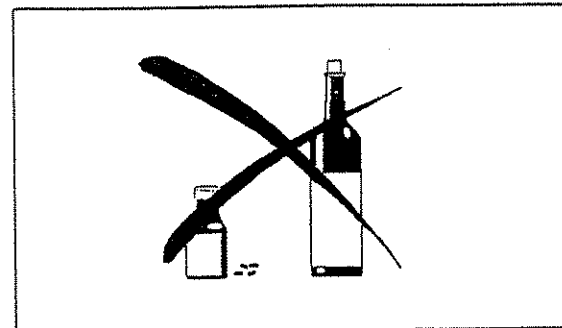


SAFETY INSTRUCTIONS

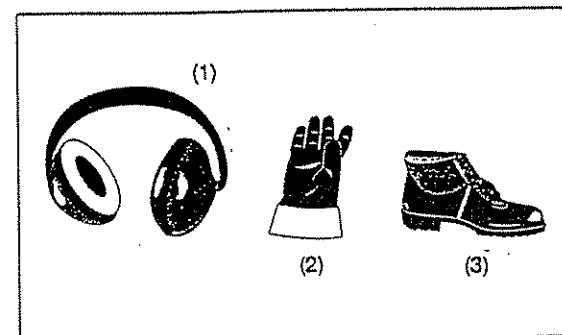
General instructions

- To ensure correct operation, the user has to read this instruction manual to make himself familiar with the handling of the brush cutter. Users insufficiently informed will risk danger to themselves as well as others due to improper handling.
- First users should ask the dealer for basic instructions to familiarize oneself with the handling of an engine powered cutter.
- Use brush cutters with the utmost care and attention.
- Operate the brush cutter only if you are in good physical condition. Perform all work calmly and carefully. The user has to accept liability for others.
- Never use the brush cutter after consumption of alcohol or drugs, or if feeling tired or ill.



Personal protective equipment

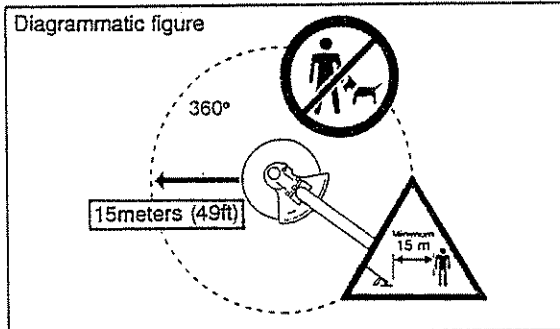
- The clothing worn should be functional and appropriate, i.e. it should be tight-fitting but not cause hindrance. Do not wear either jewelry or clothing which could become entangled with bushes or shrubs.
- In order to avoid either head-, eye-, hand- or foot injuries as well to protect your hearing the following protective equipment and protective clothing must be used during operation of the brush cutter.
- Always wear a helmet where there is a risk of falling objects.
- Wear adequate noise protection equipment to avoid hearing impairment (ear muffs (1), ear plugs etc.).
- Special gloves (2) made of thick leather are part of the prescribed equipment and must always be worn during operation of the brush cutter.
- When using the brush cutter, always wear sturdy shoes (3) with a non-slip sole. This protects against injuries and ensures a good footing.



Starting up the brush cutter

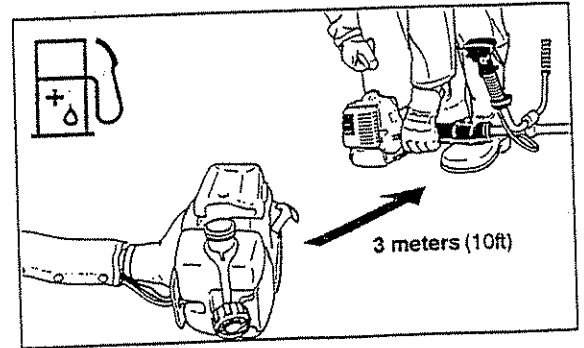
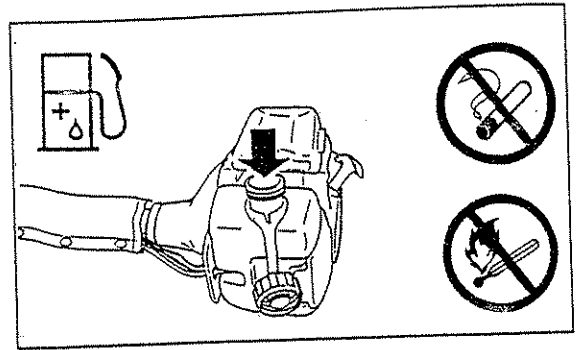
- Please make sure that there are no children or other people within a working range of 15 meters (49ft), also pay attention to any animals in the working vicinity.
- Before use always check that the brush cutter is safe for operation:
 - Check the security of the cutting tool, the control lever for easy action and check for proper functioning of the control lever lock.
 - Check with your dealer for adjustment if in doubt.
 - Rotation of the cutting tool during idling speed is not allowed. Check with your dealer for adjustment if in doubt. Check for clean and dry handles and test the function of the start/stop switch.

Diagrammatic figure



Refueling

- Shut off the engine during refuelling, keep away from naked flames and do not smoke.
- Avoid skin contact with mineral oil products. Do not inhale fuel vapor. Always wear protective gloves during refuelling. Change and clean protective clothing at regular intervals.
- Take care not to spill either fuel or oil in order to prevent soil contamination (environmental protection). Clean the brush cutter immediately after fuel has been spilled. Avoid any fuel contact with your clothing. Change your clothing instantly if fuel has been spilled on it (to prevent clothing catching fire).
- Inspect the fuel cap at regular intervals making sure that it can be securely fastened.
- Carefully tighten and does not leak the fuel tank cap. Change location to start the engine (at least 3 meters (10ft) away from the place of refuelling).
- Never refuel in closed rooms. Fuel vapors accumulate at ground level (risk of explosions).
- Only transport and store fuel in licensed containers. Make sure the fuel stored is not accessible to children.



