



OWNER'S/OPERATOR'S MANUAL

LB30

Dedicated
Landscape Blade



The **POWER** in Outdoor Power

Completely read and understand this manual **PRIOR** to using this product.

Lea y entienda este manual a fondo, **ANTES** de usar este producto.

Lisez complètement et comprenez ce manuel **AVANT** d'utiliser ce produit.



Limited Warranty Statement

All Maruyama commercial/ industrial products are warranted to the original purchaser to be free from defects in material and workmanship **from the date of purchase** for the time periods listed as follows:

Lifetime for solid steel driveshaft and ignition coils.

5 years for qualified IRON 5-YR™ commercial, institutional, or industrial use.

1 year for residential or **2 years** for commercial use with competitor's oil.

90 days for rental use.

Engine - Refer to engine manufacturer's warranty statement. Only Maruyama engines are covered by this limited warranty statement.

Any part of a Maruyama product found to be defective within the applicable warranty period shall, at Maruyama's option, be repaired or replaced without charge. Warranty consideration is obtained by delivering any Maruyama product believed to be defective to an Authorized Maruyama Servicing Dealer within the applicable warranty period.

The purchaser shall not be charged for diagnostic labor that leads to the determination that a warranted part is defective, if the diagnostic work is performed at a Maruyama Dealer.

Any warranted part which is not scheduled for replacement as required maintenance, or which is scheduled only for regular inspection to the effect of "repair or replace as necessary" shall be warranted for the warranty period. Any warranted part, which is scheduled for replacement as, required maintenance shall be warranted for the period of time up to the first scheduled replacement point for that part. Maruyama Mfg. Co., Inc. is liable for damages to other engine components caused by the failure of a warranted part still under warranty.

The purchaser is responsible for the performance of the required maintenance, as defined by Maruyama Mfg. Co., Inc. in the Owner's/Operator's Manual.

EMISSION-RELATED PARTS WARRANTY: In addition to the above warranty coverage, Maruyama Mfg. Co., Inc. will repair or replace, free of charge, for the original purchaser and each subsequent purchaser any emission-related part or parts found to be defective in material and workmanship for two (2) years from original retail delivery date **except catalytic converter. Catalytic converter is warranted one year from original retail delivery date. Emission-related parts are the carburetor assembly, the ignition coil assembly, the ignition rotor and the spark plug and catalytic converter.** Any replacement part that is equivalent in performance and durability may be used in non-warranty maintenance or repairs, and shall not reduce the warranty obligations of Maruyama Mfg. Co., Inc.

Effective June 1, 2000

This warranty does not cover the following:

1. Maintenance items (excluding defects in materials and workmanship) including hoses, spark plugs, starter rope, air and fuel filters, clutch shoes, vibration isolators, throttle cables and all cutting attachments, etc.
2. Extra expenses including shipping and handling, travel, payment for lost time or pay and for any inconvenience and storage.
3. Alterations or modifications including aftermarket parts not authorized by Maruyama U.S., Inc.
4. Wear, accident, abuse, neglect, misuse, negligence, improper fuels, lubricants, fuel mixtures (when applicable), or failure to operate or maintain the product in accordance with instructions approved by Maruyama.

Repair or replacement as provided under this warranty is the exclusive remedy of the consumer. Maruyama shall not be liable for any incidental or consequential damages for breach of any express or implied warranty on these products except to the extent prohibited by applicable law. Any implied warranty of merchantability or fitness for a particular purpose on these products is limited in duration to the warranty period as defined in the limited warranty statement. Maruyama reserves the rights to change or improve the design of the product without notice and does not assume obligation to update previously manufactured products.

This warranty provides you with specific legal rights, which may vary from state to state.

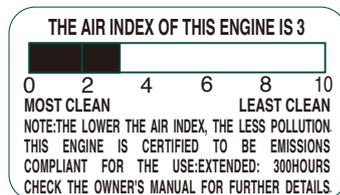
It is the Owner's and Dealer's responsibility to make sure the Warranty Registration Card is properly filled out and mailed to Maruyama U.S., Inc. Proof of purchase and registration will be required in order to obtain warranty service.

To locate an Authorized Maruyama Servicing Dealer nearest you, contact:

Maruyama U.S., Inc.
4770 Mercantile Drive, suite 100,
Fort Worth, TX 76137
(940) 383-7400
maruyama@maruyama-us.com
www.maruyama-us.com

Effective June 1, 2000

⚠ WARNING: ⚠
The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.



CER230HT

FEDERAL EMISSION CONTROL WARRANTY STATEMENT YOUR WARRANTY RIGHTS AND OBLIGATIONS

The **U.S. Environmental Protection Agency (EPA)** and Maruyama Manufacturing Company, Inc. are pleased to explain the **emission control system warranty** on your small off-road engine. New 1997 and later model year small off-road engines must be designed, built and equipped, at the time of sale, to meet the U.S. EPA regulations for small off-road engines. The equipment engine must be free from defects in materials and workmanship which cause it to fail to conform with U.S. EPA standards for the first two years of engine use from the date of sale to the ultimate purchaser. Maruyama Manufacturing Company, Inc. must warrant the emission control system on your small off-road engine for the period of time listed above provided there has been no abuse, neglect or improper maintenance of your small off-road engine.

Emission durability of 300 hours.

Your emission control system may include parts such as the carburetor or fuel injection system, the ignition system, and catalytic converter. Also included may be hoses, belts, and connectors and other emission related assemblies.

Where a warrantable condition exists, Maruyama Manufacturing Company, Inc. will repair your small off-road engine at no cost to you, including diagnosis (if the diagnostic work is performed at an authorized dealer), parts, and labor.

MANUFACTURER'S WARRANTY COVERAGE:

The 1997 and later model year small off-road engines are warranted for two years. If any emission-related part on your engine is defective, the part will be repaired or replaced by Maruyama Manufacturing Company, Inc. free of charge.

Introduction

Thank you for purchasing a MARUYAMA product.

MARUYAMA, its distributors, and dealers want you to be completely satisfied with your new product. Please feel free to contact your local Authorized Service Dealer for help with service, genuine MARUYAMA parts, or other information you may require.

Whenever you contact your Authorized Service Dealer or the factory, always know the serial number of your product. This number will help the Service Dealer or Service Representative provide exact information about your specific product. You will find the model and serial number located in a unique place on the product (Product Description on page US-7).

For your convenience, write the product model name and serial number in the space below.

Model Name _____
Serial No. _____

Read this manual carefully to learn how to operate and maintain your product correctly. Reading this manual will help you and others avoid personal injury and damage to the product.

Although MARUYAMA designs, produces and markets safe, state-of-the-art products, you are responsible for using the product properly and safely. You are also responsible for training persons who you allow to use the product about safe operation.

The MARUYAMA warning system in this manual identifies potential hazards and has special safety messages that help you and others avoid personal injury, even death.

DANGER, WARNING and CAUTION are signal words used to identify the level of hazard. However, regardless of the hazard, be extremely careful.

DANGER signals an extreme hazard that will cause serious injury or death if the recommended precautions are not followed.

WARNING signals a hazard that may cause serious injury or death if the recommended precautions are not followed.

CAUTION signals a hazard that may cause minor or moderate injury if the recommended precautions are not followed. Two other words are also used to highlight information. “Important” calls attention to special mechanical information and “Note” emphasizes general information worthy of special attention.

Safety

Operator Safety

1. Read and understand this Owner’s/Operator’s Manual before using this product. Be thoroughly familiar with the proper use of this product.
2. Never allow children to operate the Pruner. It is not a toy. Never allow adults to operate the unit without first reading the Owner’s/Operator’s Manual.
3. Always wear eye protection that complies with ANSI (American National Standards Institute) Z87-1.



4. Always wear hearing protection.



5. Always wear heavy, long pants, a long sleeved shirt, boots and gloves. Do not wear loose clothing, jewelry, short pants, sandals, or go barefoot. Secure hair so it is above shoulder length.
6. Never operate this Pruner when you are tired, ill, or under the influence of alcohol, drugs or medication.

7. Never start or run the engine inside a closed room or building. Breathing exhaust fumes can cause death.

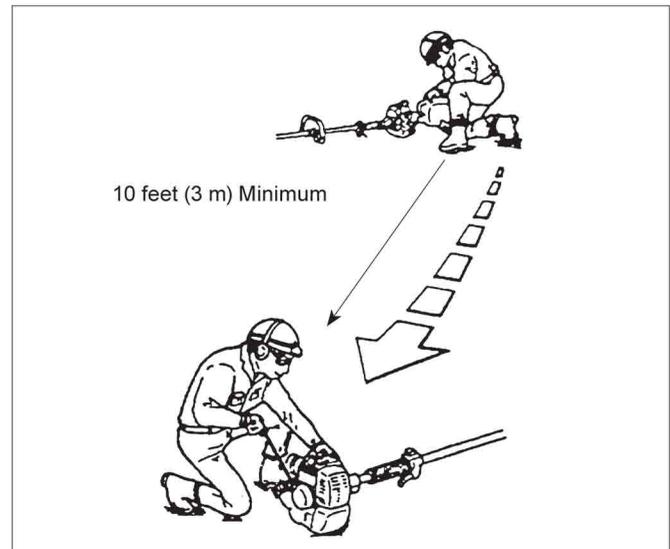


8. Keep handles clean of oil, fuel and dirt.

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1. Make sure the Unit is assembled correctly and that the cutting mechanism is correctly installed and securely fastened as instructed in the Assembly section.
 2. Inspect the Unit before each use. Replace damaged parts. Check for fuel leaks. Make sure all fasteners are in place and tightened securely. Follow the maintenance instructions beginning on page 8.
 3. Never use a cutting mechanism or replacement parts that are not approved by MARUYAMA.
 4. Maintain the unit according to the recommended maintenance intervals and procedures in the Maintenance section.
 5. Shut off the engine and be certain the cutting mechanism has completely stopped moving before inverting the unit, performing maintenance on or working on the machine.
 6. If running problems or excessive vibration occur, stop immediately and inspect the unit for the cause. If the cause cannot be determined or is beyond your ability to correct, return the unit to your servicing dealer for repair.

Fuel Safety

1. Gasoline is highly flammable and must be handled and stored carefully. Use a container approved for fuel to store gasoline and/or fuel/oil mixture.
2. Mix and pour fuel outdoors, where there are no sparks or flames.
3. Do not smoke near fuel or Pruner, or while using the Pruner.
4. Do not overfill the fuel tank. Stop filling 1/4-1/2 in. (6 mm-13 mm) from the top of the tank.
5. Wipe up any spilled fuel before starting the engine.
6. Move the unit at least 10 feet (3m) away from the fueling location before starting the engine.

