back towards the operator. Either of these reactions may cause you to lose control of the saw, which could result in serious injury to the user.

How to minimize kickback: The following precautions should be followed to minimize kickback.

- a) **GRIP SAW FIRMLY:** Always hold the chain saw with your right hand on the rear handle and your left hand on the front handle. Holding the chainsaw with a reversed hand configuration increases the risk of personal injury and should never be done.
- b) Keep proper footing and balance at all times.
- c) Do not let the nose of the guide bar come in contact a log, branch, ground or other obstruction.

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.)

1. 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.

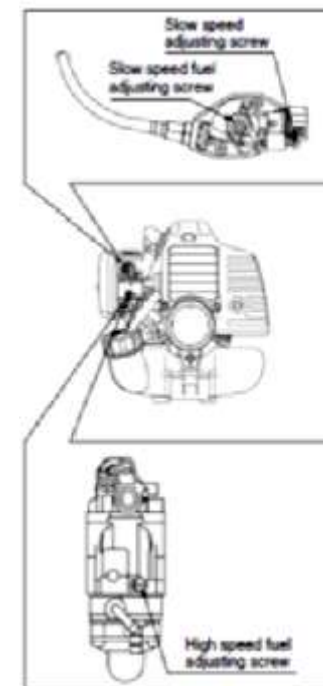
! Increasing the slow revolution excessively causes the driven equipment unable to stop even if the throttle lever is returned. The revolution speed should not be increased excessively.

2. 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.

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

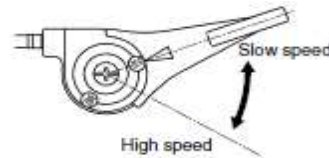
! Fuel adjustment for the carburetor is completed at the optimum condition before shipping from the factory. When it is necessary to adjust, consult your dealer.

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



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 warms 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

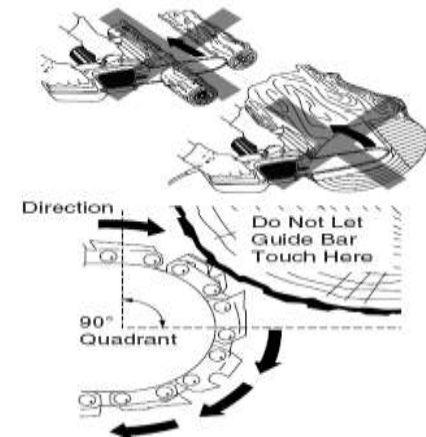


- Do not overreach and do not cut above shoulder height. This helps prevent unintended tip contact and enables better control of the chainsaw in unexpected situations.
- Use devices, such as low-kickback chain, guide bar nose guards, chain brakes and special guide bars, which reduce the risks associated with kickback.
- Only use replacement bars and chains specified by the manufacturer. Incorrect replacement bars and chains may cause chain breakage and/or kickback.
- Do not rely exclusively on the safety devices built into your saw. As a chain saw user, you should take several steps to keep cutting jobs free from accident or injury.
- With a basic understanding of kickback you can reduce or eliminate the element of surprise. Sudden surprise contributes to accidents
- Cut at high engine speed.

Kickback safety devices on this saw.

This saw has a low-kickback chain and reduced kickback guide bar, both items reduce the chance of kickback, kickback can still occur with this saw.

Properly install front hand guard, this item can reduce injuries from kickback, do not remove the front hand guard; do not replace front hand guard with a substitute.



⚠ WARNING:

BEWARE OF: ROTATIONAL KICKBACK: Kickback can lead to dangerous loss of control of the chain saw and result in serious or fatal injury to the saw operator or to anyone standing close by. Always be alert because rotational kickback and pinch kickback are major chain saw operational dangers and the leading cause of most accidents.

Rotational Kickback (Fig. 2A)

A = Kickback path

B = Kickback reaction zone

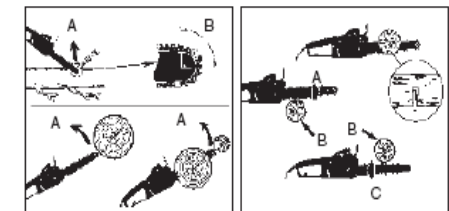


Fig. 2A

Fig. 2B

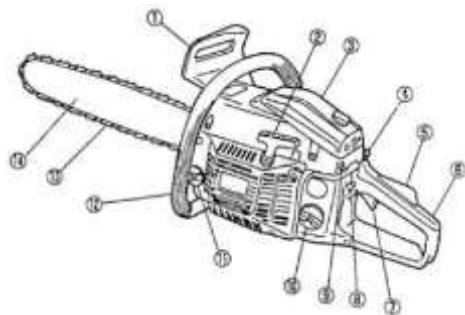
THE PUSH (PINCH KICKBACK) AND PULL REACTIONS (Fig. 2B):

A = Pull,

B = Solid objects,

C = Push

PARTS OVERVIEW



1. Front guard
2. Starter knob
3. Air cleaner
4. Choke knob
5. Throttle interlock
6. Rear handle
7. Throttle trigger
8. Throttle lock button
9. Engine switch
10. Fuel tank
11. Oil tank
12. Front handle
13. Saw chain
14. Guide Bar