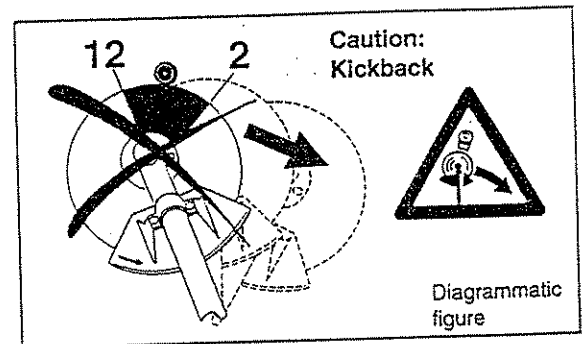
Method of operation

- Only use the brush cutter in good light and visibility. During the winter season beware of slippery or wet areas, ice and snow (risk of slipping). Always ensure a safe footing.
- Never cut above shoulder height.
- Never stand on a ladder and run the brush cutter.
- Never climb up into trees to perform cutting operation with the brush cutter.
- Never work on unstable surfaces.
- Remove sand, stones, nails etc. found within the working range. Foreign particles may damage the cutting tool and can cause dangerous kickbacks.
- Before commencing cutting, the cutting tool must have reached full working speed.



Kickback

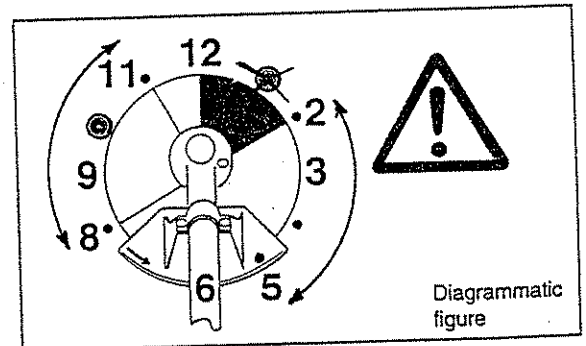
- When operating the brush cutter, uncontrolled kickback may occur.
- This is particularly the case when attempting to cut within a blade segment between 12 and 2 o'clock.
- Never apply the brush cutter within a segment between 12 and 2 o'clock.
- Never apply this segment of the brush cutter blade to solids, such as bushes and trees, etc., having a diameter in excess of 3 cm or the brush cutter will be deflected at great force with the risk of injuries.



Kickback prevention

To avoid kickbacks, observe the following:

- Operation within a blade segment between 12 and 2 o'clock presents positive hazards, especially when using metal cutting tools.
- Cutting operations within a blade segment between 11 and 12 o'clock, and between 2 and 5 o'clock, must only be performed by trained and experienced operators, and then only at their own risk. Easy cutting with almost no kickback is possible within a blade segment between 8 and 11 o'clock.



Cutting Tools

Employ only the correct cutting tool for the job in hand.

Nylon cutting head:

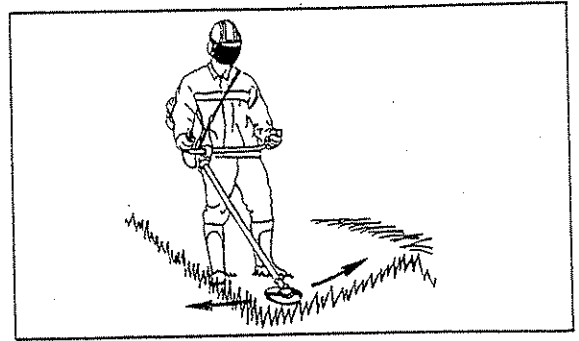
Exclusively designed for cutting along walls, fences, grass edges, trees, posts etc. (supplementing the grass mower). Perform this cutting work by swinging the grass trimmer evenly in half-circles from left to right.

Cutter blade (Star Blade (4 teeth), Eddy Blade (8 teeth)):

For cutting thick materials, such as weed, high grass, bushes, shrubs, underwood, thicket etc. (max.2 cm dia. thickness). Perform this cutting work by swinging the brush cutter evenly in half-circles from right to left (similar to using a scythe).

Saw blade:

Please use saw blade in case bamboo leaves, small tree, pampas etc. are mixed in weed.



Maintenance instructions

- The condition of the cutter, in particular of the cutting tool of the protective devices and also of the shoulder strap must be checked before commencing work. Particular attention is to be paid to the cutting blades which must be correctly sharpened.
- Turn off the engine and remove spark plug connector when replacing or sharpening cutting tools, and also when cleaning the cutter or cutting tool.

Never straighten or weld damaged cutting tools.

- Operate the brush cutter with as little noise and contamination as possible. In particular check the correct setting of the carburetor.
- Clean the brush cutter at regular intervals and check that all screws and nuts are well tightened.
- Never service or store the brush cutter in the vicinity of naked flames.
- Always store the brush cutter in locked rooms and with an emptied fuel tank.

Observe the relevant accident prevention instructions issued by the relevant trade associations and by the insurance companies.

Do not perform any modifications on the brush cutter as this will endanger your safety.



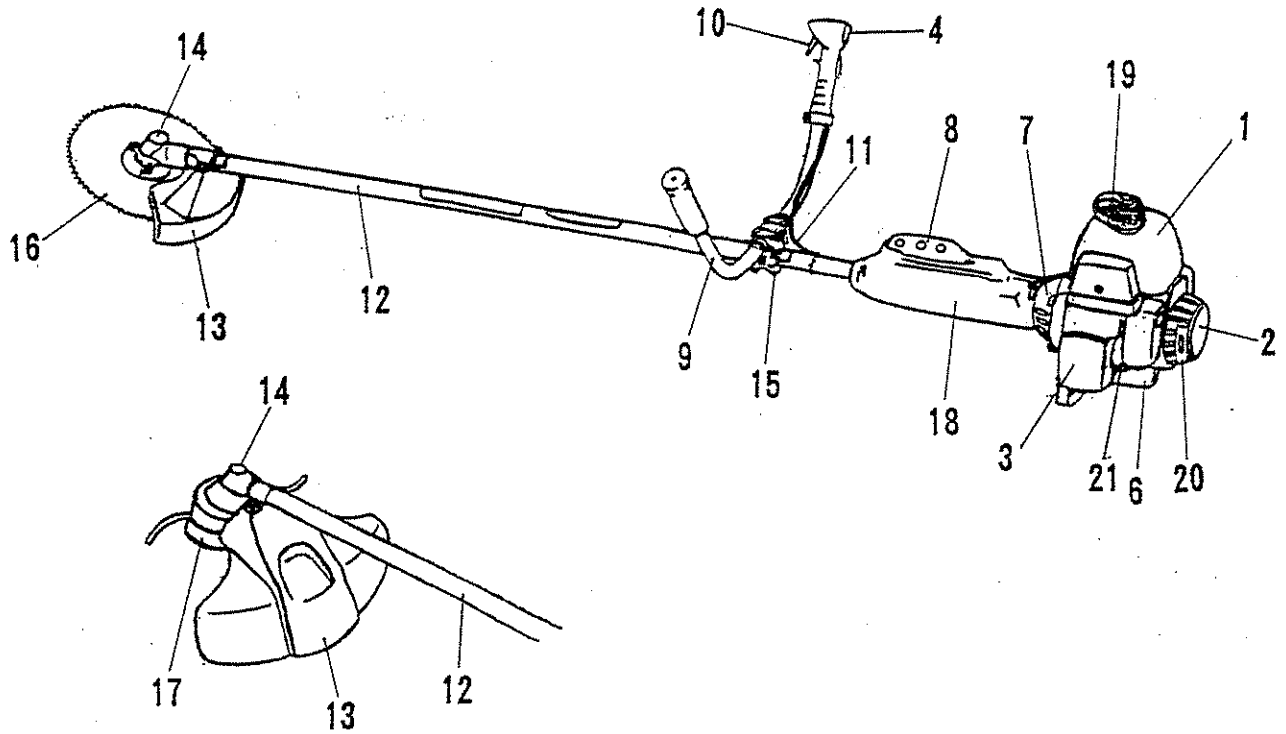
The performance of maintenance or repair work by the user is limited to those activities as described in the instruction manual.