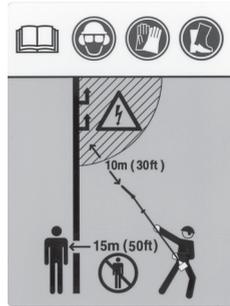


7. Do not remove the fuel tank cap while the engine is running, or right after stopping the engine.
8. Allow the engine to cool before refueling.
9. Drain the tank and run the engine dry before storing the unit.
10. Store fuel and unit away from open flame, sparks and excessive heat. Make sure fuel vapors cannot reach sparks or open flames from water heaters, furnaces, electric motors, etc.

Safety and Instruction Decals



Safety Decals and instructions are easily visible to the operator and are located near any area of potential danger. Replace any decal that is damaged or lost.



ON SHAFT
(Part No. 231896)



ON SHAFT
(Part No. 219937)

Symbol explanation



Read and understand this Owner's/ Operator's Manual.



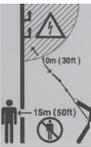
- Wear head protection, where there is a risk of falling objects.
- Wear eye protection, while operating the Pruner.
- Wear ear protection, while operating the Pruner.



Wear gloves, while operating the Pruner.



Wear foot protection, while operating the Pruner.

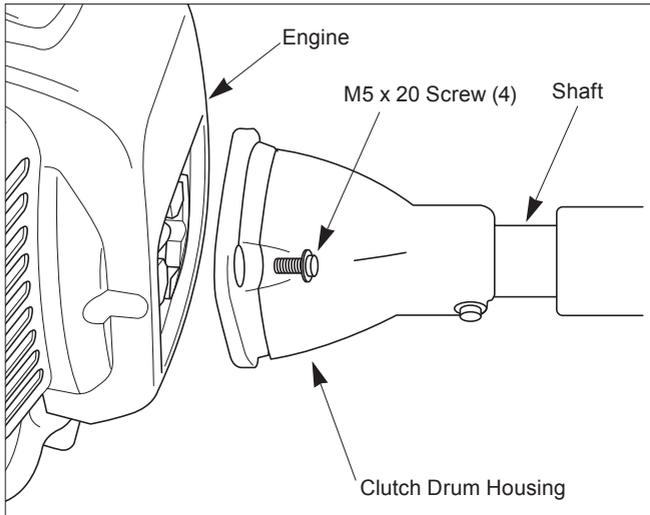


- The distance between the machine and bystanders shall be at least 15m.
- Watch for electrical shock. Keep sufficient distance away from electrical power line.
- The distance between the machine and electrical power line shall be at least 10m (30ft).

Assembly

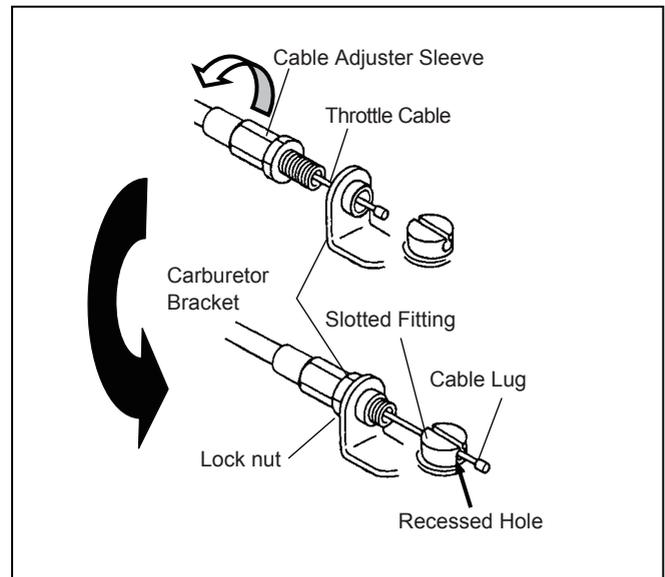
Assembling Engine and Drive Shaft Assembly

The drive shaft and clutch drum housing are assembled. Attach the clutch drum housing to the engine using the four M5 x 20 screws supplied with the unit.

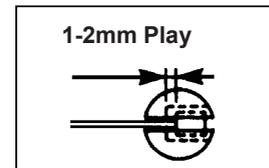


Connecting Throttle Cable and Stop Switch Wires

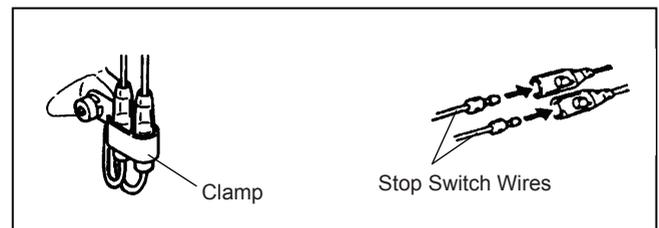
1. Loosen the knob and remove the air filter cover, insert the throttle cable through the carburetor bracket, then screw a cable adjuster sleeve into the carburetor bracket fully.
2. Position the slotted fitting on the carburetor so the recessed hole for the lug is away from the cable adjuster sleeve.
3. Rotate the carburetor throttle cam and slip the throttle cable through the slot in the slotted fitting, making sure the cable lug drops into the recessed hole.
4. Operate the throttle trigger a few times to make sure that it works correctly.



5. Adjust the cable adjuster sleeve so the stop on the carburetor throttle cam just contacts the throttle stop and the cable position keep 1-2mm play between cable lug and slotted fittings when the throttle trigger is fully depressed.

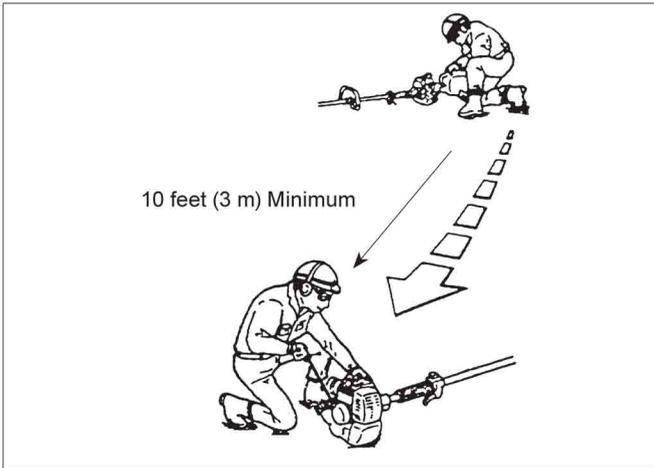


6. When the throttle cable is adjusted correctly, tighten the lock-nut.
7. Plug the stop switch wires into the matching connectors from the engine. Note that wire polarity is not important.
8. Lap and fix the stop switch wires and connectors with clamp.



9. Reinstall the air filter cover and tighten the knob.

FUEL INFORMATION for Maruyama's 2-stroke engine:



Recommended Oil Type

Only use a two-stroke engine oil formulated for use in high-performance, air-cooled two-stroke engines. MARUYAMA brand two-stroke oil is formulated for use in high-performance, air-cooled two-stroke engines.

IMPORTANT: Do not use National Marine Manufacturer's Association (NMMA) or BIA certified oils. This type of two-stroke engine oil does not have the proper additives for aircooled, two-stroke engines and can cause engine damage.

Do not use automotive motor oil. This type of oil does not have the proper additives for aircooled, two-stroke engines and can cause engine damage.

Recommended Fuel Type

Use clean, fresh lead-free gasoline, including *oxygenated* or *reformulated* gasoline, with an octane rating of 89 or higher. To ensure freshness, purchase only the quantity of gasoline that can be used in 30 days. Use of lead-free gasoline results in fewer combustion chamber deposits and longer spark plug life. Use of premium grade fuel is not necessary or recommended.

Use of Fuel Additives

IMPORTANT: NEVER USE ALCOHOL, GASOHOL CONTAINING MORE THAN 10% ALCOHOL BECAUSE ENGINE FUEL SYSTEM DAMAGE COULD RESULT.

DO NOT USE FUEL ADDITIVES OTHER THAN THOSE MANUFACTURED FOR FUEL STABILIZATION DURING STORAGE SUCH AS MARUYAMA'S STABILIZER/CONDITIONER OR A SIMILAR PRODUCT. MARUYAMA'S STABILIZER/CONDITIONER IS A PETROLEUM DISTILLATE BASED CONDITIONER/STABILIZER.

MARUYAMA DOES NOT RECOMMEND STABILIZERS WITH AN ALCOHOL BASE SUCH AS ETHANOL, METHANOL OR ISO-PROPYL. ADDITIVES SHOULD NOT BE USED TO TRY TO ENHANCE THE POWER OR PERFORMANCE OF MACHINE.

Mixing Gasoline And Oil

IMPORTANT: The engine used on this Pruner is of a two-stroke design. The internal moving parts of the engine, i.e., crankshaft bearings, piston pin bearings and piston to cylinder wall contact surfaces, require oil mixed with the gasoline for lubrication.

Failure to add oil to the gasoline or failure to mix oil with the gasoline at the appropriate ratio will cause major engine damage which will void your warranty.

For your fuel premix, use MARUYAMA Premium two-stroke Oil Mix, or equivalent ISO-L-EGD & JASO FD oil with a minimum 89 octane high quality gasoline. MARUYAMA two-stroke oil is specially formulated to meet the requirements of high-performance, low-emission air-cooled two-stroke engines. Use of other oils may lead to service issues which may not be covered by your warranty.

Fuel Mixture

The fuel: oil ratio is 50 parts gasoline to 1 part oil or 50:1.



Note: Never use a mixing ratio less than 50:1 regardless of the oil package mixing instructions. Ratios less than 50:1, (for example, 60:1, 80:1, 100:1), reduce the amount of lubrication to the internal moving parts of the engine and can cause damage.

Fuel Mixture Chart

Gasoline	50:1 two-stroke oil
1 gallon	2.6 oz.
2 gallons	5.1 oz.
5 gallons	12.8 oz.
1 liter	20 mL
5 liters	100 mL

Mixing Instructions

IMPORTANT: NGXGT mix gasoline and oil directly in the wplu fuel tank.