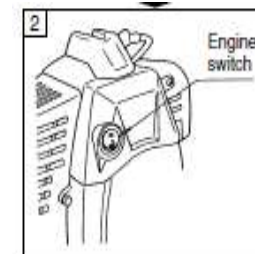
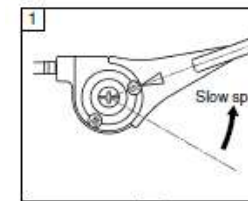
BEFORE STARTING THE ENGINE

1. Check the working place, the cutting object and cutting direction. If there is any obstacle, remove it.
2. Never start cutting until you have a clear work area, secure footing and a planned retreat path from the falling tree.
3. Use caution and keep bystanders and animals out of the working area whose diameter is 2.5 times of the cutting object.
4. Inspect the machine for worn, loose, or damaged parts. Never operate the machine if it is damaged, improperly adjusted, or is not completely and securely assembled. Make sure that the saw chain stops moving when the throttle control trigger is released.

WHILE STARTING THE ENGINE

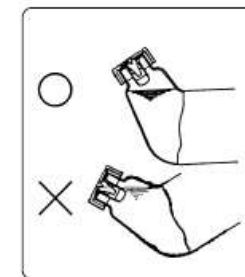
1. Always hold the machine firmly with both hands when the engine is running. Use a firm grip with thumb and fingers encircling the handles.
2. Keep all parts of your body away from the machine while the engine running.
3. Before starting the engine, make sure the saw chain is not in contact with any object.

1. Set the throttle lever at the slow speed position.
2. 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 chase 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.)



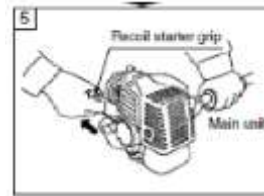
5. While holding down the engine firmly, grasp the recoil starter grip and pull vigorously

⚠ 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.

6. 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.

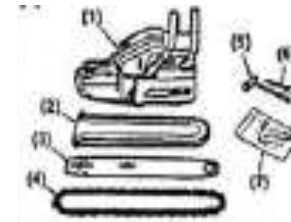
STOP

OPERATION



- a. Keep the handles dry, clean and free of oil or fuel mixture.
- b. Never touch the muffler, spark plug or other metallic parts of the engine while the engine is in operation or immediately after stopping the engine. Doing so could result in serious burns or electrical shock.
- c. Use extreme caution when cutting small size brush and saplings because slender material may catch the saw chain and be whipped toward you or pull you off balance.
- d. When cutting a limb that is under tension, be alert for spring back to that you won't be struck when the tension in the wood fibers is released.
- e. Check the tree for dead branches that could fall during the felling operation.
- f. Always shut off the engine before setting it down

INSTALLING GUIDE BAR AND SAW CHAIN



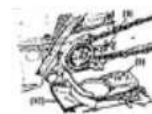
A standard saw unit packing contains the items as the items as illustrated.

1. Power Unit
2. Bar protector
3. Guide bar
4. Chainsaw
5. Plug wrench
6. Screwdriver for carburetor adjustment
7. Spike and mounting screws

Open the box and install the guide bar and the saw chain on the power unit as follows:

⚠ WARNING

The saw chain has very sharp edges. Use thick protective gloves for safety.



1. Pull the guard towards the front handle to check that the chain brake is not on.
2. Loosen the nuts and remove the chain cover.
3. Install the attached spike to the power unit.
4. Gear the chain to the sprocket and, while fitting the saw chain around the guide bar, mount the guide bar to the power unit. Adjust the position of the chain tensioner nut on the chain cover to the lower hole of the guide bar.
 - a. Hole
 - b. Tensioner nut
 - c. Chain cover



Note:

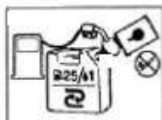
Pay attention to the correct direction of the saw chain.

MOVING DIRECTION

- 1) Fit the chain cover to the power unit and fasten the nuts to finger tightness.
- 2) While holding up the tip of the bar, adjust the chain tension by turning the tensioner screw until the tie straps just touch the bottom side of the bar rail.
- 3) Tighten the nuts securely with the bar tip held up (12-15N.m). Then check the chain for smooth rotation and proper tension while moving it by hand. If necessary, readjust with the chain cover loose.
- 4) Tighten the tensioner screw.

Note: A new chain will expand its length is the beginning of use. Check and readjust the tension frequently as a loose chain can easily derail or cause rapid wear of itself and the guide bar.

Fuel:



Mix normal Petrol (leaded or unleaded, alcohol-free) and a good quality-proven motor oil for air cooled 2 cycle engines.

Recommended mixing ratio and mix-chart:

Condition	Petrol: Oil	1 Ltr	2 Ltr	3 Ltr	4 Ltr
First 20 hours of use	20 : 1	50 ml	100 ml	150 ml	200 ml
After 20 hours of use	25 : 1	40 ml	80 ml	120 ml	160 ml

WARNING:

- Keep open flames away from the area where fuel is handled or stores.
- Mix and store fuel only in an approved Petrol container.

