

# **Robin**

## **Brush Cutter**

### **NB223A**

### **NB253A**

## **INSTRUCTION MANUAL**

**Important:**

Read this instruction manual carefully before putting the Brush Cutter into operation and strictly observe the safety regulations!  
Preserve instruction manual carefully!

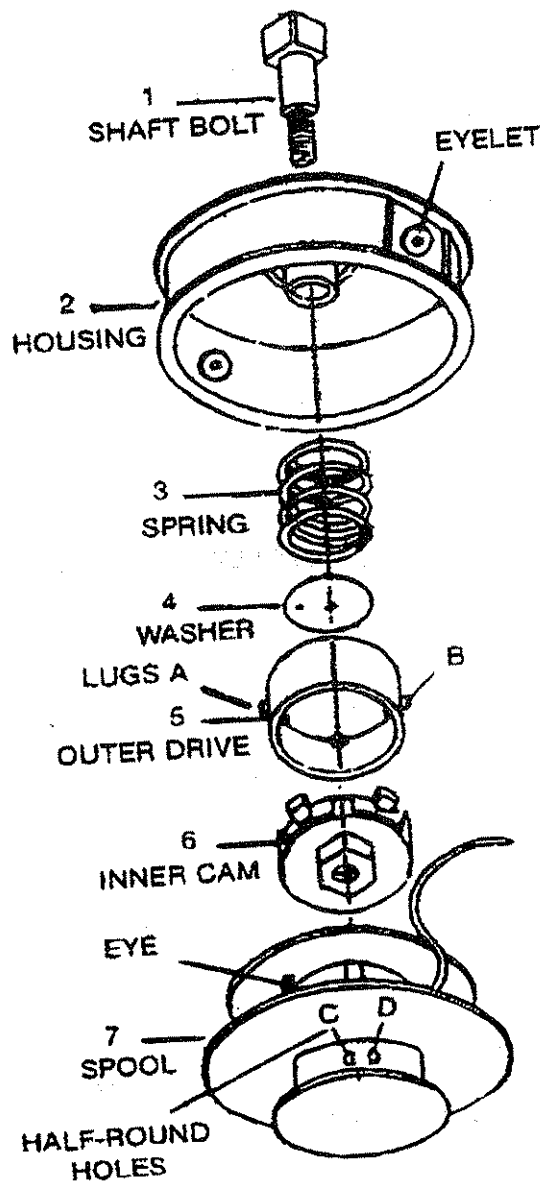


**FUJI ROBIN INDUSTRIES LTD.**

---



# Service Instructions for Semi-Matic Head



### **To UNASSEMBLE**

Twist spool (7) to position lugs (A & B) between two half-rounded holes (C & D). Pull up, separating spool from housing.

### **To REWIND SPOOL**

Use one line 20' long. Thread end of line through eye on spool and pull through until line is the same length on both sides of eye. Wind both ends of line in same direction as trimmer rotation. Wind tightly and evenly from side to side and do not twist line. (Ignore the ridge.)

### **To REASSEMBLE**

Pass end of line through either eyelet on housing being careful not to let line slip under spool. Line up slots under spool with lugs on outer drive (5) and push together. Twist spool so lugs lock into half-round holes. The lugs can be locked in either a clockwise or counter-clockwise direction. If inner cam and driver start to loosen, twist in other direction to lock.

**CAUTION - ALWAYS WEAR PROTECTION FOR THE EYES WHEN USING ANY WEED CUTTING EQUIPMENT.**

Thank you very much for purchasing the ROBIN Brush Cutter. We are pleased to recommend to you the ROBIN Brush Cutter which is the result of a long development programme and many years of knowledge and experience.

Please read this booklet which refers in detail to the various points that will demonstrate its outstanding performance. This will assist you to obtain the best possible result from your ROBIN Brush Cutter.



## Table of Contents

	Page
Symbols	1
Safety instructions	2-5
Technical data	6
Designation of parts	7
Assembly of engine and shaft	8
Mounting of handle	8
Mounting of protector	9
Mounting of cutter blade or nylon cutting head	10
Fuels/Refuelling	11
Correct handling of machine	12
Putting into operation	12-13
Idle adjustment	14
Resharpener the cutting tool	14
Nylon cutting head	14
Maintenance schedule	15
Storage	16

## SYMBOLS

You will note the following symbols when reading the instructions manual.