1. Always mix fuel and oil in a clean container approved for gasoline.
2. Mark the container to **FGP VKEI** it as fuel **OKZ** hqt "the 4/utqng" wplu
3. Use regular unleaded gasoline and fill the container with J CNH the required amount of gasoline.
4. Pour the correct amount of QKN into the container CPF "VJ GP "CF F" the remaining amount of gasoline.
5. Close the container tightly and shake it momentarily to evenly mix the oil and the gasoline before filling the fuel tank.

6. When refilling the Pruner fuel tank, clean around the fuel tank cap to prevent dirt and debris from entering the tank during cap removal.
7. Always shake the premix fuel container momentarily before filling the fuel tank.
8. Always use a spout or funnel when fueling to reduce fuel spillage.
9. Fill the tank only to within 1/4-1/2 in. (6 mm-13 mm) from the top of the tank. Avoid filling to the top of the tank filler neck.

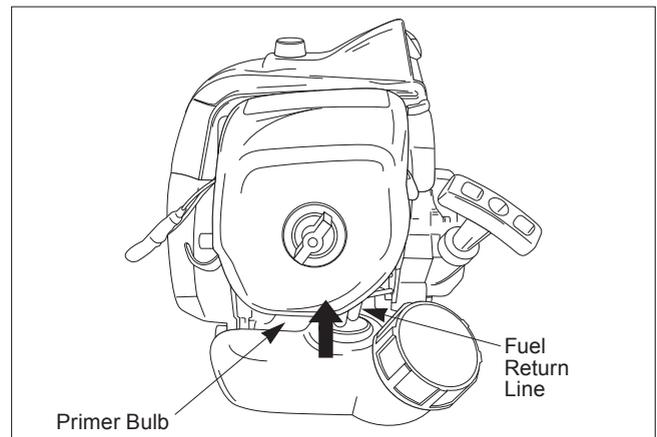
Starting And Stopping Before Starting The Engine

1. Fill the fuel tank as instructed in the Before Operation section of this manual (US-14).
2. Rest the Pruner on the ground.
3. Make sure the chain and guide bar are clear of any broken glass, nails, wire, rocks or other debris.
4. Keep all bystanders, children and animals away from the working area.

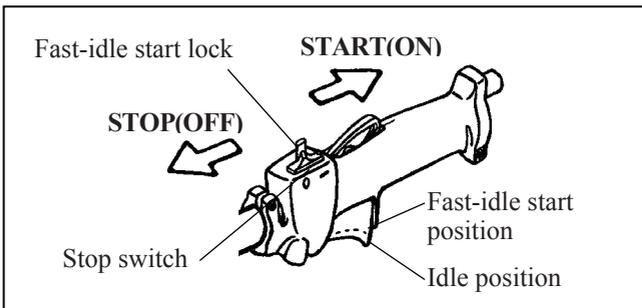
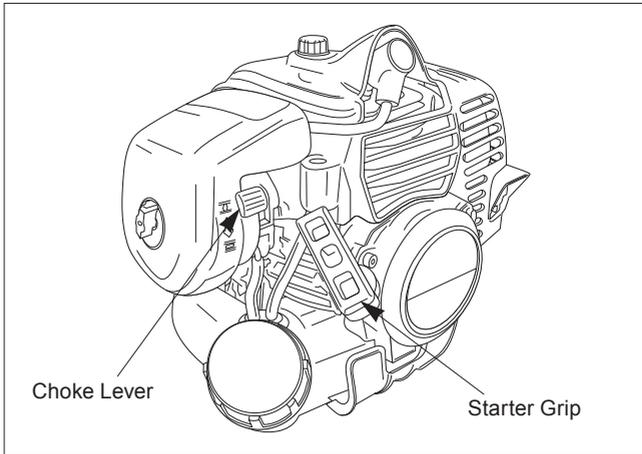
Cold Starting Procedure

This wplu is equipped with a fuel primer and a choke system. To start a "cold" engine properly, perform the following procedure:

1. Pump the primer bulb at the bottom of the carburetor until fuel can be seen flowing through the fuel return line to the fuel tank. (Flowing fuel should be almost clear, not foamy or full of bubbles.)



2. Move the choke lever to the closed () position and move the stop switch to the “ON” position.



⚠ WARNING

POTENTIAL HAZARD

- The components of your recoilstarter assembly are under high spring tension. If improperly disassembled these parts may strike you with considerable force, possibly causing personal injury.

WHAT CAN HAPPEN

- Contact with the parts can cause severe personal injury.

HOW TO AVOID THE HAZARD

- Never attempt to disassemble your recoil starter assembly yourself. Always consult your authorized MARUYAMA dealer for repair by qualified service technicians.

⚠ CAUTION

- Do not pull the Starter rope all the way out.

3. Lock the throttle trigger in the fast-idle start position, then pull the starter grip.
4. After the engine starts, squeeze and release the throttle trigger to return it to the idle position, then move the choke lever to the open () position.

If the engine stops running before you move the choke lever to the open () position:

- A. Go ahead and open the choke.
- B. Make sure the throttle trigger is set to the fast-idle position.
- C. Pull the starter grip until the engine starts.

Hot Restart

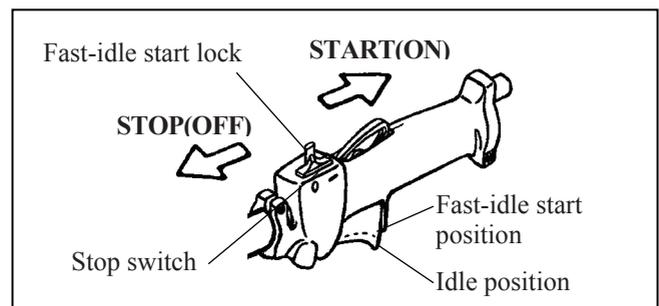
To start an engine that is already warmed up (hot restart), or if the ambient temperature exceeds 68°F (20°C):

1. Pump the primer bulb at the bottom of the carburetor until fuel can be seen flowing through the fuel return line to the fuel tank.
2. Move the choke lever to the open () position and move the stop switch to the “ON” position.
3. Leave the throttle trigger in the idle position and pull the starter grip.
4. If the engine fails to start after three to four pulls, follow the instruction in the Cold Starting Procedure section (US-17).

If the engine fails to start after you follow the above procedures, contact an authorized MARUYAMA dealer.

To Stop The Engine

1. Release the throttle trigger.
2. Slide the stop switch to the “STOP” position.



Maintenance

Maintenance, replacement or repair of emission control devices and systems may be performed by any repair establishment or individual; however, warranty repairs must be performed by a dealer or service center authorized by MARUYAMA Manufacturing Company, Inc. The use of parts that are not equivalent in performance and durability to authorized parts may impair the effectiveness of the emission control system and may have a bearing on the outcome of a warranty claim.

Maintenance on today's low-emission engines is even more critical for longest life and best performance. particularly critical are air and fuel filters, spark plug heat range, cooling air intake area and proper gaps of coil and plug.

Idle Speed Adjustment

This engine is equipped with a non-adjustable fuel mixture carburetor. The engine idle speed is the only adjustment for the operator.

⚠ WARNING

- Idle speed adjustment should be checked each time the unit is operated.

⚠ WARNING

POTENTIAL HAZARD

- Engine must be running to make carburetor adjustments.
- When engine is running, saw chain is moving and other parts are moving.

WHAT CAN HAPPEN

- Contact with moving saw chain or other moving parts could cause serious personal injury or death.

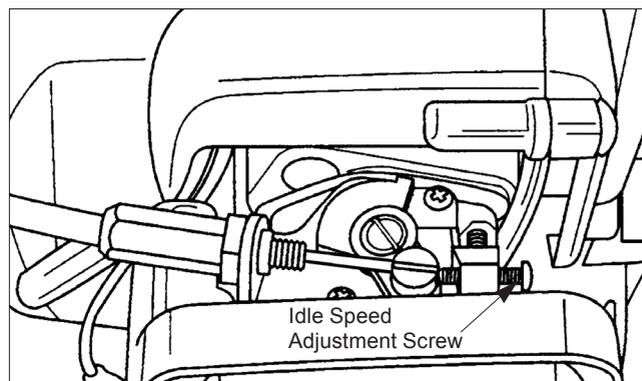
HOW TO AVOID THE HAZARD

- Keep hands, feet and clothing away from saw chain and other moving parts.
- Keep all bystanders and pets away from unit while making carburetor adjustments.

The cutting head may be rotating during idle speed adjustment. Wear the recommended personal protective equipment and observe all safety instructions. Keep hands and body away from the cutting head.

When the throttle trigger is released, the engine should return to an idle speed between 2700 and 3300 RPM, or just below the clutch engagement speed. The cutting head must not rotate and the engine should not stall (stop running) at engine idle speed.

To adjust the engine idle speed, rotate the idle speed adjustment screw on the carburetor.



- Turn the idle speed screw in (clockwise) to increase the engine idle speed.
- Turn the screw out (counterclockwise) to decrease the engine idle speed.

If idle speed adjustment is necessary, and after adjustment the cutting head rotates or the engine stalls, stop using the Pruner immediately!

Contact your local authorized MARUYAMA Dealer for assistance and servicing.

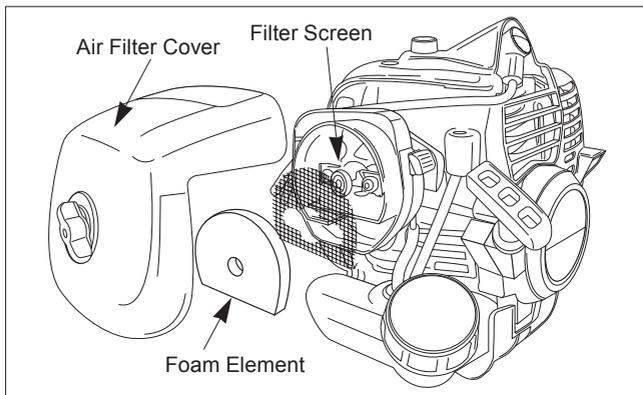
Air Filter

Maintenance Interval

- The air filter should be cleaned **daily**, or more often when working in extremely dusty conditions.
- Replace after every 100 hours of operation.

Air Filter Cleaning

1. Loosen the knob and remove the air filter cover.
2. Remove the foam element and filter screen from the air filter body.
3. Clean the foam element and filter screen with warm, soapy water. Let the screen and element dry completely.
4. Apply a light coat of SAE 30 motor oil to the foam element and squeeze out all excess oil.
5. Reassemble the filter screen and foam element to the air filter body.