Note: Most engine troubles are caused, directly or indirectly, by the fuel used on the machine. Take special care not to mix a motor oil for 4 cycle engine.

Chain oil:



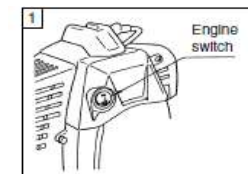
Use motor oil SAE# 10W-30 all year round or SAE #30 - #40 in summer and SAE #20 in winter.

NOTE: Do not use wasted or regenerated oil that can cause damage to the oil pump.

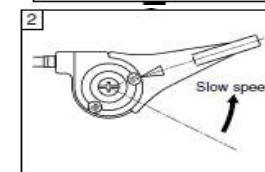
If only exploding sounds are heard, but it does not start, return the choke lever to the fully closed position and pull the starter grip vigorously once again.

START (STARTER LEVER TYPE UNIT)

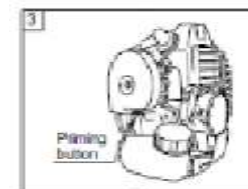
1. Turn the engine switch to the "ON" side.



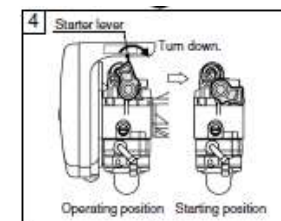
2. Set the throttle lever at the slowest speed position.



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.



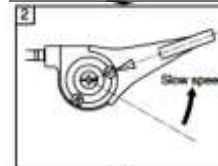
METHODS OF STARTING & STOPPING THE ENGINE

START (CHOKE TYPE UNIT):

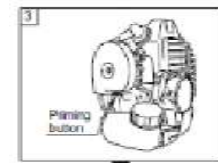
1. Turn the engine switch to the "ON" side.



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.

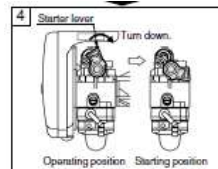


4. Turn the choke lever to the fully closed position

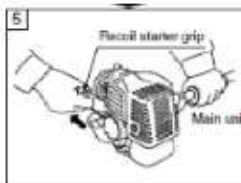
(at the  Mark).

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

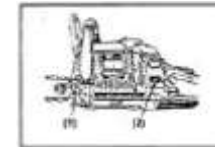


6. When the engine has started, return the choke lever gradually to the fully opened

position (at the  Mark).

OPERATING THE ENGINE

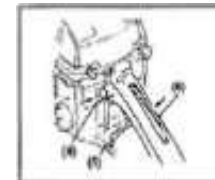
Starting the Engine:



- a) Fill fuel and chain oil tanks respectively, and tighten the caps securely.



- b) Put the switch to "I" position



- c) While holding the throttle lever together with the throttle interlock, push in the side throttle lock button and release the throttle lever to hold it at the starting position.

1. Chain oil
2. Fuel
3. Switch
4. Throttle lock button
5. Throttle lever
6. Throttle interlock
7. Choke knob



- d) Pull out the choke knob to the closed position.
Note: When restarting immediately after stopping the engine, leave the choke knob at the open position.

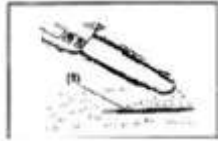


- e) While holding the saw unit securely on the ground, pull the starter rope vigorously.

WARNING: Do not start the engine while hanging the chain saw with a hand. The saw chain may touch your body. It's very dangerous.

- f) When engine has ignited first push in the choke knob and pull the starter again to start the engine.
- g) Allow the engine to warm up with the throttle lever pulled slightly.

WARNING: Keep clear of the saw chain as it will start rotating upon starting of engine.



CHECKING OIL SUPPLY

After starting the engine, run the chain at medium speed and see if chain oil is scattered off



Chain Oil: The chain oil flow can be changed by inserting a screwdriver in the hole on bottom of the clutch side. Adjust according to your work conditions. (1) Adjuster

Note: The chain oil tank should become nearly empty by the time fuel is used up. Be sure to refill the oil tank every time when refueling the unit.

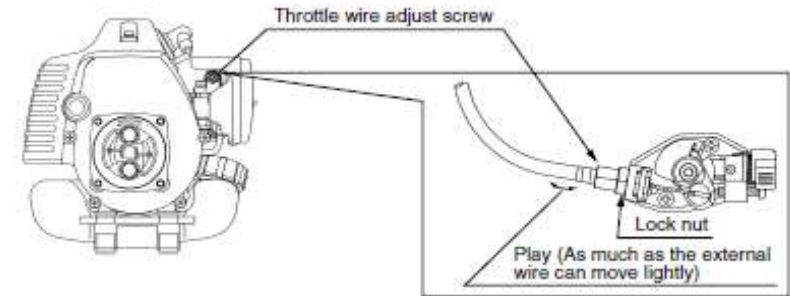


ADJUSTING CARBURETOR

The carburetor on your unit has been factory adjusted, but may require fine tuning due to change in operating conditions. Before adjusting the carburetor, make sure that provided are clean air/fuel filters and fresh, properly mixed fuel. When adjusting, take the following steps:

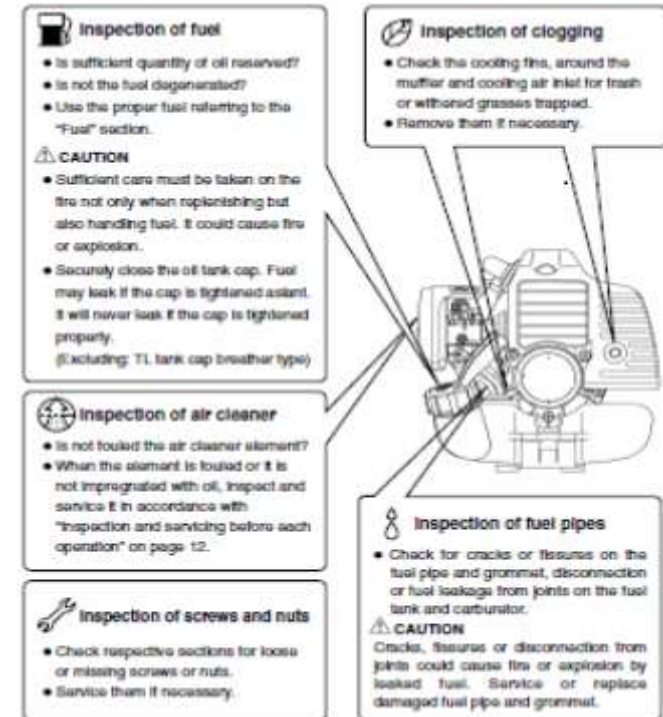
Note: Be sure to adjust the carburetor with the bar chain attached.

- Stop engine and screw in both H and L needles until they stop. Never force. Then set them back the initial number of turns as shown below.
H needle: 1 ¼ L needle: 1 ¼
 - Start engine and allow it to warm up at half-throttle.
 - Turn L needle slowly clockwise to find a position where idling speed is maximum, then set the needle back a quarter (1/4) turn counterclockwise.
 - Turn idle adjusting screw (T) counterclockwise to that saw chain does not turn. If idling speed is too slow, turn the screw clockwise.
 - Make a test cut and adjust the H needle for best cutting power, not for maximum speed.
1. L needle 2. H needle 3. Idle adjusting screw

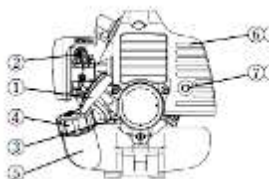


INSPECTION OF RESPECTIVE SECTIONS:

Make sure to inspect these sections before operating the engine.



COMPONENTS OVERVIEW



1. Recoil starter grip	8. Engine switch (Types vary depending on the specifications.)
2. Starter lever	9. Clutch
3. Cooling air inlet	10. Ignition plug cap
4. Fuel tank cap	11. Air cleaner
5. Fuel tank	12. Carburetor
6. Muffler	13. Priming button
7. Exhaust outlet (Types vary depending on the specifications.)	

INSPECTION BEFORE OPERATING THE ENGINE

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):

Gasoline : 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.

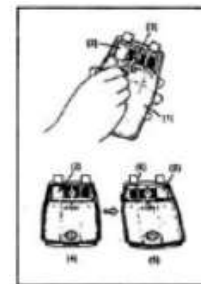
LARGER PLAY

- 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.

CARBURETOR ANTI-FREEZE MECHANISM



Operating the chain saw in temperatures of 0.50C at times of high humidity may result in ice forming within the carburetor, and this in turn may cause the output power of the engine to be reduced or for the engine to fail to operate smoothly. This product has accordingly been designed with a ventilation hatch the back of the air cleaner cover to allow warm air to be supplied to the engine and to thereby prevent icing from occurring.

Under normal circumstances the product should be used in normal circumstances the product should be used in normal operating mode, i.e. in the mode to which it is set at the time of shipment. However when the possibility exists that icing may occur, the unit should be set to operate in anti-freeze mode before use.

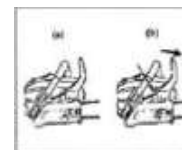
HOW TO SWITCH BETWEEN OPERATING MODES

1. Flip the engine switch to turn off the engine.
2. Remove the air cleaner cover from the cylinder cover
3. Loosen a screw and remove the screen on the back of the air cleaner cover.
4. Reattach the screen right side left so as to the anti-icing plate is on the right. Reinstall the cover.
 - (1) Air cleaner cover
 - (2) Anti-icing plate
 - (3) Screw
 - (4) Normal operating mode
 - (5) Anti-freeze mode
 - (6) Screen

Warning: Continuing to use the product in anti-freeze mode even when temperatures have risen and returned to normal may result in the engine failing to start properly or in the engine failing to operate at its normal speed, and for this reason you should always be sure to return the unit to normal operating mode if there is no danger of icing occurring.

When using the saw with the anti-freeze mode, frequently check the screen and keep it clean of saw dust.

CHAIN BRAKE



This machine is equipped with an automatic brake to stop saw chain rotation upon occurrence to kickback while in saw cutting operation. The brake is automatically operated by inertial force which acts on the weight fitted inside the front guard. This brake can also be operated manually with the front guard turned down to the guide bar.