Read Instruction Manual



WARNING / DANGER / CAUTION



Forbidden



Keep distance



Flying object hazard



No smoking



No open flame



Protective gloves must be worn



Kickback



Keep the area of operation clear of all persons and pets



Wear protective helmet, eye and ear protection (for Brush Cutter only)



Top permissible tool speed



Fuel and oil mixture



Engine-Manual start



Emergency stop



First Aid



ON/START

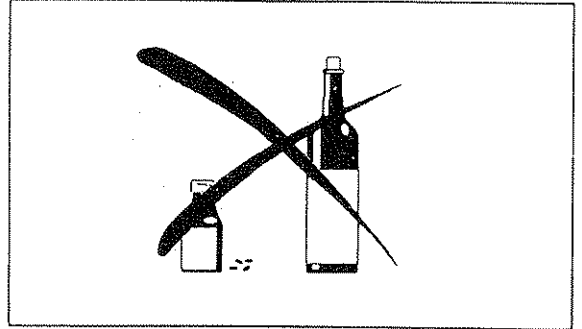
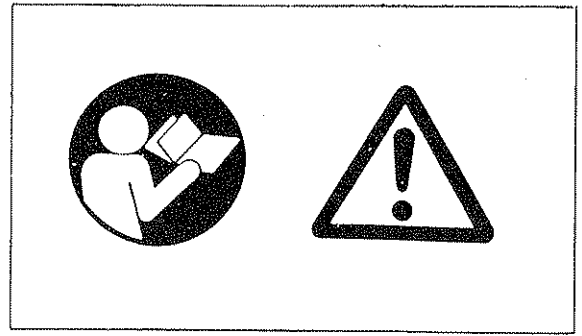


OFF/STOP

## 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 or grass trimmer. 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 or grass trimmers with the utmost care and attention
- Operate the brush cutter or grass trimmer 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 or grass trimmer after consumption of alcohol or drugs, or if feeling tired or ill.

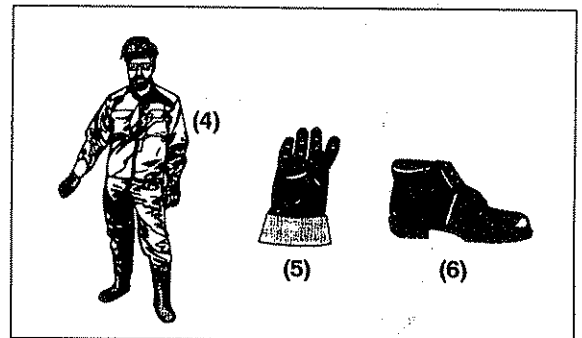
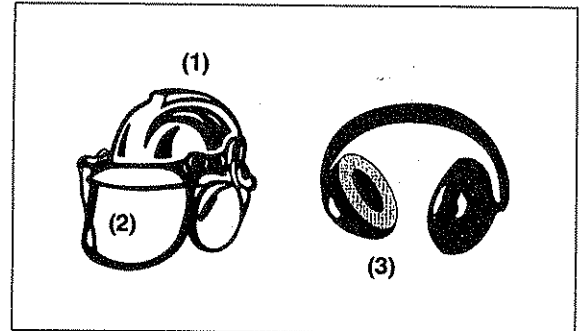


### Intended use of the machine

- The Brush cutter is only intended for cutter grass, weeds, Bushes, undergrowth it should not be used for any other purpose such as Edging or hedge cutting as this may cause injury.

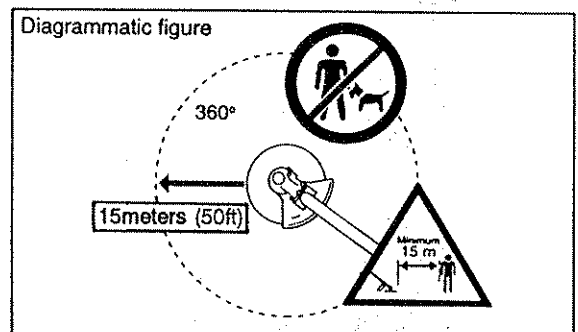
### Personal protective equipment

- 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. The protective helmet (1) is to be checked at regular intervals for damage and is to be replaced at the latest after 5 years. Use only the approved protective helmets.
- The visor (2) of the helmet (or alternatively goggles) protects the face from flying debris and stones. During operation of the brush cutter always wear goggles, or a visor to prevent eye injuries.
- Wear adequate noise protection equipment to avoid hearing impairment (ear muffs (3), ear plugs etc.).
- The work overalls (4) protect against flying stones and debris. We strongly recommend that the user wears work overalls.
- Special gloves (5) 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 safety shoes (6) 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 (50ft), 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.
- 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.