6. Reinstall the air filter cover and tighten the knob.

Fuel Filter

Maintenance Interval

The fuel filter should be replaced after every 100 hours of operation.

Fuel filters needing more frequent replacement may indicate debris in fuel tank.

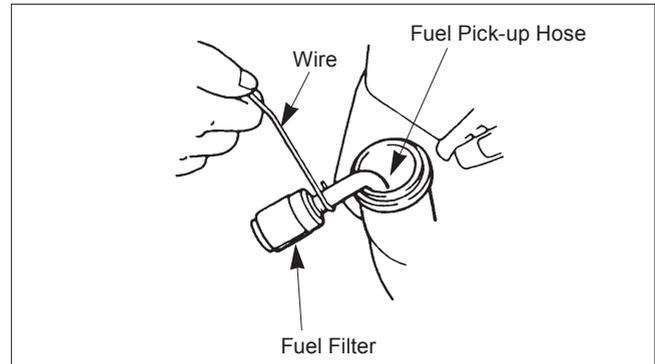
Fuel Filter Replacement

The fuel filter is attached to the end of the fuel pick-up hose inside the fuel tank.

To replace the fuel filter:

1. Make sure the fuel tank is empty.

2. Remove the fuel cap.
3. Using a wire hook, gently pull the fuel filter out through the fuel filler opening. Use caution not to “fishhook” the fuel tube. Replace immediately if punctured!



4. Grasp the fuel hose next to the fuel filter fitting and remove the filter, but do not release the hose.
5. While still holding on to the fuel hose, attach the new fuel filter.
6. Drop the new fuel filter back into the fuel tank.
7. Make sure that the fuel filter is not stuck in a corner of the tank, and that the fuel hose is not doubled over (kinked) before refueling.

Spark Plug

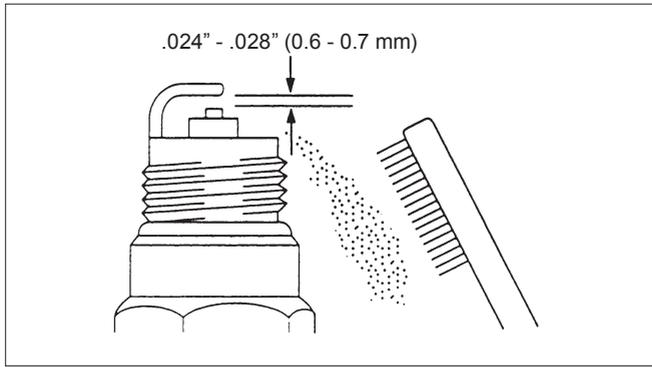
Maintenance Interval

- The spark plug should be removed from the engine and checked after each 25 hours of operation.
- Replace the spark plug after every 100 hours of operation.

Spark Plug Maintenance

1. Twist the high tension lead boot on the spark plug back and forth a couple of times to loosen the boot, then pull the boot off of the spark plug.
2. Remove the spark plug.

- Clean the electrodes with a stiff brush.



- Adjust the electrode air gap to .024-.028 in. (0.6-0.7 mm).
- Replace the spark plug if it is oil-fouled, damaged, or if the electrodes are worn down.
- Do not overtighten the spark plug when installing. The tightening torque is 95-148 in.-lbs. (10.7-16.6 N·m).
- Always use only the specific heat range of spark plug. This is particularly critical with today's low-emission engines. For best results, use the exact replacement.

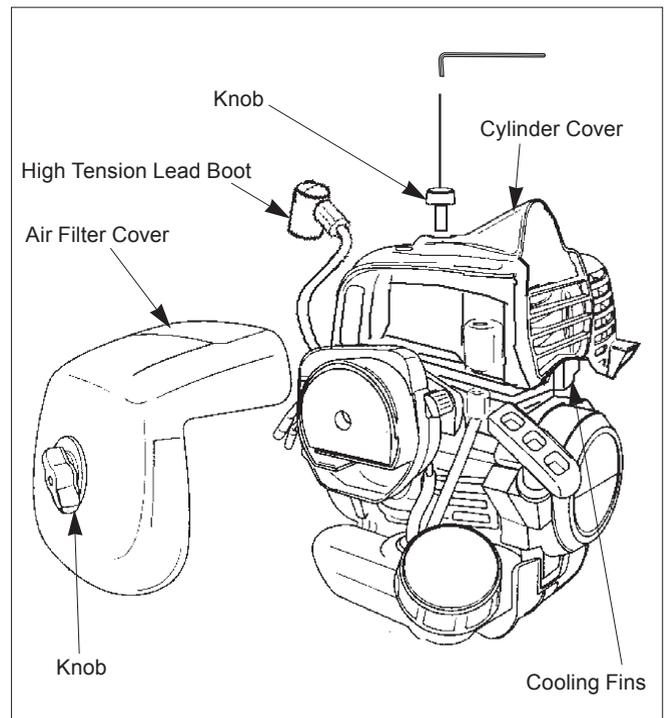
Cylinder Cooling Fins

Maintenance Interval

- The cylinder cooling fins should be cleaned after every 25 hours of operation, or once a week, whichever comes first.
- Air must flow freely around and through the cylinder cooling fins to prevent engine overheating. Leaves, grass, dirt and debris buildup on the fins will increase the operating temperature of the engine, which can reduce engine performance and shorten engine life.

Cooling Fin Cleaning

- With the engine at ambient (room) temperature, loosen the knob and remove the air filter cover.



- Twist the high tension lead boot on the spark plug back and forth a couple of times to loosen the boot, then pull the boot off of the spark plug.
- Loosen the knob and lift off the cylinder cover.
- Clean all dirt and debris from the cooling fins and from around the cylinder base.

5. DO NOT overlook cleaning of the cooling air intake area below the crankcase and above the fuel tank! This area must be free of debris and obstruction for the engine to cool properly.
6. Reinstall the fan cover and the filter cover.

Spark Arrester

WARNING

POTENTIAL HAZARD

- Muffler surface becomes hot when unit is in operation and remains hot for some time after the engine is shut off.

WHAT CAN HAPPEN

- Contact with hot muffler surfaces could cause a burn.

HOW TO AVOID THE HAZARD

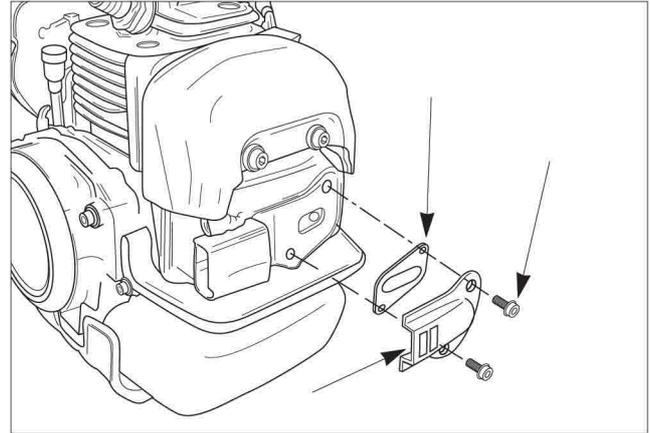
- Make sure the muffler is cool before inspecting and cleaning the spark arrester.

Maintenance Interval

- The spark arrester should be inspected and cleaned after every 25 hours of use.
- Replace the screen if it cannot be thoroughly cleaned, or if it is damaged.

Spark Arrester Maintenance

1. With the engine at ambient (room) temperature, loosen the knob and remove the air filter cover.
2. Twist the high tension lead boot on the spark plug back and forth a couple of times to loosen the boot, then pull the boot off of the spark plug.
3. Loosen the knob and lift off the cylinder cover.
4. Remove and clean the tail, gasket and spark arrester with a safety solvent and a stiff brush. If any part cannot be thoroughly cleaned, it must be replaced.



5. Reinstall the spark arrester and tail onto the muffler, then reinstall and tighten the two socket head screws.
6. Reinstall the cylinder cover and the air filter cover.

Exhaust Muffler

Maintenance Interval

The muffler should be inspected and cleaned after each 100 hours of use.

Muffler Maintenance

1. With the engine at ambient (room) temperature, loosen the knob and remove the air cleaner cover.
2. Twist the high tension lead boot on the spark plug back and forth a couple of times to loosen the boot, then pull the boot off of the spark plug.
3. Loosen the knob and lift off the cylinder cover.
4. Remove the spark arrester (see spark arrester maintenance), Clean the muffler with a stiff brush.

IMPORTANT: Don't use solvent for cleaning inside of muffler, because of catalytic converter.

Be careful not to allow any dirt or debris to fall into the exhaust port, as this can cause engine damage.

General Cleaning and Tightening

⚠ WARNING

POTENTIAL HAZARD

- When engine is running, saw chain is moving and other parts are moving.

WHAT CAN HAPPEN

- Contact with moving saw chain or other moving parts could cause serious personal injury or death.

HOW TO AVOID THE HAZARD

- Always turn off your pruner before you clean or perform any maintenance on it.

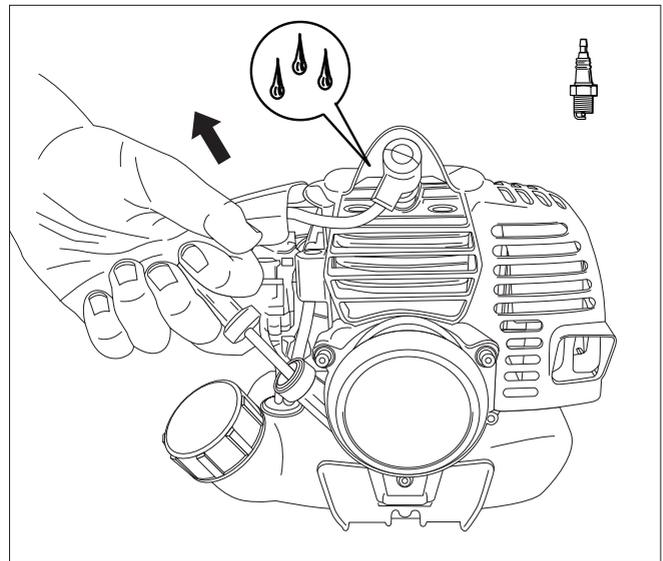
The MARUYAMA ω pkv will provide maximum performance for many, many hours if it is maintained properly.

Good maintenance includes regular checking of all fasteners for correct tightness and cleaning the entire machine.