To release brake, pull up the front guard toward the front handle till "click" sound is heard



Caution: Be sure to confirm brake operation on the daily inspection, by following steps:

- (1) Turn off the engine
- 2) Holding the chain saw horizontally, release your hand from the front handle, hit the tip of the guide bar to a stump or a piece of wood, and confirm brake operation. Operating level varies by bar size. In case the brake is not effective, ask our dealer inspection and repairing. The engine, if being kept rotated at high speed with the brake engaged, heats the clutch, causing a trouble. When the brake is operated while in operation, immediately release your fingers from the throttle lever and keep the engine idling.



STOPPING THE ENGINE

1. Release the throttle lever to allow the engine idling for a few minutes.
2. Put the switch to the "O" (Stop) position.

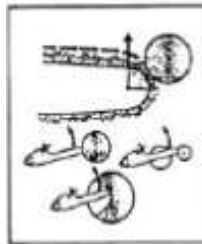
SAWING

Warning:

- It is recommended to first practice sawing easy logs. This also helps you get accustomed to your unit.
- Always follow the safety regulations. The chain saw must be used only for cutting wood. It is forbidden to cut other types of material. Vibrations and kickback vary with different materials and the requirements of the safety regulations would not be respected. Do not use the chainsaw as a lever for lifting, moving or splitting objects. Do not lock it over fixed stands. It is forbidden to hitch tools or applications to the PTO that are not specified by the manufacturer.
- It is not necessary to force the saw into the cut. Apply only light pressure while running the engine at full throttle.
- When the saw chain is caught in the cut, do not attempt to pull it out by force, but use a wedge or a lever to open the way.

GUARD AGAINST KICKBACK

1. This saw is equipped with a chain brake that will stop the chain in the event of kickback if operating properly. You must check the chain brake operation before each usage by running the saw at full the throttle for 1-2 seconds and pushing the front hand guard forward. The chain should stop immediately with the engine at full speed. If the chain is slow to stop or does not stop, replace the brake band and clutch drum before use.
2. It is extremely important that the chain brake be checked for proper operation before each use and that the chain be sharp in order to maintain the



- 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.
- 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.

2 STROKE PETROL ENGINE- MANUAL



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

	<p>You have to observe the descriptions indicated with this mark because they contain very important information to assure the safety</p>
--	---

- 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.

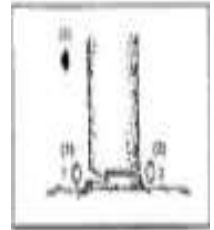
kickback safety level of this saw. Removal of the safety devices. Inadequate maintenance, or incorrect replacement of the bar or chain may increase the risk or serious personal injury due to kickback

FELLING A TREE:

1. Decide the felling direction considering the wind, lean of the tree, location of heavy branches, ease of job after felling and other factors.
2. While clearing the area around the tree, arrange a good foothold and retreat path.
3. Make a notch cut one-third of the way into the tree on the felling side.
4. Make a felling cut from the opposite side of the notch and at a level slightly higher than the bottom of the notch.

Warning: When you fell a tree, be sure to warn your neighboring workers of the danger.

- Notch cut
- Felling cut
- Felling direction



BUCKING AND LIMBING

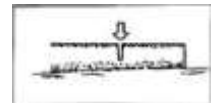
Warning:

- Always ensure your foothold. Do not stand on the log.
- Be alert to the rolling over of a cut log. Especially when working on a slope, stand on the uphill side of the log.
- Follow the instructions in "For safe Operation" to avoid kickback of the saw.

Before starting work, check the direction of bending force inside the log to be cut. Always finish cutting from the opposite side of bending direction to prevent the guide bar from being caught in the cut.

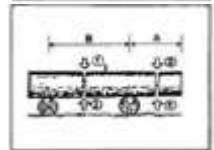
A Log lying on the ground:

Saw down halfway, then roll the log over and cut from the opposite side



A Log hanging off the ground :

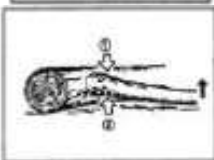
In area A, saw up from the bottom one-third and finish by sawing down from the top. In area B, saw down from the top one-third and finish by sawing up from the bottom.



Cutting Limb of Fallen Tree:

First check to which side the limb is bent. Then make the initial cut from the bent side and finish by sawing from the opposite side.

Warning: Be alert to the springing back of a cut limb.



Pruning of standing Tree:

Cut up from the bottom, finish down from the top.

Warning:

- Do not use an unstable foothold or ladder.
- Do not overreach.
- Do not cut above shoulder height.
- Always use both the hands to grip the saw.