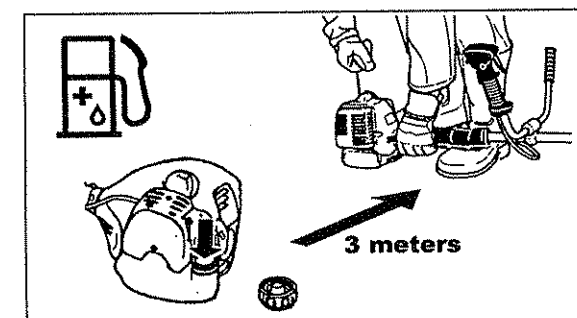
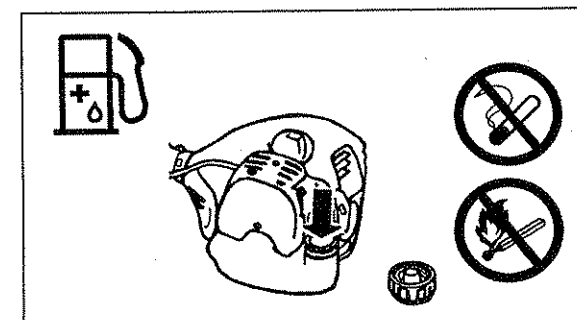
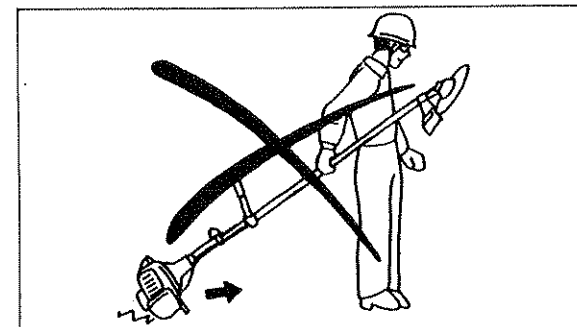
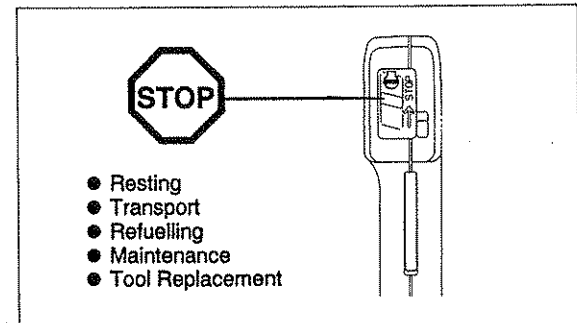
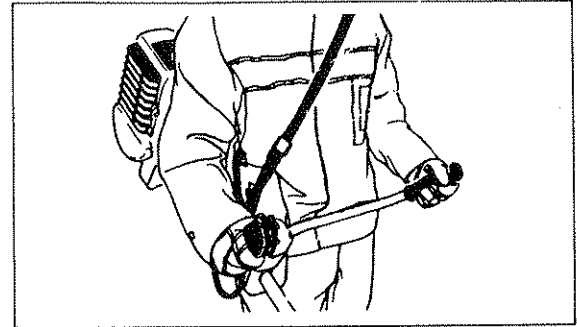
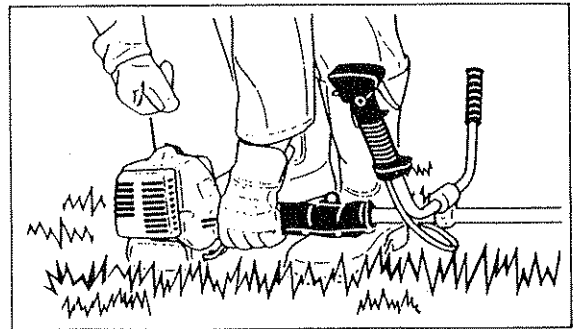


Start the brush cutter only in accordance with the instructions. Do not use any other methods for starting the engine!