Storage

For long term storage of the Pruner:

1. Empty the fuel tank into a suitable fuel storage container.
2. Pump the primer bulb on the carburetor until all fuel is discharged through the clear fuel return hose.
3. Run the engine to remove any fuel that may remain in the carburetor.
4. Perform all regular maintenance procedures and any needed repairs.
5. Remove the spark plug and squirt a very small amount of oil into the cylinder.



⚠ CAUTION

POTENTIAL HAZARD

- Oil may squirt out of the spark plug opening when you pull the starter grip.

WHAT CAN HAPPEN

- Oil can cause eye injuries.

HOW TO AVOID THE HAZARD

- Protect your eyes and keep your face away from the spark plug opening.

6. Pull the starter grip once.
7. Slowly pull the starter grip to bring the piston to the top of the cylinder (TDC).
8. Reinstall the spark plug.
9. Store the ω pkv in a dry place away from excessive heat, sparks or open flame.

Troubleshooting

Problem	Cause	Action
Engine Will Not Start	STOP switch set to off position Empty fuel tank Primer bulb wasn't pushed enough Engine flooded	Move switch to on position Fill fuel tank Press primer bulb until fuel flows through fuel return line Use warm engine starting procedure
Engine Will Not Idle	Idle speed set incorrectly	Set idle speed
Engine Lacks Power or Stall When Cutting	Throttle wire has come loose Dirty air filter Clogged spark arrester or exhaust port.	Tighten throttle wire Clean or replace air filter Clean spark arrester or exhaust port.

If further assistance is required, contact your local authorized MARUYAMA service dealer.

Maintenance Period

Maintenance	Daily	Every 25 hours	Every 50 hours	Every 100 hours
Check and replenish fuel	●			
Check for fuel leakage	●			
Check bolts, nuts and screws for tightness or missing	●			
Check engine idle speed adjustment	●			
■ Clean air filter element	●			
Clean spark plug and adjust electrode gap		●		
■ Remove dust and dirt from cylinder fins		●		
● Clean spark arrester		●		
Tighten bolts and nuts			●	
● Remove carbon deposits in exhaust port			●	
Replace fuel filter				●
● Remove carbon deposits on piston head and combustion chamber				●
● Remove carbon deposits in transfer port				●
Replace fuel tube, fuel tank cap gasket	It is recommended to replace every 3 years			

●: Service to be performed by an authorized MARUYAMA engine dealer.

■: Service more frequently under dusty conditions.

NOTE:

The service intervals indicated are to be used as a guide.

Service to be performed more frequently as necessary depending on operating condition.

Use MARUYAMA standard 50:1 two-stroke engine oil.

Specifications

	LB30
Weight ※ 1(lbs.)	14.75 lbs / 6.7 kg
Engine Displacement (cm ³)	30.1
Anti Vibration	Engine mount
Carburetor	Walbro Diaphragm Type
Ignition System	Solid State
Fuel Tank Capacity (qts.)	0.63 (0.6L)
Gas to Oil Ratio	50:1
Spark Plug	NGK BPM8Y
Spark plug Gap (in.)	.024-.028 (0.6-0.7mm)
EPA and CARB Approved	Phase 3, Tier 3

Emission durability of 300 hours.

※1. Dry weight without fuel.

LB / Landscape Blade - version V

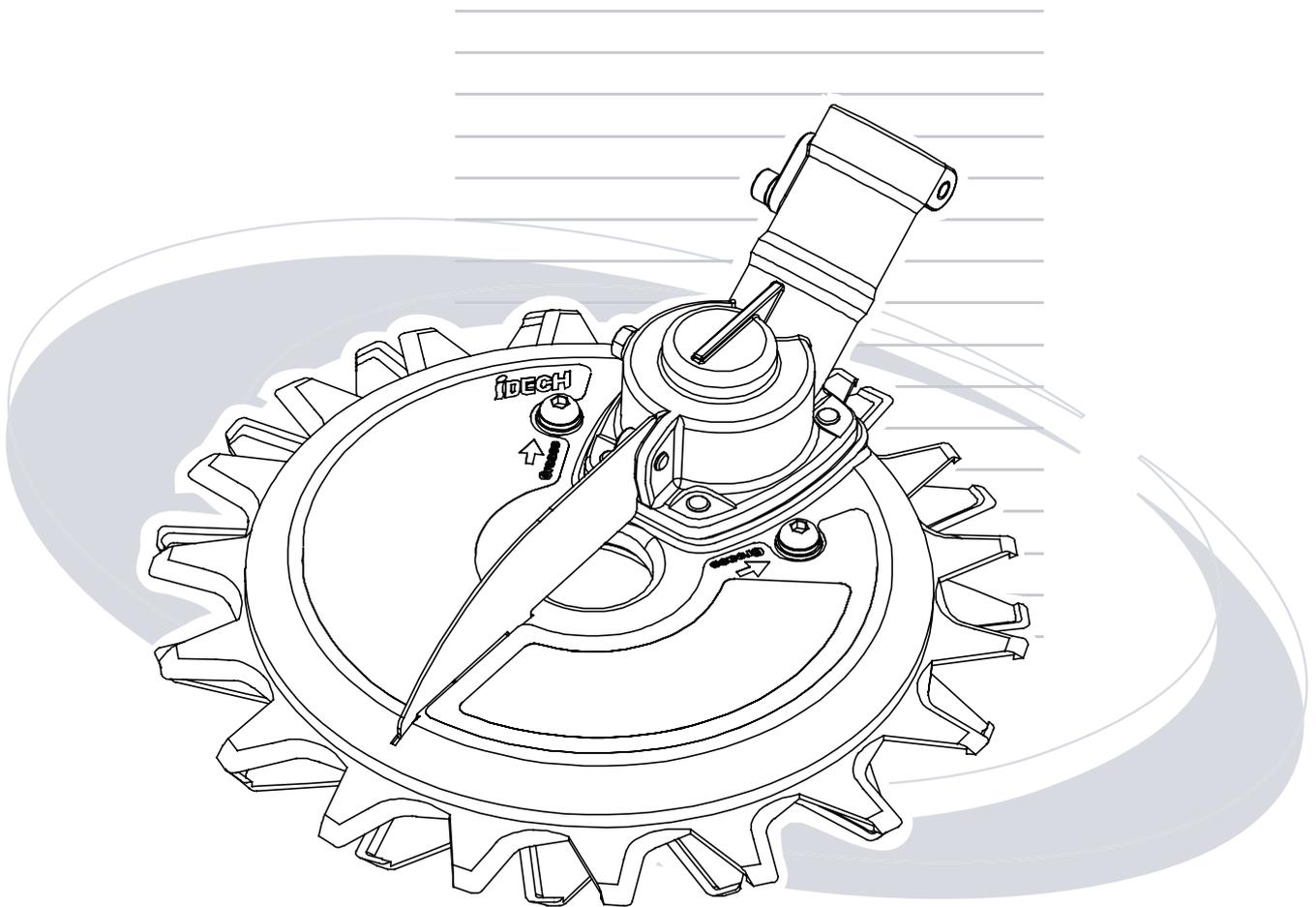
- * The 2 blades on the LB move opposite directions to one another. They do not move in “scissor” motion.
- * Maruyama’s Landscape Blade is great for cutting around gravel, bunkers, sand traps because the gravel/sand stays in place and does not “fly” up and damage items (cars, etc.) closeby.
- * The LB30 is the ONLY LB in America that is capable of cutting in and around water.

MARUYAMA

OPERATOR'S MANUAL

**LANDSCAPE BLADE
ATTACHMENT**

Type 5



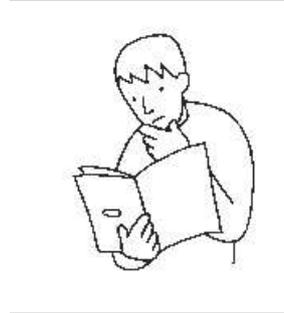
Premium Outdoor Power Equipment  **MARUYAMA** *Extraordinary.*

Completely read and understand this manual prior to using this product .

SAFETY ISSUES

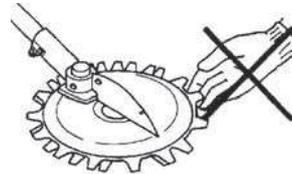
Very important

Read and understand all the safety warnings in this Owner's Manual before using the Landscape Blade .



DANGER!

Be careful not to touch the blades. The blades are sharp and may cause serious injury.



WARNING!

Wear safety glasses while using the Landscape Blade .

**Wear gloves when handling the Landscape Blade .
Be very careful of the blades.**

Wear protective clothing for grass cutting work.



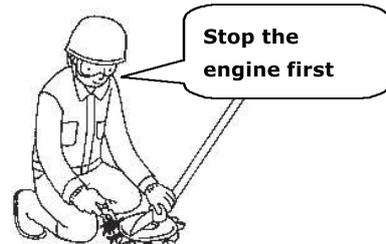
Allow the Landscape Blade to cool sufficiently after operation, before you touch it.

The Landscape Blade heats up during operation due to the friction of the blades.

Danger!
Very Hot!



If a foreign object, such as a piece of wire becomes tangled in the Landscape Blade stopping blade rotation, stop the engine first before removing the object. If blade rotation is still not smooth after removing the object, see the "Maintenance" section of this manual (Page 8) for further troubleshooting information.



ATTENTION!

Use only for lawn and grass cutting.

To avoid malfunction or injury do not modify your **Landscape Blade** .

To avoid blade damage do not drop or hit your **Landscape Blade** .

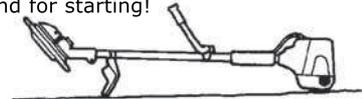


Shield the blades with the protective cover when not in use.

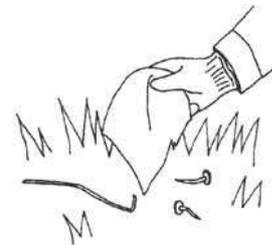
The blades must be free and not touch anything while starting the brushcutter engine.



Blades off the ground for starting!

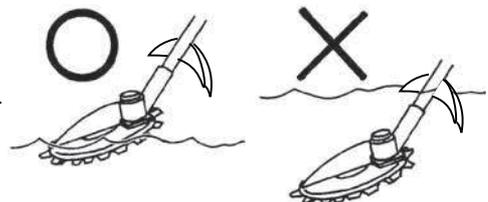


Obstacles like plastic bags and steel wires in the grass should be removed before cutting the grass to prevent them from becoming entangled in the blades.