All other work is to be done by an Authorized Service Agent.

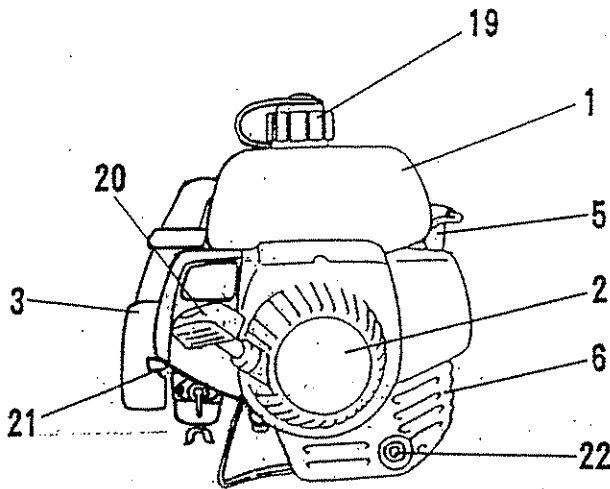
Use only genuine spare parts and accessories released and supplied ROBIN.

Use of non-approved accessories and tools means increased risk of accidents. ROBIN will not accept any liability for accidents or damage caused by the use of non-approved cutting tools and fixing devices of cutting tools, or accessories.

DESIGNATION OF PARTS



**NB351/411
Brush Cutter**



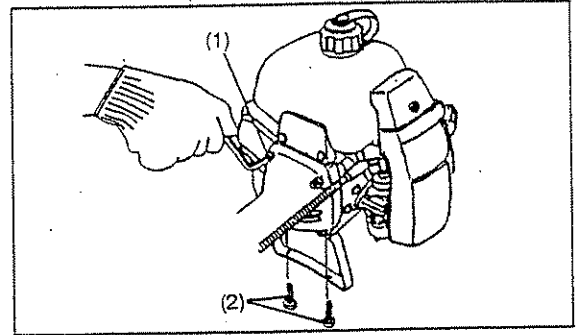
GB	DESIGNATION OF PARTS
1	Fuel Tank
2	Rewind Starter
3	Air Cleaner
4	I - O Switch (on/off)
5	Spark Plug
6	Exhaust Muffler
7	Clutch Case
8	Hanger
9	Handle
10	Throttle Lever
11	Control Cable
12	Shaft
13	Protector
14	Gear Case
15	Handle Holder
16	Cutter Blade
17	Nylon Cutting Head
18	Waist Pad
19	Fuel Filler Cap
20	Starter Knob
21	Choke Lever
22	Exhaust Pipe

ASSEMBLY OF ENGINE AND SHAFT

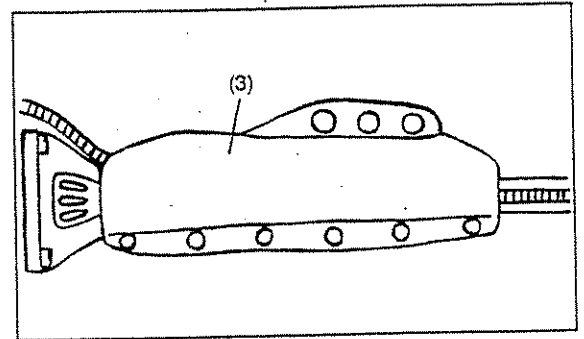
CAUTION: Before doing any work on the brush cutter, always switch off the motor and pull the spark plug connector off the spark plug.
Always wear protective gloves!

CAUTION: Start the brush cutter only after having assembled it completely.

- After checking the parts, fasten the drive shaft to the engine with four bolts M6x18(1). At this time, fasten also the earth terminal of the stop cord to the engine.
- Attach stand to engine with two bolts M6x14 (2).



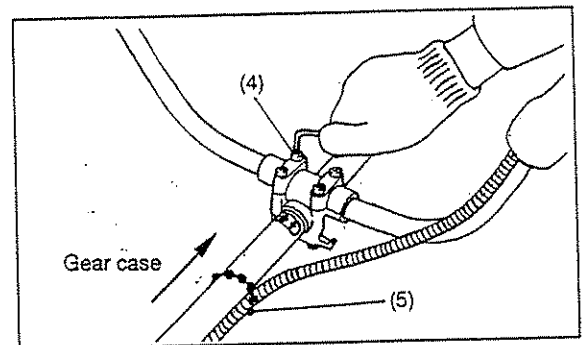
- Mount the waist pad (3). When the waist pad is mounted, be sure to confirm that the wires do not move horizontally.
- Avoid any tendency of the control cable to loop at the handle bar.
- The purpose of the detent lock is to prevent the engine from rotating relative to the shaft while operating the starter or transporting the equipment from place to place.
- The detent should be unlocked while the unit is being used and locked while the unit is being transported.