- Use the brush cutter and the tools only for such applications as specified.
- Only start the brush cutter engine, after the entire assembly is done. Operation of the device is only permitted after all the appropriate accessories are attached!
- Before starting make sure that the cutting tool has no contact with hard objects such as branches, stones etc. as the cutting tool will revolve when starting.
- The engine is to be switched off immediately in case of any engine problems.
- Should the cutting tool hit stones or other hard objects, immediately switch off the engine and inspect the cutting tool.
- Inspect the cutting tool at short regular intervals for damage (detection of hairline cracks by means of tapping? noise test)
- Operate the brush cutter only with the shoulder strap attached which is to be suitably adjusted before putting the brush cutter into operation. It is essential to adjust the shoulder strap according to the user's size to prevent fatigue occurring during use. Never hold the cutter with one hand during use.
- During operation always hold the brush cutter with both hands. Always ensure a safe footing.
- Operate the brush cutter in such a manner as to avoid inhalation of the exhaust gases. Never run the engine in enclosed rooms (risk of gas poisoning). Carbon monoxide is an odorless gas.
- Switch off the engine when resting and when leaving the brush cutter unattended, and place it in a safe location to prevent danger to others or damage to the machine.
- Never put the hot brush cutter onto dry grass or onto any combustible materials.
- The cutting tool has to be equipped with its appropriate guard. Never run the cutter without this guard!
- All protective installations and guards supplied with the machine must be used during operation.
- Never operate the engine with faulty exhaust muffler.
- Shut off the engine during transport.
- During transport over long distances the tool protection included with the equipment must always be used.
- Ensure safe position of the brush cutter during car transportation to avoid fuel leakage.
- When dispatching the brush cutter, ensure that the fuel tank is completely empty.
- When unloading the Brush Cutter from the truck, never drop the Engine to the ground or this may severely damage the fuel tank.
- Except in case of emergency, never drop or cast, the Brush Cutter to the ground or this may severely damage the Brush Cutter.
- Remember to lift the entire equipment from the ground when moving the equipment. Dragging the fuel tank is highly dangerous and will cause damage and leakage of fuel, possibly causing fire.

#### Refueling

- Shut off the engine during refueling, 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 refueling. 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 fire).
- Inspect the fuel cap at regular intervals making sure that it can be securely fastened and does not leak.
- Carefully tighten the fuel tank cap. Change location to start the engine (at least 3 meters (10ft) away from the place of refueling).
- 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.



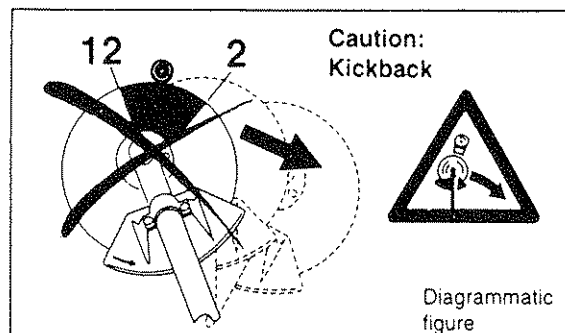
### Method of operation

- 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 tool must have reached full working speed.



### Kickback

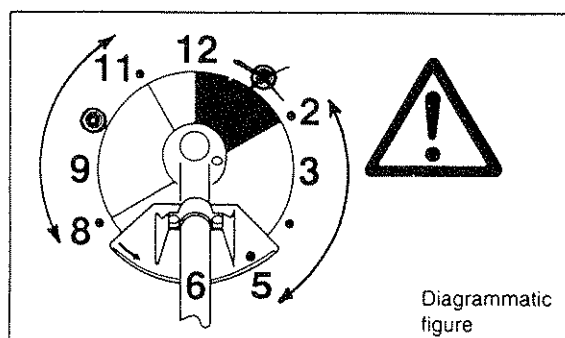
- When operating the brush cutter, uncontrolled kickback may occur.
- This is particularly the case when attempting to cut within a blade segment between 12 and 2 o'clock.
- Never apply the brush cutter within a segment between 12 and 2 o'clock.
- Never apply this segment of the brush cutter blade to 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.

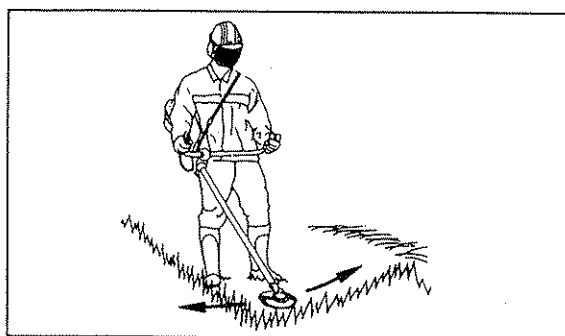
#### Nylon cutting head:

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.

#### Metal blade (Star Blade (4 teeth), Eddy Blade (8 teeth)):

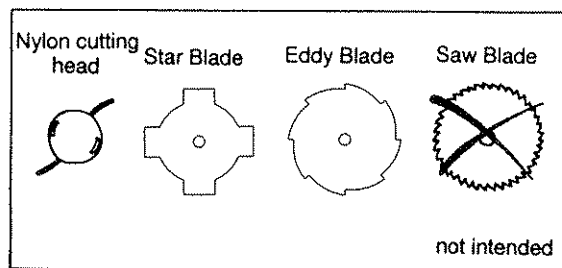
For cutting thick materials, such as weed, high grass, bushes, shrubs, underwood, thicket etc. (max. 2 cm dia. thickness). Perform this cutting work by swinging the brush cutter evenly in half-circles from right to left (similar to using a scythe).