The **Landscape Blade** is water resistant. However, if it is used in a wet area, wipe the blades and lubricate after each use.

Do not completely submerge the **Landscape Blade** and the brushcutter in water.



See page 8 for maintenance after use.

Sharpen the blades if grass cutting efficiency drops. See sharpening (page 13), maintenance (page 8).

Periodically lubricate the **Landscape Blade** to ensure proper performance (See page 11).

MOUNTING

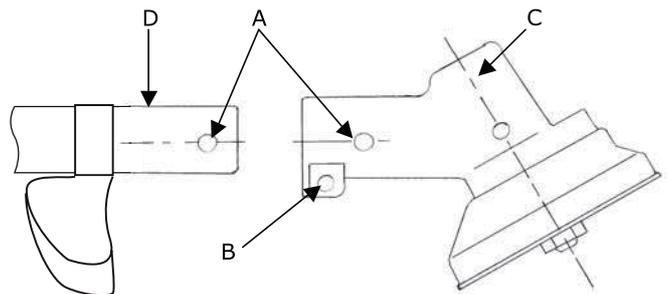
To mount the Landscape Blade to your brushcutter you must remove the existing gear case.

- Loosen the clamp screw on the guard mount, and slide the guard up the tube out of the way.

WARNING

Do not remove the guard from the guard tube. They are necessary for the safe operation of the Landscape Blade.

- Take out the screw (A) locating the gear case (C) on the guard tube (D).
- Loosen the clamp screw (B) and pull the gear case (C) off the guard tube.
- Slip the Landscape Blade into place on the guard tube (D), so that the screw holes align (A).
- Insert the locating screw (A) and tighten it securely.
- Tighten the clamp screw (B) securely.
- Slide the guard down over the rear of the blades, and tighten the clamp screw securely.



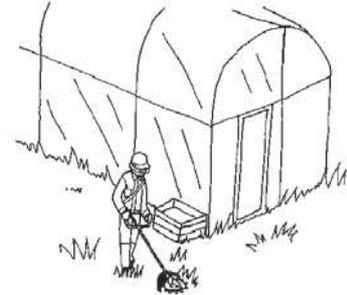
OPERATION



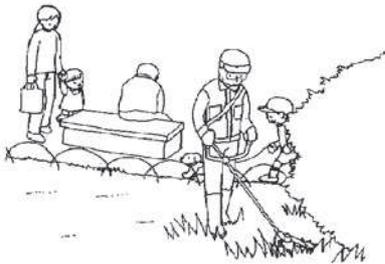
Adjust the shoulder strap and grip position, so that the blade face is parallel to the ground.



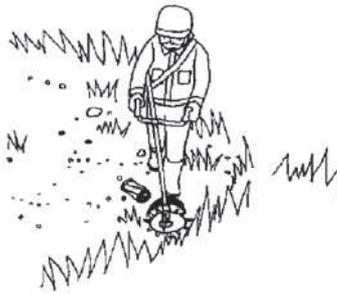
Just place the Landscape Blade on the ground and swing it for easy and comfortable grass cutting work.



There is a minimal risk of damage to glass windows by flying debris.



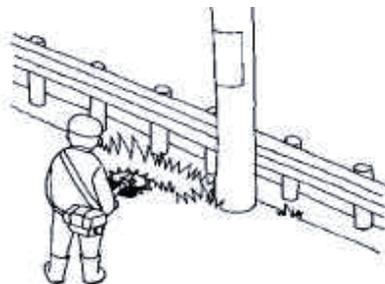
The Landscape Blade ejects less dangerous flying debris than a conventional string trimmer.



Grass cutting work can be done in a place with lots of stones, or cans.



Grass in a wet area or even in shallow water can also be cut with ease.



Grass on the edge of the road, or around poles can be cut with ease.



Grass close to a wall, solid fence or tree can be easily trimmed with minimal damage because of blunt edged blades and minimal back because the blades counter rotate.

This product can suppress flying stones. Although it is not necessary that without flying. Make sure the safety confirmation to the surroundings and wear safety glasses while using.

MAINTENANCE



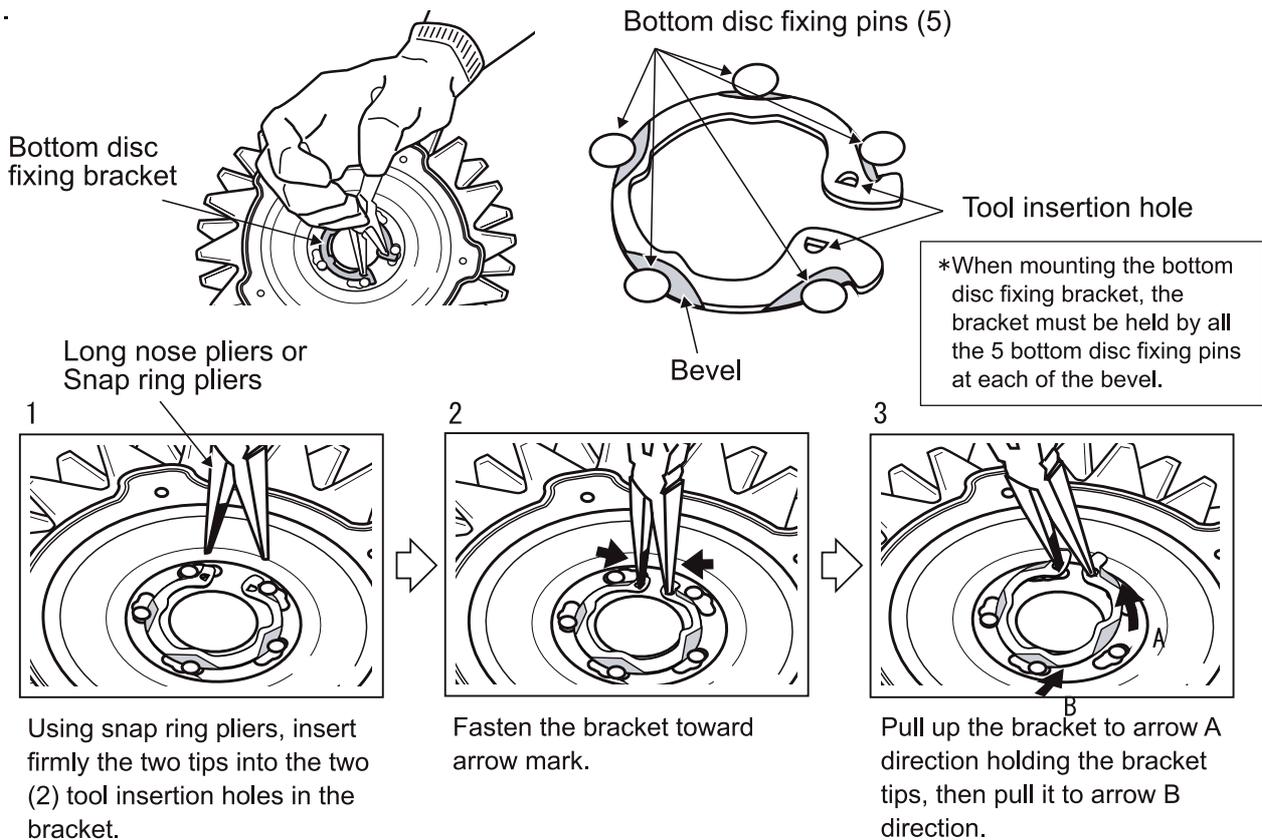
- * Make sure the engine is stopped before replacing the blades.
- * Wear safety glass and gloves to handle the blades.

Follow the procedure as described below to remove the blades.

To remove the bottom disc fixing bracket

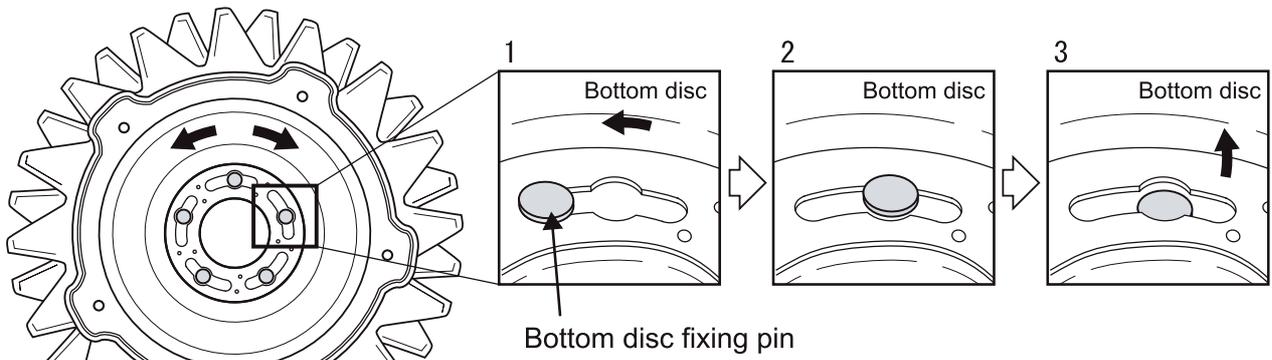
- * Be careful not to jump out the bottom disc fixing bracket while mounting it.

1.



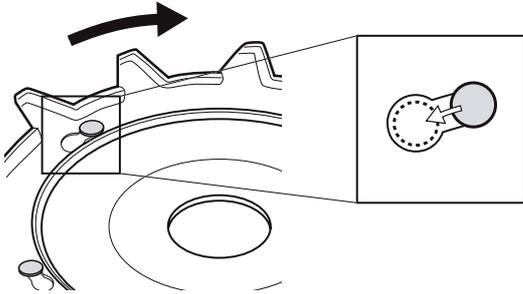
How to remove the bottom disc

- 2 . Turn the bottom disc either direction holding the main body until the fixing pin comes to the grooved larger hole.



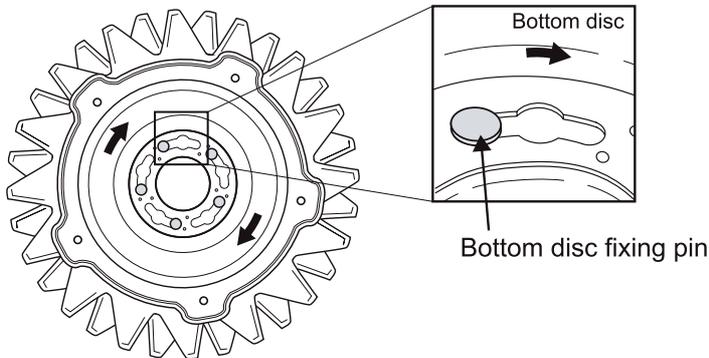
How to remove the upper and the lower blades

- 3 . Remove the upper and the lower blade turning for the arrow direction.