MOUNTING OF HANDLE



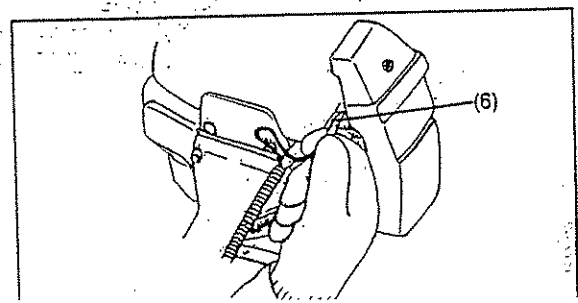
- Fasten the handle to the drive shaft with four bolts M5x 25 (4). Fit the control cable (together with the earth cord) to the handle with a clip (5).



ASSEMBLY OF IGNITION WIRE



- Connect the female and male bullet connectors (6) from throttle assembly to the male and female bullet connectors coming from engine.



1. Spark Plug
 2. Spark Plug Connector
 3. Spark Plug
 4. Spark Plug
 5. Spark Plug
 6. Spark Plug

MOUNTING OF PROTECTOR

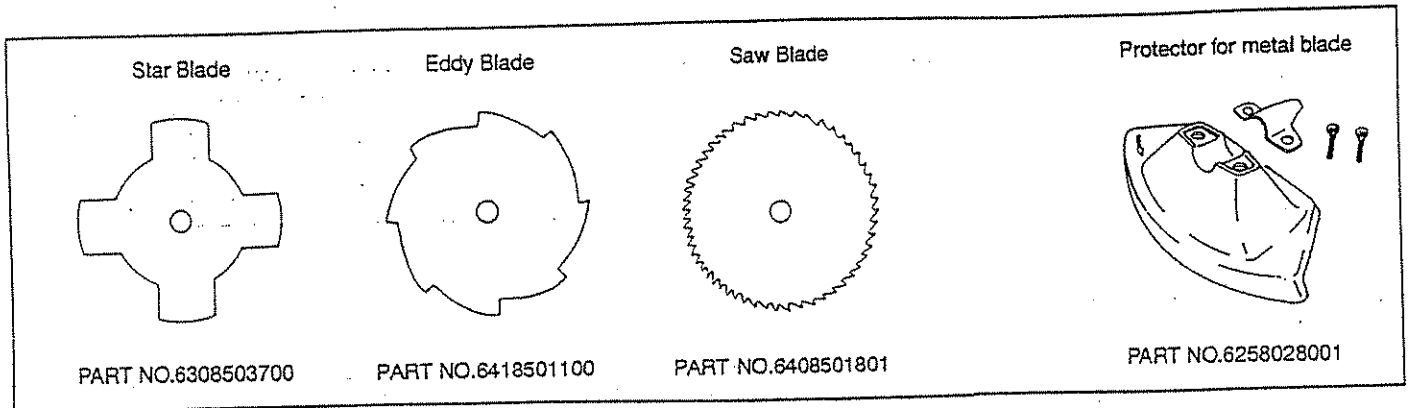
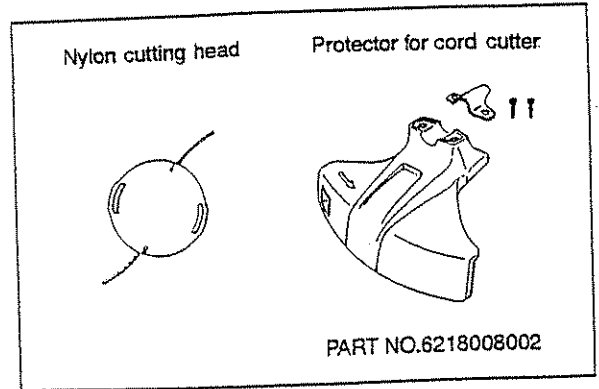
To meet the applicable safety provisions, only the tool/protector combinations as indicated in the table must be used.



Be sure to use genuine ROBIN cutter blade or nylon cutting head.

- The cutter blade must be well polished, free of cracks or breakage.
- If the cutter blade hits against a stone during operation, stop the engine and check the blade immediately.
- Polish or replace the cutter blade every three hours of operation.

-The outside diameter of the cutter blade must be 255mm (10-1/32"). Never use any blades surpassing 255mm (10-1/32") in outside diameter.

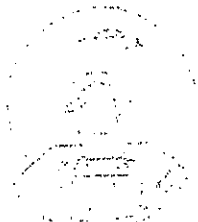
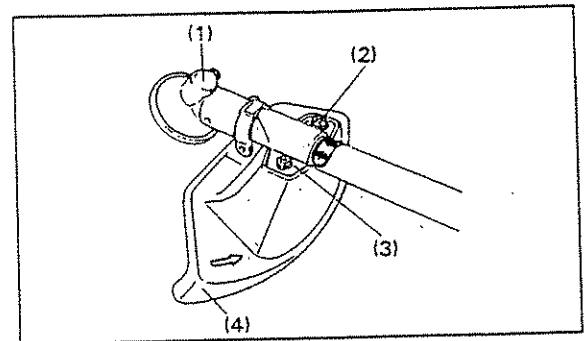


CAUTION: The appropriate protector must always be installed, for your own safety and in order to comply with accident-prevention regulations.

Operation of the equipment without the guard being in place is not permitted.



- Install the clamp(3) on the shaft so that the projection of the clamp (3) is inserted into the opening between the gear case (1) and the shaft. Secure the protector (4) with the installation bolts M6x30 (2).

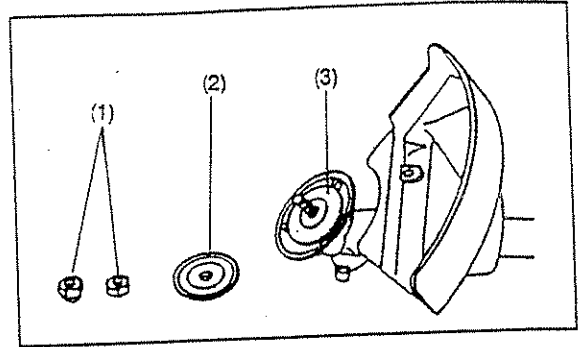


MOUNTING OF CUTTER BLADE OR NYLON CUTTING HEAD

Turn the machine upside down, and you can replace the cutter blade easily.