Metal saw blades - not permitted



### 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 by 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.

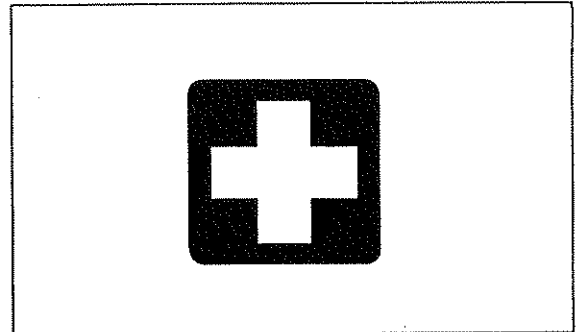


### First Aid

In case of accident, make sure that a first-aid box is available in the vicinity of the cutting operations. Immediately replace any item taken from the first aid box.

**When asking for help, please give the following information:**

- Place of accident
- What happened
- Number of injured persons
- Kind of injuries
- Your name



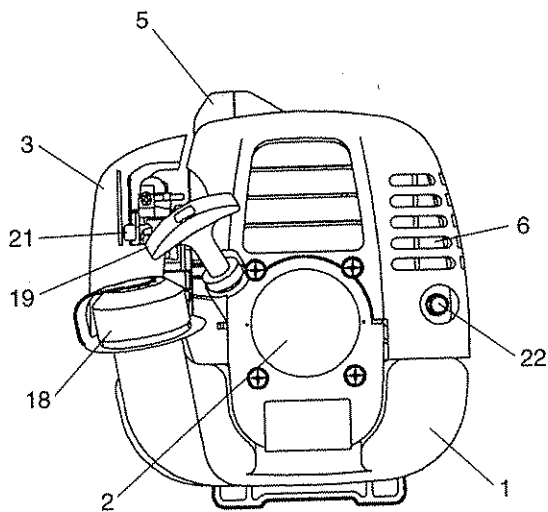
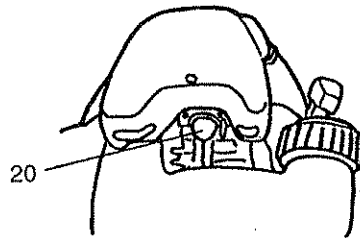
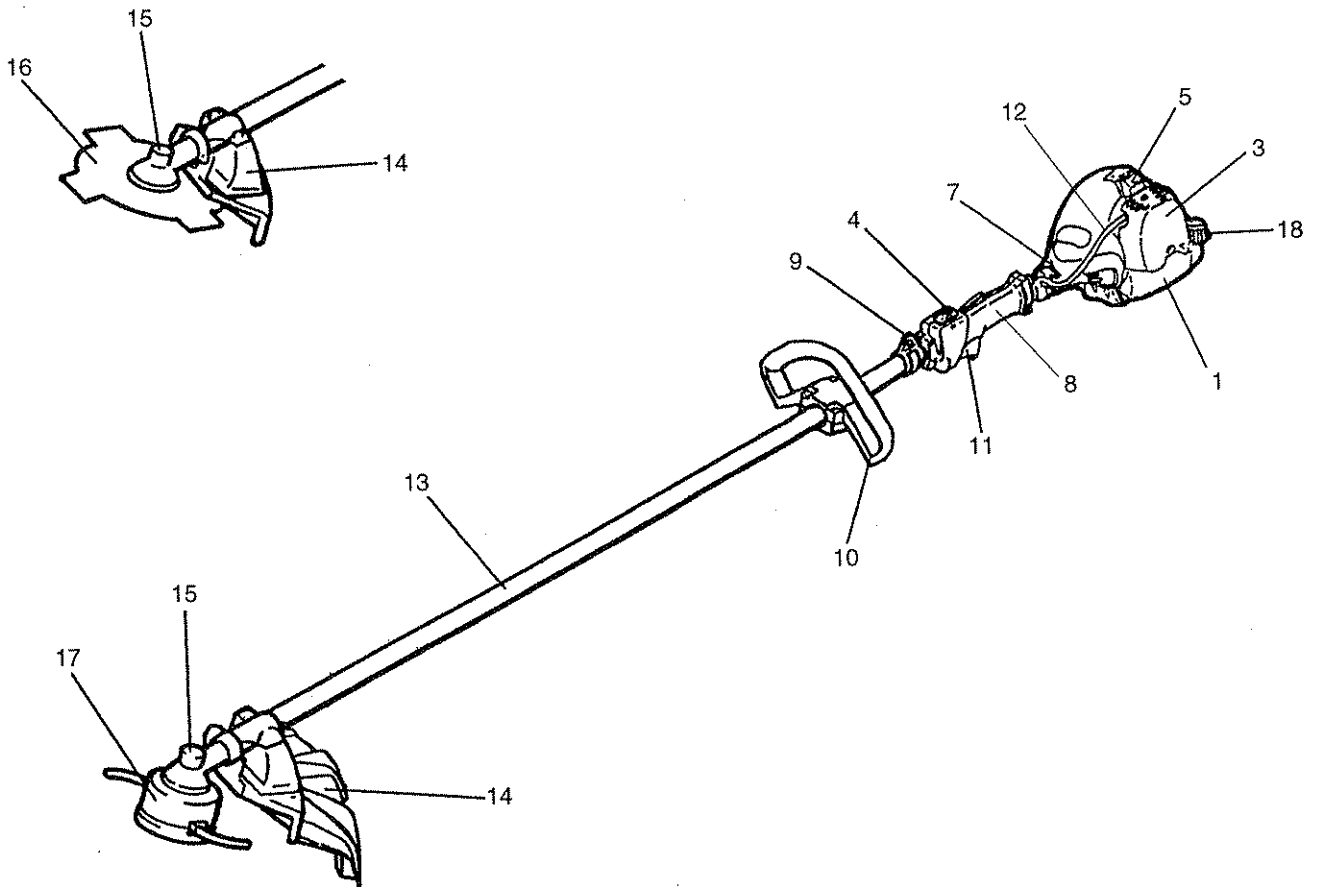
**TECHNICAL DATA NB223,NB253**