TECHNICAL SPECIFICATION

Chainsaw Model	FB-CSP-4518	FB-CSP-5818	FB-CSP-5820
Weight ^①	6.50 (kg)	7.00 (kg)	
Dimensions ^①	450x260x300(mm)		
Fuel : Oil Ratio	25 : 1		
Fuel tank capacity	550(ml)		
Chain oil	SAE#10W-30		
Oil tank capacity	260 (ml)		
Engine displacement	45 (cm3)	58 (cm3)	
Max engine power	1.8 KW @ 7500rpm	2.3KW @ 7500rpm	
Max engine speed (with chain)	10000 rpm		
Max Engine Idle Speed	2800 rpm		
Max cutting length	45 (cm)		55 (cm)
Sprocket	7Tx0.325	7Tx0.325	12Tx0.325
Saw chain type	Semi Chisel	Full Chisel	Semi Chisel
Saw chain pitch	0.325 (in)		
Saw chain gauge	0.058 (in)		
Guide bar type	Sprocket nose		
Guide bar size	16" / 18" / 20"		
Oil feeding system	Automatic pump with adjuster		

NOTE: Specifications are subject to change without notice.

Part No	Part Name	Part No	Part Name
7	Lever pin $\phi 3 \times 8$	22	Brake spring (Small)
8	Connect pole	23	Dust absorb rubber plate
9	Brake Control Rod	24	Chain block
10	Screw ST4x8	25	Sprocket cover
11	Chain adjuster plate	26	Nut Flanged M8
12	Retainer ring $\phi 4 \times \phi 9 \times 0.8$	27	Retainer ring $\phi 3 \times \phi 7 \times 0.6$
13	Limit valve plate	28	Front Damper
14	Tension Block	29	Brake plate Pin
15	Tension Screw		

M - Air Intake Assembly

Part No	Part Name	Part No	Part Name
1	Air intake pipe gasket	10	Air Intake Socket Cushion
2	Air intake pipe	11	Screw M5x50 (Allen)
3	Screw M5x12 (Allen)	12	Screw M5x14 (Allen)
4	Air intake Support	13	Cylinder Upper Cover
5	Air intake pipe flange	14	Rubber washer $\phi 27 \times \phi 22 \times 1$ (Air Filter)
6	Hold Coil	15	Air filter
7	Carburetor gasket	16	Air filter cover
8	Carburetor assembly	17	Ail filter Lock Nut
9	Air Intake Socket		

N Working System

Part No	Part Name
1	Bar 18 "
2	Chain 18 " .325 "
3	Bar sheath

I - Front Handle Assy

Part No	Part Name	Part No	Part Name
1	Front handle	2	Screw ST5x14

J - Muffler Assembly

Part No	Part Name	Part No	Part Name
1	Nut M5	5	Muffler assembly
2	Washer 5 Spring	6	Screw M5x84
3	Muffler Cover	7	Muffler washer
4	Screw M5x12 (Allen)		

K - Start Assembly

Part No	Part Name	Part No	Part Name
1	Screw M5x14 (Allen)	8	Washer 5x15x1 (Ratchet)
2	start cover	9	Screw ST5x16 (Ratchet)
3	N/A	10	Start rope
4	Recoil Spring	11	Start handle
5	Recoil Spring Plate	12	Air director
6	Start rope Reel	13	Ratchet Starter
7	LH adjust sheath 1 (rubber washer)	14	Ratchet Spring

L - Brake Assembly

Part No	Part Name	Part No	Part Name
1	Rubber ring	16	Screw ST4x10
2	Retainer ring $\phi 5 \times \phi 10 \times 0.8$	17	Limit valve plate pin
3	Washer 6.5x18x1.5	18	Brake spring plate
4	Brake Torsion Rod Spring	19	Brake Strap
5	Pin bush $\phi 6 \times \phi 8 \times 13$	20	Brake spring (Big)
6	Main lever	21	N/A

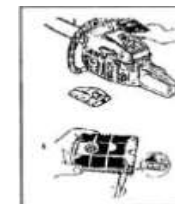
①: Weight and Dimensions are "without guide bar and chain"

MAINTENANCE

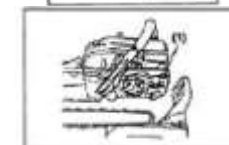
WARNING: Before cleaning, inspecting, or repairing your unit, make sure that the engine has stopped and is cool. Disconnect the spark plug to prevent accidental starting.

MAINTENANCE AFTER EACH USE:

Air Filter: Dust on the cleaner surface can be removed by tapping a corner of the cleaner against a hard surface. To clean dirt in the meshes, split the cleaner in to halves and clean it. When using compressed air, blow from the inside.

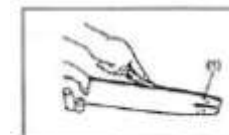


Oiling port: Dismount the guide bar and check the oiling pot for clogging.

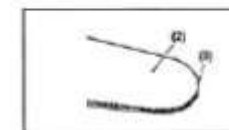


Guide bar: When the guide bars are dismantled, remove saw dust in the bar groove and the oiling port. Grease the nose sprocket from the feeding port on the tip of the bar.

- (1) Oiling port,
- (2) Grease port,
- (3) Sprocket



Others: Check for fuel leakage and loose fastenings and damage to major parts, especially handle joints and guide bar mounting. If any defects are found, make sure to have them repaired before operating again.



PERIODICAL SERVICE POINTS:

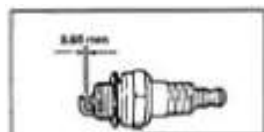
Cylinder Fins: Dust clogged between the cylinders fins will cause overheating of the engine. Periodically check and clean the cylinder fins after removing the air cleaner and the cylinder cover.