- Insert the hex wrench through the hole in the gear case and rotate the receiver washer (3) until it is locked with the hex wrench.
- Loosen the 2 nuts (1) (left-hand thread) with the socket wrench and remove the 2 nuts (1), and clamp washer (2).

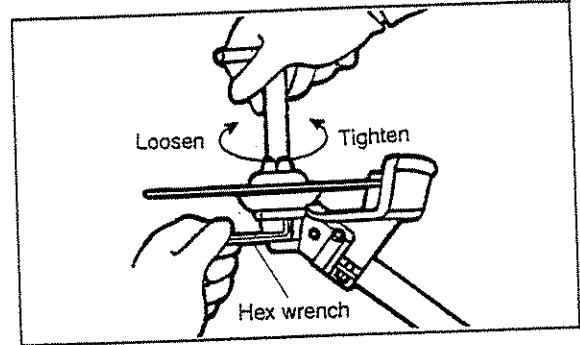


With the hex wrench still in place.

- Mount the cutter blade onto the shaft so that the guide of the receiver washer (3) fits in the arbor hole in the cutter blade. Install the clamp washer (2) and secure the cutter blade with the 2 nuts (1).

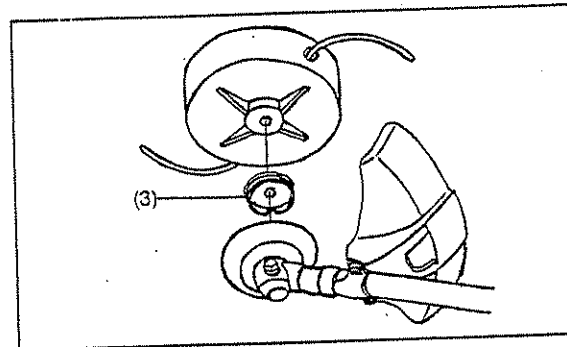
[Tightening torque: 280 - 480 kg-cm]

NOTE: Always wear gloves when handling the cutter blade.

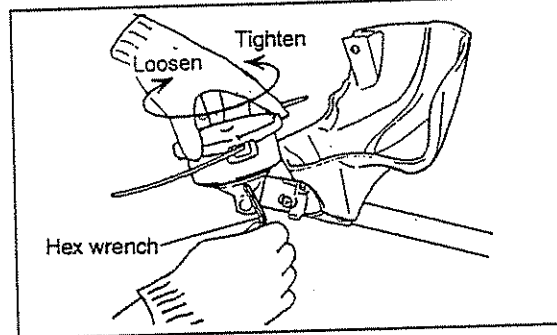


Turn the machine upside down, and you can replace the nylon cutting head easily.

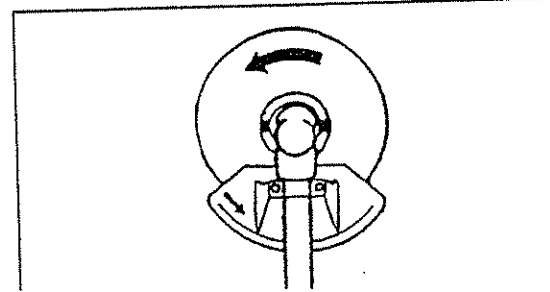
NOTE: The clamp washer (2), and 2 nuts (1) are not necessary for mounting the nylon cutting head. The nylon head should go on top of the receiver washer (3).



Screw the nylon cutting head onto the shaft.



Make sure that the blade is the right way up.



FUELS/REFUELING

Handling fuel

Utmost care is required when handling fuel. Fuel may contain substances similar to solvents. Refuel either in a well ventilated room or outdoors. Do not inhale fuel vapors, avoid any contact of fuel or oil with your skin.

Mineral oil products degrease your skin. If your skin comes in contact with these substances repeatedly and for an extended period of time, it will desiccate. Various skin diseases may result. In addition, allergic reactions are known to occur. Eyes can be irritated by contact with oil. If oil comes into your eyes, immediately wash them with clear water. If your eyes are still irritated, see a doctor immediately!

Fuel and oil mixture

Inspect the fuel tank and fill with clean, fresh fuel of the proper mixture to assume the longer life of the tool.

Use the following mixed gas.

Gasoline:Two-stroke oil=25:1

FOR CALIFORNIA REGULATION:

THIS EQUIPMENT IS CERTIFIED TO OPERATE ON GASOLINE + TWO STROKE OIL

When mixing gasoline with two-stroke engine oil, use only unleaded gasoline which contains no ethanol, or methanol (type of alcohol). This will help to avoid possible damage to engine fuel lines and other engine parts.

Do not mix gasoline and oil directly in the fuel tank.

IMPORTANT: Failure to follow proper fuel mix instructions may cause damage to the engine.

- CAUTION:**
1. When preparing fuel mixture, mix only the amount needed for the job you are to do.
Do not use fuel mixture that has been stored longer than two months.
Fuel mixture stored longer than two months will cause hard starting and poor performance.
If fuel mixture has stored longer than this time, it should be removed and filled with a fresh mixture.
 2. Never fill the fuel tank to the very top.
 3. Never add the fuel to the tank in a closed unventilated area.
 4. Do not add fuel to this unit close to an open fire or sparkes.
 5. Be sure to wipe off spilled fuel before attempting to start the engine.
 6. Do not attempt to refuel a hot engine.

The engine must be switched off!

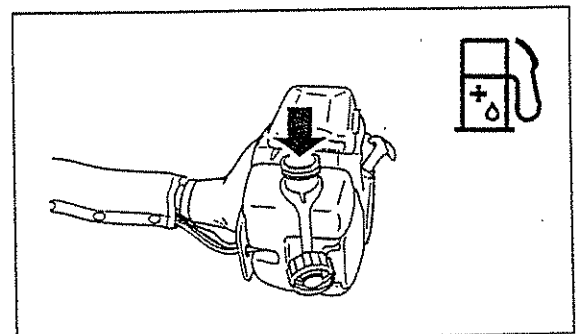
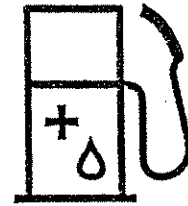
- Thoroughly clean the area around the fuel filler cap, to prevent dirt from getting into the fuel tank.
- Unscrew the fuel filler cap and fill the tank with fuel.
- Tightly screw on the fuel filler cap.
- Clean screw fuel filler cap and tank after refuelling!