Model		NB223A	NB253A
		Loop Handle	Loop Handle
Dimensions:length x width x height (without cutting blade)	mm	1770×215×220 (69.7"×8.5"×8.7")	1770×215×220 (69.7"×23.6"×14.8")
Mass (without plastic guard and cutting blade)	L	4.7 (10.3 lb)	4.7 (10.3 lb)
Volume(fuel tank)	cm <sup>3</sup>	650	650
Engine displacement	cm <sup>3</sup>	21.7	24.5
Maximum engine performance	kw	0.67 at 7000 1/min	0.73 at 7000 1/min
Engine speed at recommended max.spindle speed	min <sup>-1</sup>	8800	8800
Maximum spindle speed(corresponding)	min <sup>-1</sup>	6000	6000
Fuel consumption	kg/h	—	—
Specific fuel consumption	g/kwh	—	—
Idling speed	min <sup>-1</sup>	2600	2600
Clutch engagement speed	min <sup>-1</sup>	3600	3600
Carburetor(Diaphragm-carburetor)	type	WALBRO WYJ	WALBRO WYJ
Ignition system	type	Solid state ignition	Solid state ignition
Spark plug	type	NGK BM7A	NGK BM7A
Electrode gap	mm	0.6-0.7	0.6-0.7
Mixture ratio(Fuel:ROBIN2-stroke oil)		50 : 1	
Gear ratio		14/18	14/18

1) The data takes equally into account the idling and reving or wide open throttle speed operating modes.

**\*WARNING: MODEL NB223 NB253 must not be used with a saw blade.**

## DESIGNATION OF PARTS



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	Rear Grip
9	Hanger
10	Handle
11	Throttle Lever
12	Control Cable
13	Shaft
14	Protector
15	Gear Case
16	Cutter Blade
17	Nylon Cutting Head
18	Fuel Filler Cap
19	Starter Knob
20	Primer Pump
21	Choke Lever
22	Exhaust Pipe

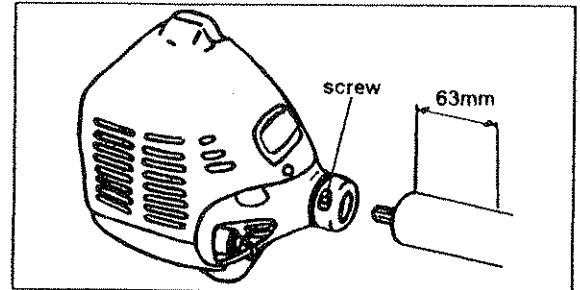
## ASSEMBLY OF ENGINE AND SHAFT

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!

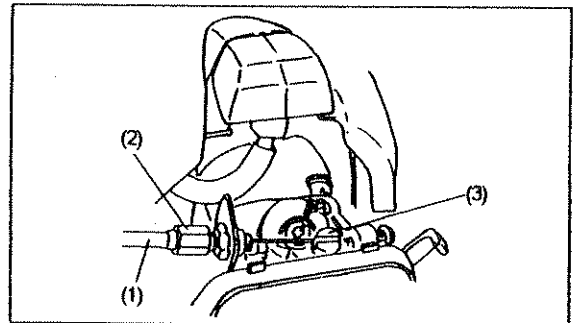
CAUTION: Start the brush cutter only after having assembled it completely.