How to mount the bottom disc

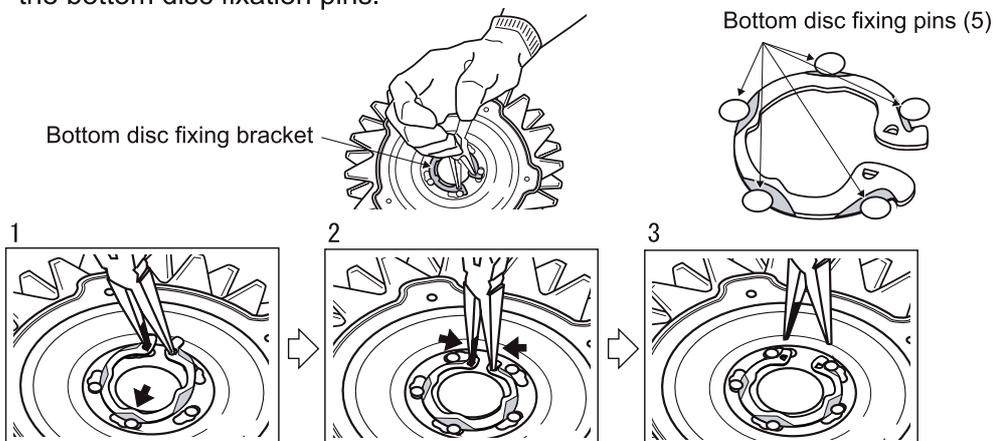
- 4 . Mount the bottom disc turning CW direction as illustrated below then mount the bottom disc fixing bracket.



Turn the bottom disc holding the main body until the bottom disc fixing pin comes to the hole end, then mount the disc fixing bracket to ensure the disc fixation.

How to mount the bottom disc fixing bracket

- 5 . The bottom disc fixing pin is to be mounted as illustrated below. Use the long nose pliers mount it.
1. Remove the grasses and foreign substances if any adhering to the bottom disc or bottom disc fixing pin before the Bottom disc fixing bracket is mounted.
 2. The bottom disc fixing bracket must be mounted in a manner that it hangs to all of the five (5) the bottom disc fixation pins.



* Be careful not to jump out the bottom disc fixing bracket while mounting it.

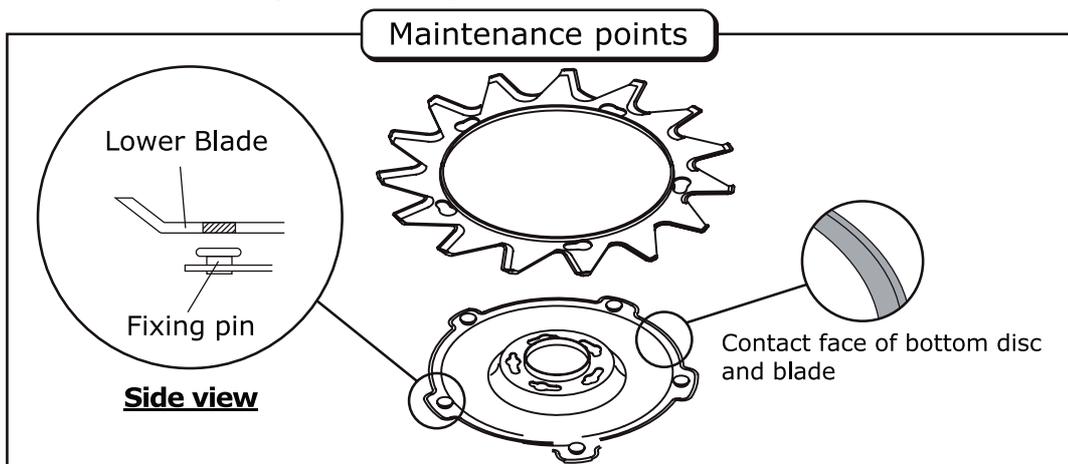
Lower Blade

1. Clean the blades and bottom disc with a brush, to remove grass or dirt stuck to them.

See **Maintenance points** below for details.

2. Wipe the blades and bottom disc and dry them. Then, wipe them gently with an oily cloth. To install the blade, first position the blade holes on fixing pins, then turn the blade counterclockwise.

- Take care not to install the blade upside down.
- Make sure all the fixing pins are in place when the blade is installed.



Upper Blade

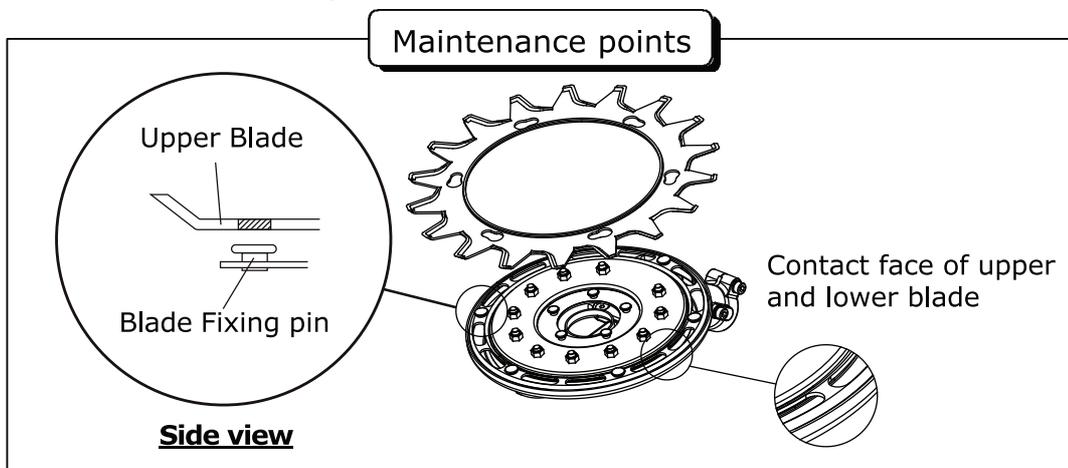
1. Clean the blades and bottom disc with a brush, to remove grass or dirt stuck to them.

See **Maintenance points** below for more details

2. Wipe the blades and bottom disc, and dry them. Then, wipe them gently with an oily cloth.

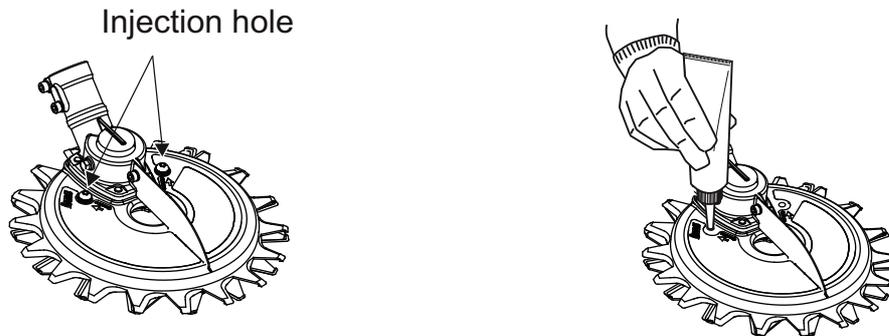
3. Mount the blade by aligning the blade holes and fixing pins, then by turning the blade counterclockwise.

- Take care not to install the blade upside down.
- Make sure all the fixing pins are in place when the blade is installed.



Lubrication

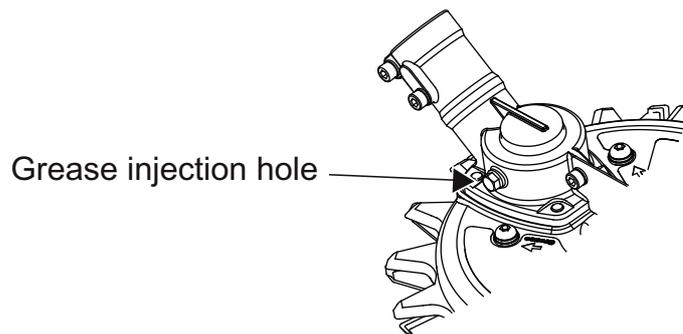
- 1 Remove the two screws to allow grease to be injected (see illustration), and inject grease into both screw holes. Inject about 20cc per every 10 hours of operation as a reference.



- 2 Insert the two screws and tighten securely.

Do not replace the screws with the grease nipple.
It may be loosened by vibration during use.
Make sure to use the genuine the washer built-in screw.

- 3 Remove hex screw (M5×6) in the gear case, and inject about 10cc of grease into the hole every 25 hours of operation as a reference.



- 4 Insert the hex screw(M5×6) and tighten it securely.

This completes lubrication

* Lubricate the Power Rotary Scissors and oil the blades if it is to be stored for more than 30 days.

BLADE REPLACEMENT

WARNING

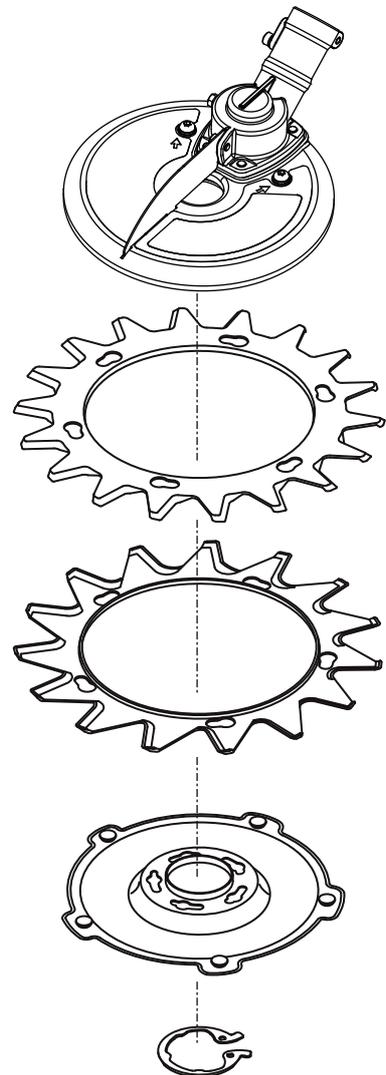
Make sure the engine is stopped before replacing the blades. Wear gloves to handle the blades.