When installing the cylinder cover, make sure that switch wires and grommets are positioned correctly in place.

NOTE: Be sure to block the air intake hole.

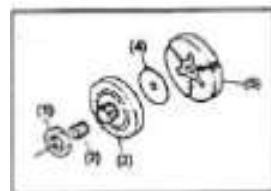


Spark plug: Clean the electrodes with a wire brush and reset the gap to 0.65mm as necessary.



Sprocket: Check for cracks and for excessive wear interfering with the chain drive. If the wearing is found obviously, replace it with new one. Never fit a new chain on a worn sprocket, or a worn chain on a new

- 1) Sprocket.
- 2) Sprocket
- 3) Needle bearing
- 4) Clutch drum
- 5) Spacer
- 6) Clutch shoe



Fuel Filter: Disassemble the filter and wash with Petrol, or replace with new one if needed.

Oil Filter: Disassemble the filter and wash with Petrol, or replace with new one if needed.

Front and Rear Dampers: Replace if adhered part is peeled or crack is observed on the rubber part.

MAINTENANCE OF SAW CHAIN AND GUIDE BAR:

Saw Chain

Your cutters need to be sharpened when:

WARNING:

It is very important for smooth and safe operation to keep the cutters always sharp.

- Sawdust becomes powder-like.
- You need extra force to saw in.
- The cut way does not go straight
- Vibration increases
- Fuel consumption increases

Cutter setting standards:

Before filing:

- Make sure the saw chain is held securely
- Make sure the engine is stopped
- Use a round file of proper size for your chain.

Chain type: 21 VB

File size: 3/16 in (4.76mm)

WARNING:

Be sure to wear safety gloves.

Part No	Part Name	Part No	Part Name
4	Fuel pipe	14	Trigger spring
4-1	Fuel pipe Grommet	15	Throttle trigger
4-2	Fuel Return Pipe	16	N/A
4-3	Primer Bulb	17	Base shock absorb rubber sheath
5	Shock Rubber	18	Screw M5X12 (Shock absorb rubber)
6	Petrol Tank Lid	19	Dust Cover(Shock Absorb Rubber)
7	Gasket (Petrol Tank Lid)	20	Throttle Rod
8	Buy # 6	21	Trigger control arm
9	Screw ST5x20	22	Rear hand grip cover
10	Base		

G - Ignition System

Part No	Part Name	Part No	Part Name
1	Screw M5x20 (Allen)	6	Stop Switch Wire
2	Washer 5 Spring	7	Nut M8
3	Ignition coil	8	Washer 8 Spring
4	Dust Cover(Spark plug)	9	Flywheel
5	Spark plug		

H - Clutch Assembly

Part No	Part Name	Part No	Part Name
1	Clutch Drum	5	Retainer (Clutch)
2	Needle bearing K12X15X14.5(Clutch Drum)	6	Clutch spring
3	Clutch washer $\phi 42 \times \phi 10 \times 1.5$	7	Clutch Shoe
4	Sprocket		

Part No	Part Name	Part No	Part Name
6	Washer 5 Spring	20	Venting mouth retainer ring $\phi 11$
7	Screw M5x14 (Allen)	21	Ball bearing 6202
8	Conical Spring	22	Dustproof Gasket
9	Screw ST5x14	23	Dustproof rubber plate
10	Spring seat	24	Right shock absorb block
11	Chain block	25	Chock Rod Seat
12	Screw M4x8 (Allen)	26	Chock Rod
13	Bar backing plate	27	Shock seat (Crankcase)
14	oil seal 15x28x4.5 (Small)	28	Dust Cover(Shock Seat)

D - Cylinder Assembly

Part No	Part Name
1	Screw M5x20 (Allen)
2	Cylinder $\phi 45$
3	Cylinder gasket

E - Lubricate System

Part No	Part Name	Part No	Part Name
1	oil output pipe	5	Sponge (Oil Pump)
2	Oil pump	6	Screw M4x14 (Allen)
3	Oil pump Cover Plate	7	Screw M4x8 (Allen)
4	Worm		

F - Base (Oil Bottle) Assembly

Part No	Part Name	Part No	Part Name
1	Balancer Grommet	11	N/A
2	Balancer Assy	12	N/A
3	Petrol Filter	13	Throttle trigger axle $\phi 6 \times 30$

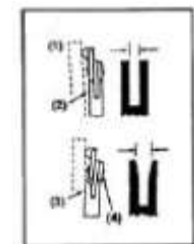
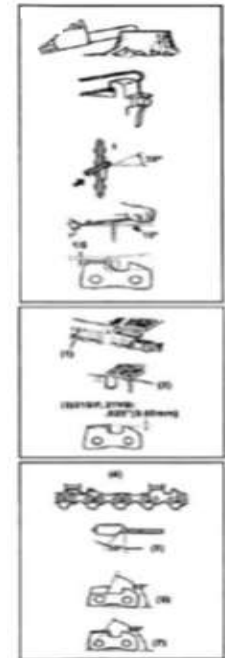
Place your file on the cutter and push straight forward. Keep the file position as illustrated. After every cutter has been set, check the depth gauge and file it to the proper level as illustrated.