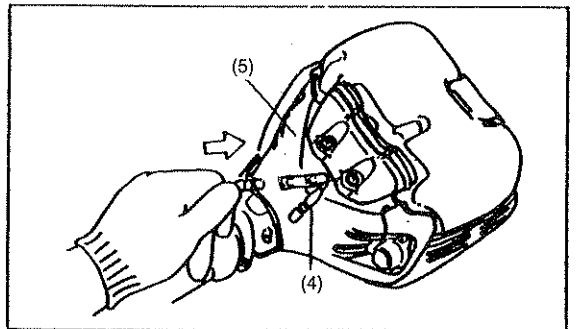
- Loosen the screws M5 x 18 and insert the drive shaft into the Clutch case. (Fig.)
- NOTE: Always insert the drive shaft into the Clutch case fully (approx. 63mm). If the inner shaft resists full insertion of the drive shaft, try to insert it again after slightly rotating the drive shaft or the support washer on the gear case to match the inner shaft to the hole inside the Clutch case.
- After making sure that the drive shaft is installed fully and properly, tighten the screw M5 x 18 to secure the drive shaft.



- Unscrew screw of air cleaner cover.
- Remove air cleaner cover from carburetor.
- Insert control cable (1) through adjusting screw (2) and fit nipple of control cable into swivel (3) of carburetor.
- Adjust the adjusting screw to take up free play of wire ensuring the throttle is fully opened when control lever is in high speed position and 2 - 3mm (0.079" - 0.118") free play when in low speed position.
- Re-fit air cleaner cover



- Connect the switch cords to the two cords from the engine by inserting one into the other.
- Insert the bullet connectors (4) through the holes in the Clutch case (5).

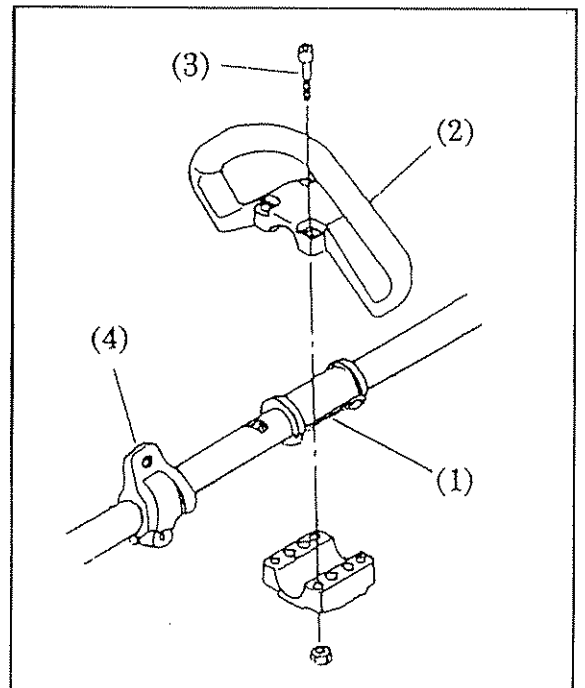


## MOUNTING OF HANDLE



- Install the rubber spacer (1) around the case before installing loop handle (2).
- Install the loop handle (2) over the rubber spacer (1) and install 4 socket head bolts (3) and nuts, tighten securely.
- The standard position of the handle is 8 " to 10 " from the hanger (4).

(Note) Position the handle according to a workers stature and working conditions.



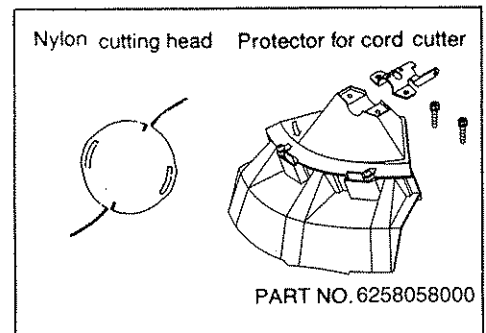
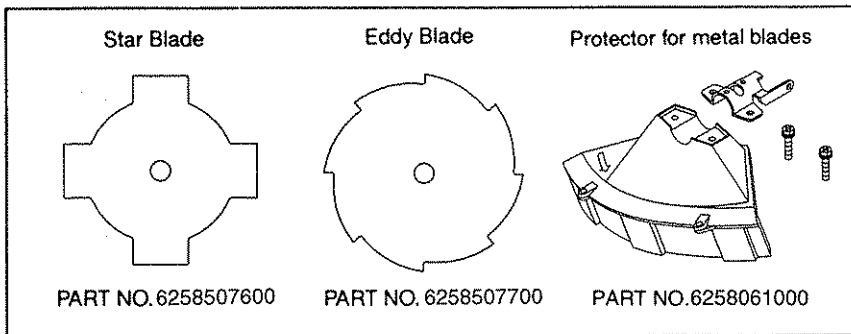
## MOUNTING OF PROTECTOR