Storage of Fuel

Fuel cannot be stored for an unlimited period of time. Purchase only the quantity required for a 4 week operating period. Only use approved fuel storage containers.



Observe the Safety Instructions on page 3!

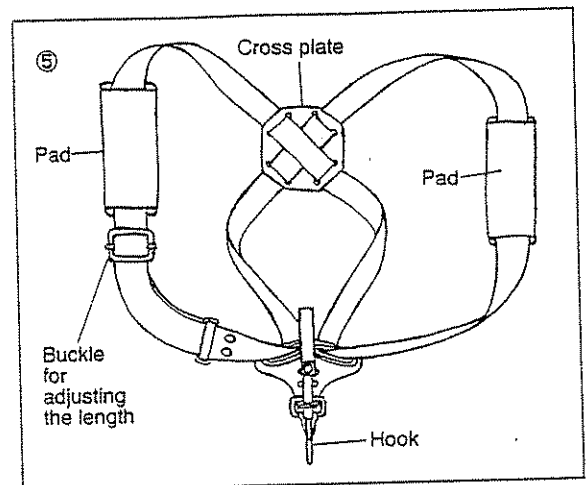
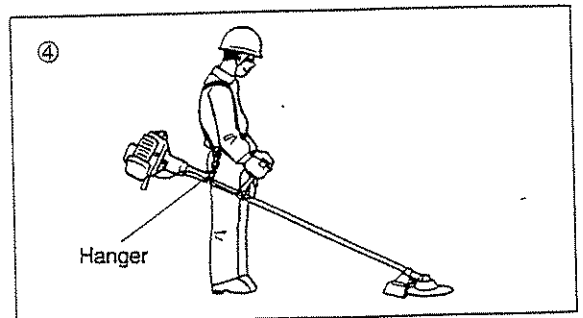
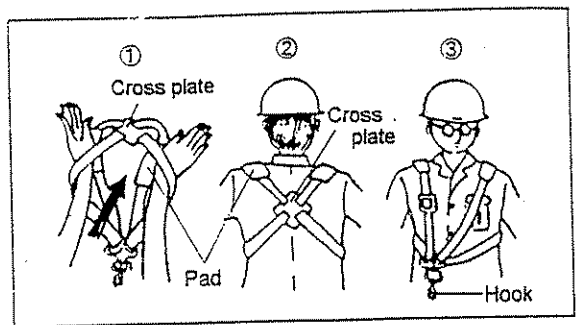


CORRECT HANDLING OF MACHINE

How to wear and adjust the double shoulder strap

- As we have been informed from many users that the way to wear and adjust the Double Shoulder Strap is not clear.
- To wear and adjust the Double Shoulder Strap for NB351, NB411, please follow the instructions as shown below.

- ① Wear the Strap from head so that the Cross Plate comes to the front.
- ② The Cross Plate is to the back of the body.
- ③ The Hook is to the right side.
- ④ Wear the Strap across the chest, connect the Hook and Hanger of machine shaft. Keep the machine at your right side
- ⑤ Adjust the strap length for the best operation position. But when adjusting, once detach the Hook from the Hanger, then adjust by buckle of the strap. Because the position of pad and cross plate are also needed to adjust again as a result of the adjustment of the strap length.

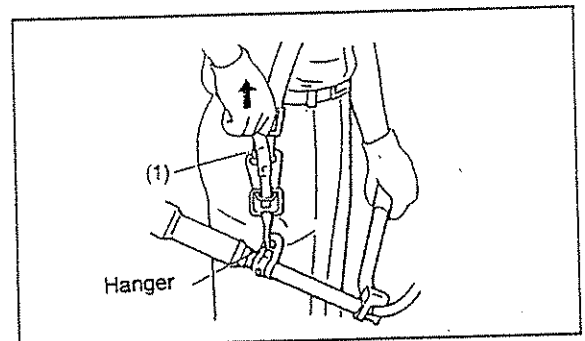


Detachment

- In an emergency, pull the release belt (1) strongly upward, and you can detach the machine from you.

Be extremely careful to maintain control of the machine at this time. Do not allow the machine to be deflected toward you or anyone in the work vicinity.

WARNING: Failure to maintain complete control of the machine at all could result in serious bodily injury or DEATH.



PUTTING INTO OPERATION

Observe the applicable accident prevention regulations!

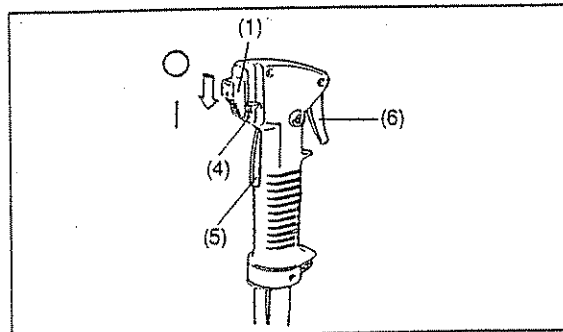


Starting

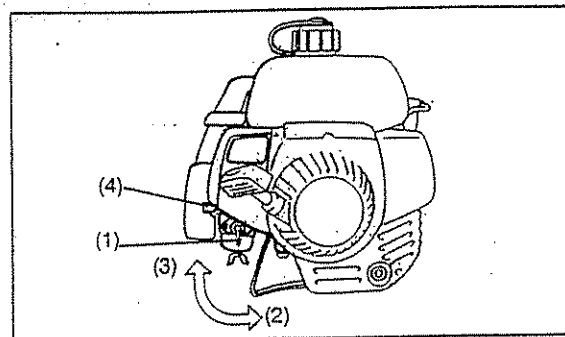
Move at least 3m (10ft) away from the place of refuelling. Place the brush cutter on a clean piece of ground taking care that the cutting tool does not come into contact with the ground or any other objects.

Cold start

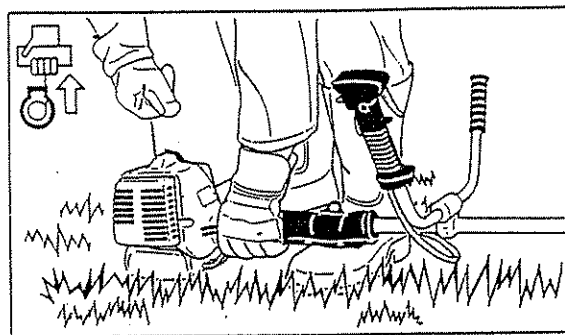
- Push the I - O switch(1) in the direction shown by the arrow.
- Grasp the handle(hand pressure activates the safety lock-off lever(5)).
- Press the throttle lever(6) and hold it down.
- Press the lock button(4) and release the control lever, and then release the lock button(the lock button holds the throttle lever in the start-up position).