*To replace the blade, exclusive long nose pliers or snap ring pliers is required.

See pages 8 through 10 for removal and installation of the blades.

1. Follow steps 1 through 3 of the maintenance section on pages 8 and 9.
2. Clean up the body with a brush to remove grass and dirt and wash it with water.
3. Wipe the body and dry it. Then wipe it with an oily cloth before installing the blades.
4. Turn the upper blade clockwise, holding the main body, until the fixing pin reaches the other end of the hole. Then, lift off the upper blade.
5. Clean up the body with a brush to remove grass and dirt and wash it with water.
6. Wipe the body and dry it. Then wipe it with an oily cloth before installing the blades.
7. Follow "Lower blade installation" on page 9.

Clean up main body and bottom disc before mounting new blade



BLADE SHARPENING

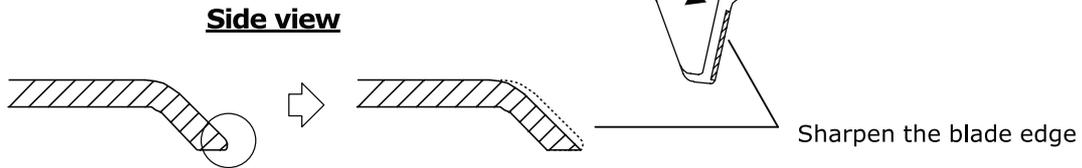
Sharpen the blades when grass tends to stick to them.

WARNING

Stop the engine before sharpening the blades. Wear gloves to help prevent injury.

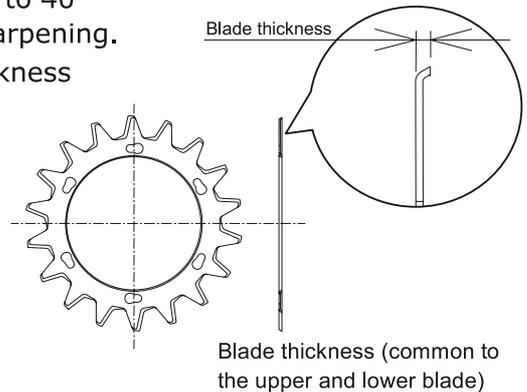
Blade sharpening

1. First remove the upper and lower blades.
(See pages 8 through 10 for removal and installation)
2. Sharpen the edge of the both upper and lower blades
(see illustration) with a file.
 - Take care not to heat the blade enough to change the color. This may decrease blade hardness.
 - Sharpen the blade edge at 45 degrees.



Timing for Blade Replacement and Blade Sharpening

1. It is suggested to sharpen the blades in every 8 to 10 hours of operation as a reference in case of cutting soft grasses or lawn.
2. It is also suggested to replace the blades in every 30 to 40 hours of operation including 3 to 4 times of blade sharpening.
3. Replace the blades if either upper or lower blade thickness has been worn to 2.7mm or less .
 - Referenced operating hours for blade sharpening differs depending on the type grasses, or cutting environments including obstacles like soil and sand.
 - Some grasses could be rolled up in the blades. If this happens, first remove the blades then remove completely the rolled grasses, as it could seriously affect the life of blades and main body.



Specifications

Model	ASK-V23BMS
Cutting method	Rotary scissor blades
Dimensions L × W × H (mm)	258 × 230 × 101
Weight (kg)	1.8 (Including gear case)

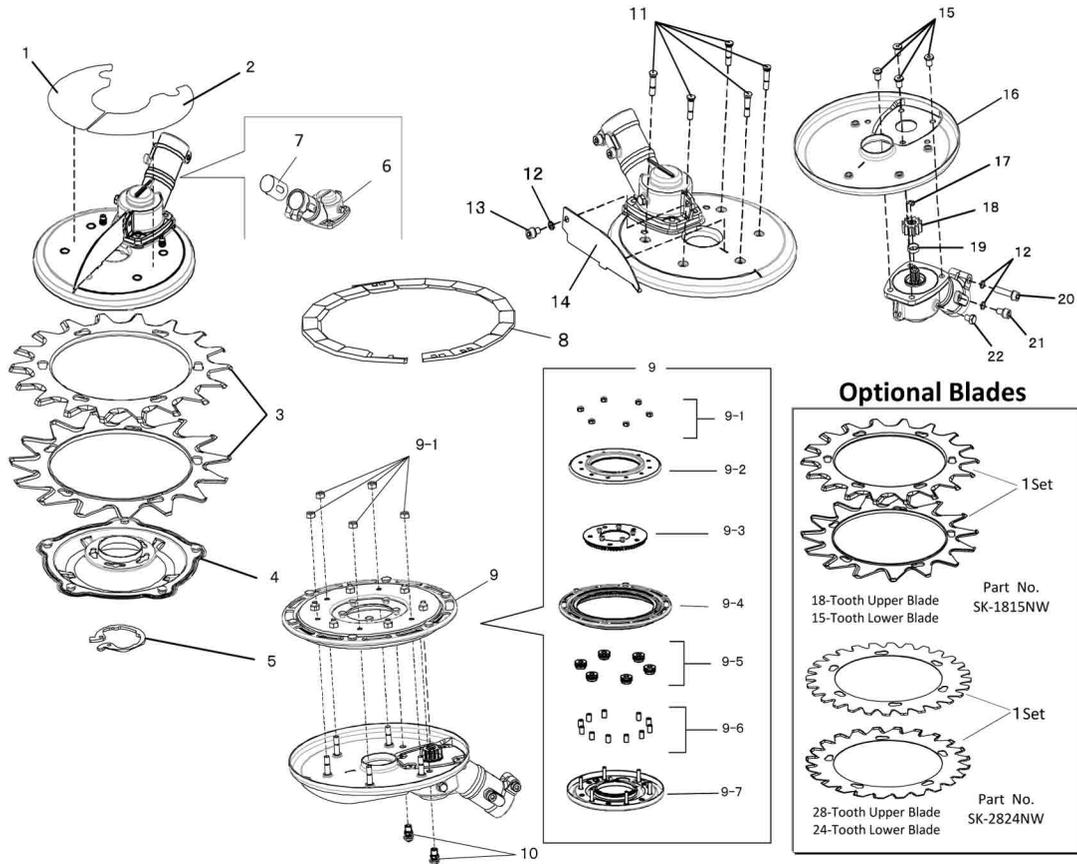
Surface	Aluminum (A5052)	
Reduction	Planetary gear reduction	
Ratio	Upper	1:18.8
	Lower	1:13.5

WARNING

Stop the engine before handling the unit. Wear gloves to handle the blades.

Status	Where to check	Solution	See Page
Blade does not turn or does not turn properly	Is the brushcutter engine working?	Start the engine.	
	Is the unit properly mounted?	Mount the unit properly.	6
	Any cracks or bends on the blades?	Replace the blade or blades.	8 - 10
	Any foreign objects caught in the blades?	Remove the objects.	8
	Is the product properly lubricated?	Inject grease periodically.	11
	Does the brushcutter engine function properly?	Check all engine functions.	
Abnormal noise or Abnormal vibration	Any foreign objects caught in the blades?	Remove the objects.	8
	Any cracks or bends on the blades?	Replace the blade or blades.	8 - 10
	Are the upper and lower blade properly mounted?	Check the blade mounting.	8 - 10
	Is the product properly lubricated?	Inject grease periodically.	11
	Is the product properly mounted to the brushcutter?	Check the mounting.	6
	Is the brushcutter drive shaft bent?	Check the brushcutter .	
Dull blade cutting	Any foreign objects caught in the blades?	Remove the objects.	8
	Any cracks or bends on the blades?	Sharpen or replace the blade.	12 - 13
	Blade wear?	Sharpen the blade.	13
	Is the engine speed correct?	Adjust the engine speed properly.	7

MARUYAMA LANDSCAPE BLADE Type5 Part List



No.	Part No.	Part Name	compatibility to Type 4 (2016 model)	compatibility to Type 4 (2015 model)	compatibility to Type 3	compatibility to Type 2	compatibility to Type 1
1	SKVW-26	Type Label	○	○	×	×	×
2	SKVW-27	Caution Label	○	○	×	×	×
3	SK-1815NW	Upper Blade18/Lower Blade15	○	○	○	×	×
4	SKNW-19	Bottom Disk	○	○	○	×	×
5	SKN-22	Bottom Disk Fixing Bracket	○	○	○	×	×
6	SKR-06B	Gear Case B	○	○	×	×	×
7	TKS-24	Sleeve φ24	○	○	○	×	×
8	SKAN-21	Blade Protection Cover	○	○	○	○	○
9	SKV-11	Gear Unit V	○	○	×	×	×
9-1	SKR-27	U-Nut M5	○	○	×	×	×
9-2	SKV-28	Lower Oil Case V Assy	×	×	×	×	×
9-3	SKV-31	Sun Gear V Assy	×	×	×	×	×
9-4	SKRA-32	Outer Gear RA Assy	○	○	×	×	×
9-5	SKV-33	Free Roller C	×	×	×	×	×
9-6	SKRA-34	Spacer RA	○	×	×	×	×
9-7	SKV-35	Upper Oil Case V Assy	×	×	×	×	×
10	SKN-12	Sems Cap Screw M6 × 10	○	○	×	×	×
11	SKR-36	Stud Screw M5 × 18	○	○	×	×	×
12	SKAN-04	Spring Washer M5	○	○	○	○	○
13	SKAN-05	Cap Screw M5 × 8	○	○	○	○	○
14	SKR-07	Stabilizer	○	○	○	○	○
15	SKR-10	Low Head Cap Screw M6 × 8	○	○	×	×	×
16	SKR-38	Body Case + Rubber Seal	○	×	×	×	×
17	SKR-13	E-Ring 4	○	○	×	×	×
18	SKAN-14	Drive Pinion Gear	○	○	○	○	×
19	SKR-15	Output Shaft Spacer	○	○	×	×	×
20	SKAN-02	Cap Screw M5 × 25	○	○	○	○	○
21	SKAN-01	Fit Screw M5 × 12	○	○	○	○	○
22	SKAN-03	Hex Screw M5 × 6	○	○	○	○	○
OPTION	SK-2824NW	Upper Blade28/Lower Blade24	○	○	○	×	×

Interchangeability type 5 & 4 : ○(yes)
Interchangeability type 5 & e : X(No)

2017 revised
edition



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