WARNING: Be sure to round off the front edge to reduce the chance of kickback or lie-strap breakage.

- 1) Appropriate gauge checker.
- 2) Make the shoulder round
- 3) Depth gauge standard
Make sure every cutter has the same length and edge angles as illustrated in the figure
- 4) Cutter length
- 5) Filing angle
- 6) Side plate angle
- 7) Top plate cutting angle

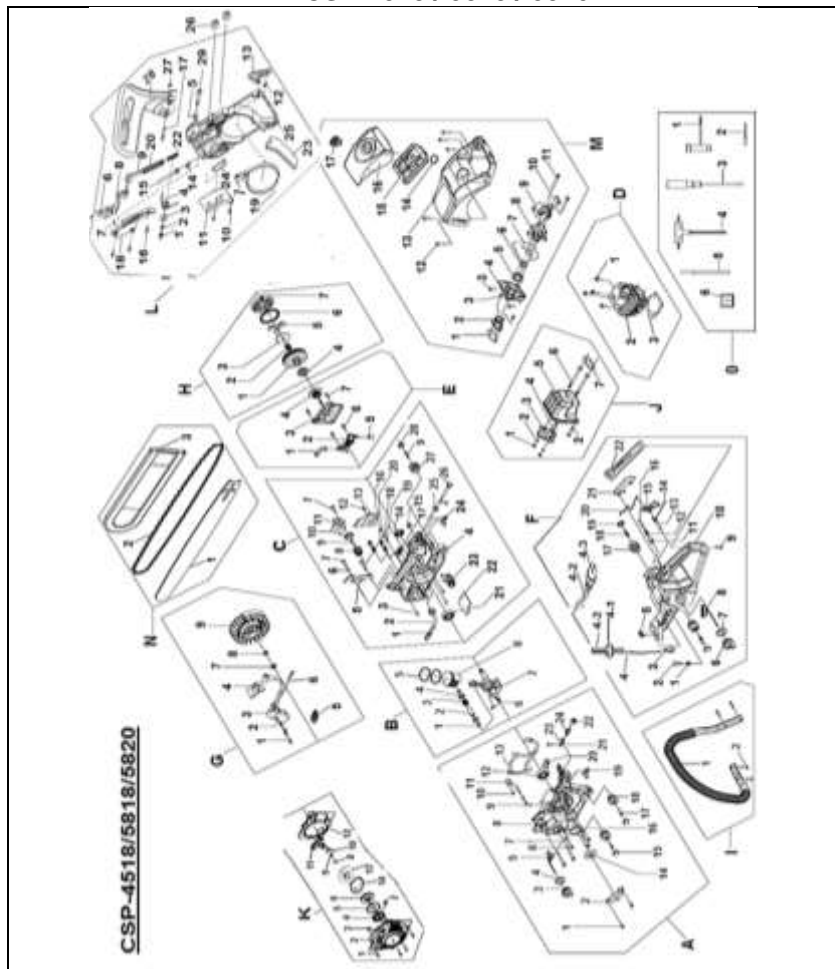
GUIDE BAR:

- Reverse the bar occasionally to prevent partial wear.
- The bar rail should always be a square. Check for wear of the bar rail. Apply a ruler to the bar and the outside of the cutter. If a gap is observed between them the rail is normal. Otherwise, the rail is worn. Such a bar needs to be corrected or replaced.
 - (1) Ruler
 - (2) Gap
 - (3) No gap
 - (4) Chain tilts



PARTS DIAGRAM & LIST

FB-CSP-4518 / 5818 / 5820



A-Left Crankcase Assembly

Part No	Part Name	Part No	Part Name
1	Screw M4x8 (Allen)	13	Gasket Crankcase
2	Oil seal bracket	14	Oil Seal 15x35x4.5 (Big)
3	Oil tank cover	15	Dust Cover(Shock Seat)
4	Washer 30x20x2 (Oil Tank Cover)	16	Stop ring 35 (Inner)
5	N/A	17	Screw ST5x16
6	Washer 5 (Spring)	18	Shock seat (Crankcase)
7	Screw M5x30 (Allen)	19	Left shock absorb block
8	Left crankcase	20	LH adjust sheath 2
9	Suction Jet	21	Screw M5x8 (Allen)
10	Circlip (Suction jet)	22	Switch sheath
11	Suction Tube	23	Ground Strip
12	Bearing 6202	24	Switch On/Off

B - Crank Connection Rod Piston Assy

Part No	Part Name	Part No	Part Name
1	Circlip Piston Pin	5	Piston ring $\phi 45$
2	Piston pin	6	Semi-circle key 3x3.7x10
3	Needle bearing K11x15x12.5(Piston Pin)	7	Crankshaft assembly
4	Needle bearing retainer ring	8	Piston $\phi 45$

C - Right Crankcase Assembly

Part No	Part Name	Part No	Part Name
1	Oil filter	15	Small shock absorb block
2	Oil pipe	16	Stud Bolt M8X40
3	Location pin $\phi 5 \times 10$	17	Chain Guide Block
4	Right crankcase	18	Venting mouth sponge
5	Dental Plate	19	Venting mouth