- First place the machine on the ground.
- Open the fuel valve. The valve opens when the lever (1) is at right angles to the ground (2). The valve closes when the lever is parallel with the ground (3).
- Move the choke lever (4) to the top position (↑).



- Firmly hold the clutch case by your left hand, as illustrated.
- Slowly pull the starter grip until resistance is felt and continue with a smart pull.
- Do not pull out the starter rope to its full extent and do not allow the starter handle to be retracted without control, but ensure that it is retracted slowly.
- Repeat the starting operation until initial ignitions are heard.
- Depress the choke lever (↓) and pull the starter rope again until the engine starts.
- As soon as the engine starts, immediately tap and release the throttle, thus releasing the half-throttle lock so that the engine can run in idle.
- Run the engine for approximately one minute at a moderate speed before applying full throttle.



Caution during operation:

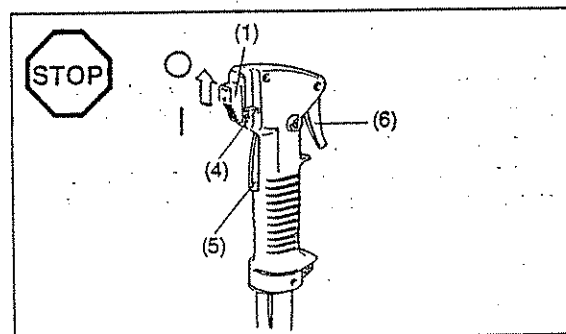
If the control lever is opened fully in a no-load operation, the engine rotation is increased to 10,000rpm or more. Never operate the engine at a higher speed than required and at an approximate speed of 6,000-8,000rpm.

Starting the warm engine

- As described above, except without moving the choke lever (choke lever remains in the down position).

Stopping

- Release the control lever fully, and when the engine rpm has lowered, push the I - O switch to "O" position the engine will stop.

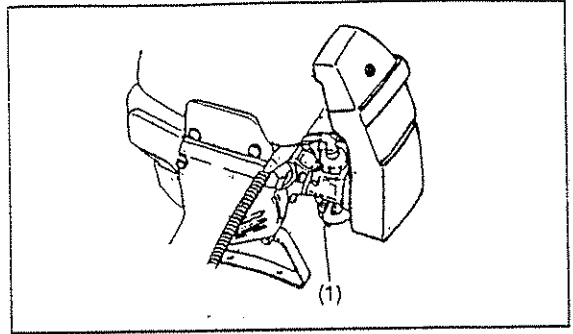


IDLE ADJUSTMENT

The cutter blade or the nylon cutting head should not run when the control lever is fully released. If necessary, adjust the idle rpm using the idle adjusting screw.

Checking the idling speed

- Idle speed should be set to 2,600rpm.
- If necessary correct it by means of the idle screw (the blade or the nylon cutting head must not turn when the engine is on idle).
- Screwing in the screw (1) will cause an increase in the engine speed, whereas backing off the screw will reduce the engine speed.

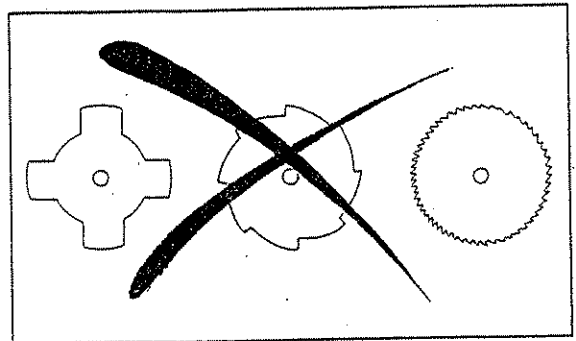


RESHARPENING THE CUTTING TOOL

CAUTION: The cutting tools mentioned below must only be reshaped by an authorized facility. Manual reshaping will result in imbalances of the cutting tool causing vibrations and damage to the equipment.

- cutter blade (star blade (4 teeth), eddy blade (8 teeth))
- An expert resharpener and balancing service is provided by Authorized Service Agents.

NOTE: To increase the service life of the cutter blade (star blade, eddy blade) it may be turned over once, until both cutting edges have become blunt.



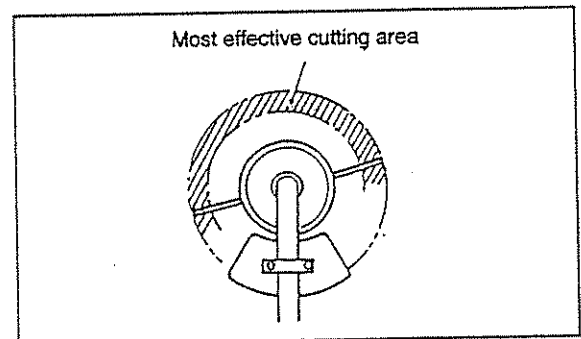
Nylon cutting head

The nylon cutting head is a dual string trimmer head capable of both automatic and bump & feed mechanisms.

The nylon cutting head will automatically feed out the proper length of nylon cord by the changes in centrifugal force caused by increasing or decreasing RPMs. However, to cut soft grass more efficiently, bump the nylon cutting head against the ground to feed out extra cord as indicated under operation section.

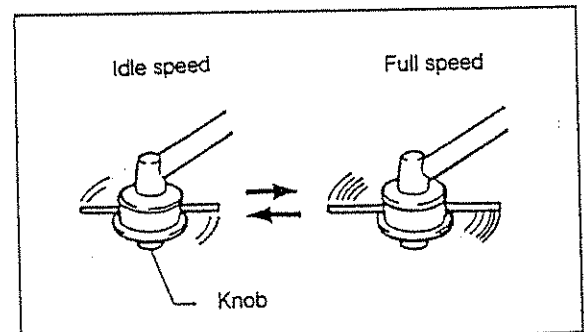
Operation

- Increase the nylon cutting head speed to approx. 5,000rpm. Low speed (under 4,800rpm) is not suitable, the nylon cord will not feed out properly at low speed.
- The most effective cutting area is shown by the shaded area.



If the nylon cord does not feed out automatically, proceed as follows:

1. Release the throttle lever to run the engine idle and then squeeze the throttle lever fully. Repeat this procedure until the nylon cord feeds out to the proper length.
2. If the nylon cord is too short to feed out automatically with the above procedure, bump the knob of the nylon cutting head against the ground to feed out the nylon cord.
3. If the nylon cord does not feed out with procedure 2, rewind/replace the nylon cord by following the procedures described under "Replacing the nylon cord".



Maintenance schedule

1. Before operation, pay particular attention to the tightness of Cutter Blade or nylon cutting head.
Check bolts and nuts and retighten if necessary. : Every 8 hours (Daily)

2. Check clogging of the cooling air passage and the cylinder fins. Clean them if necessary. : Every 8 hours (Daily)

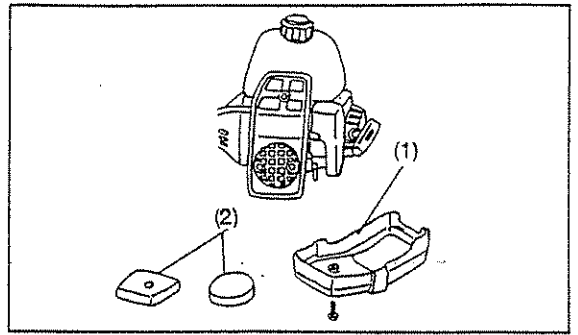
3. Cleaning of air cleaner. : Every 8 hours (Daily)

1) Remove the air cleaner cover (1) and clean the sponge element (2).

If there is excessive dust or dirt adhering to cleaner, clean it.

A clogged air cleaner may make it difficult or impossible to start the engine or increase the engine rotational speed.

2) Install the sponge element around the ribs of the air cleaner case.

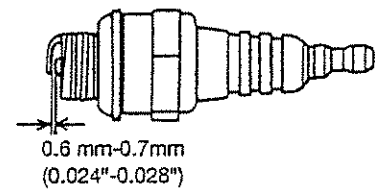


4. Checkup of spark plug. : Every 8 hours (Daily)

The gap between the two electrodes of the spark plug should be 0.6 to 0.7mm (0.024" to 0.028").

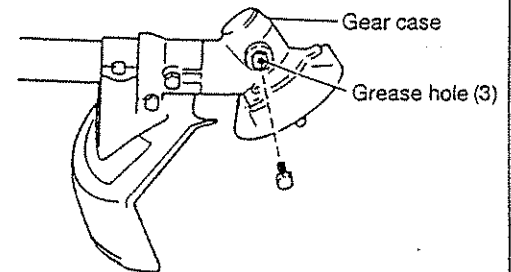
If the gap is too wide or too narrow, adjust it.

If the spark plug is clogged with carbon or fouled, clean it thoroughly or replace it.



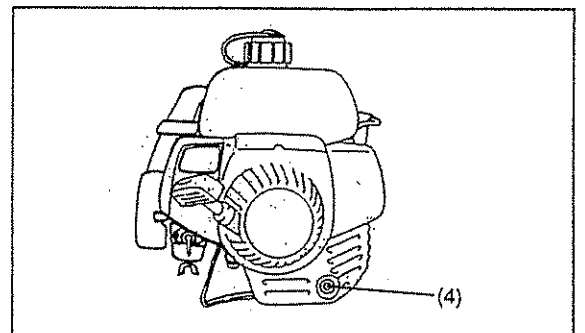
5. Supply of grease to gear case.

Apply grease (SHELL ALVANIA No.3 or equivalent) to the gear case through the grease hole (3) every 30 hours.



6. Cleaning of muffler exhaust port. : Every 50 hours (Monthly)

If the exhaust port (4) is clogged with carbon, remove it by scraping and tapping gently with a screwdriver or the like.



7. Check of fuel filter. If clogged, clean the filter.

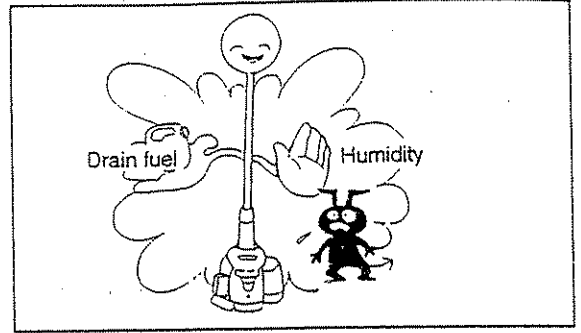
8. Replace fuel lines. : Every 200 hours (Yearly)

9. Overhaul engine. : Every 200 hours (Yearly)

10. Replace packings and gaskets with new ones. : Every time engine is reassembled.

STORAGE

- When the machine is in storage for a long time, drain fuel from the fuel tank and carburetor, as follows: Drain all fuel from the fuel tank. Dispose of properly and in accordance with all local laws.
- Remove the spark plug and a few drops of oil into the spark plug hole. Then, pull the starter gently, so that oil covers the engine inside and tighten the spark plug.
- Clear dirt or dust from the cutter blade and outside of engine, wipe them with a oil-immersed cloth and keep the machine in a place as dry as possible.



Fault location

Fault	System	Observation	Cause
Engine not starting or with difficulty	Ignition system	Ignition spark O.K. No ignition spark	Fault in fuel supply or compression system, mechanical defect STOP-switch operated, wiring fault or short circuit, spark plug or connector defective, ignition module faulty
	Fuel supply	Fuel tank filled	Incorrect choke position, carburetor defective, fuel supply line bent or blocked, fuel dirty.
	Compression	No compression when pulled over	Cylinder bottom gasket defective, crankshaft seals damaged, cylinder or piston rings defective or improper sealing of spark plug
Warm start problems	Mechanical fault	Starter not engaging	Broken starter spring, broken parts inside of the engine
		Tank filled ignition spark existing	Carburetor contaminated, have it cleaned
Engine starts but dies immediately	Fuel supply	Tank filled	Incorrect idling adjustment, carburetor contaminated Fuel tank vent defective, fuel supply line interrupted, cable or STOP-switch faulty
Insufficient performance	Several systems may simultaneously be affected	Engine idling poor	Air filter contaminated, carburetor contaminated, muffler clogged, exhaust duct in the cylinder clogged