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 blades or nylon cutting head.**

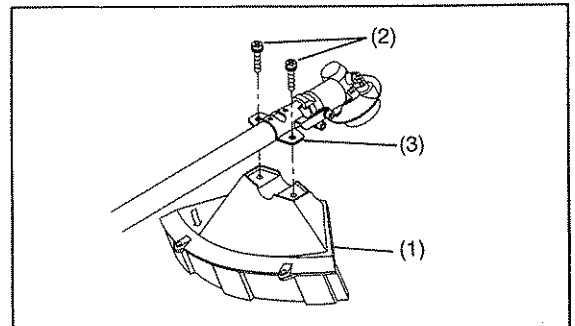
- The cutter blade must be well polished, free of cracks or breakage.  
If the cutter blade hits against a stone during operation, stop the engine and check the blade immediately.
- Polish or replace the cutter blade every three hours of operation.
- The outside diameter of the cutter blade must be 230mm (9-1/16"). Never use any blades surpassing 230mm (9-1/16") in outside diameter.



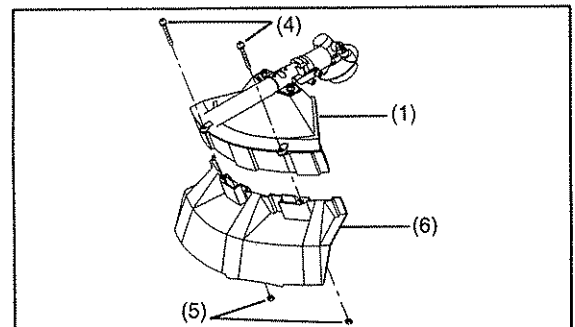
**CAUTION:** The appropriate protector must always be installed, for your own safety and in order to comply with accident-prevention regulations.

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

- Fix the protector (1) to the clamp (3) with two bolts M6 x 30 (2).



- When using the string head, fit the protector (6) into the protector (1), and tighten them with two nuts (5) and two screws (4).

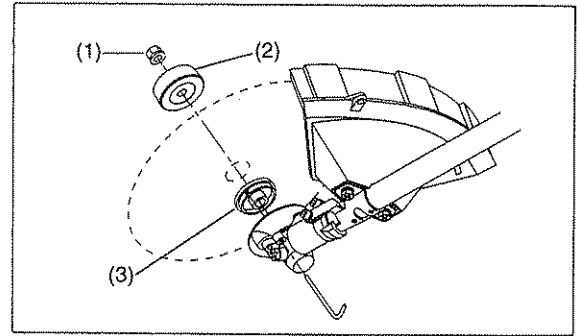


## MOUNTING OF CUTTER BLADE OR NYLON CUTTING HEAD

Turn the machine upside down, and you can replace the cutter blade or the nylon cutting head 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 nut (1) (left-hand thread) with the socket wrench and remove the nut (1), and clamp washer (2).



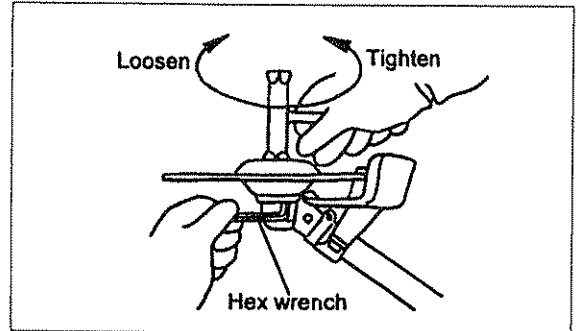
### With the hex wrench still in place

- 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 nut (1).

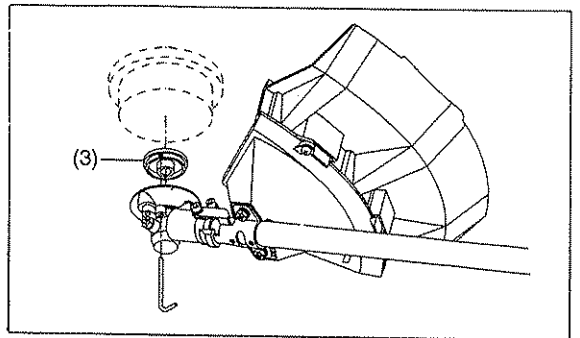
[Tightening torque: 13-23N•M]

NOTE: Always wear gloves when handling the cutter blade.

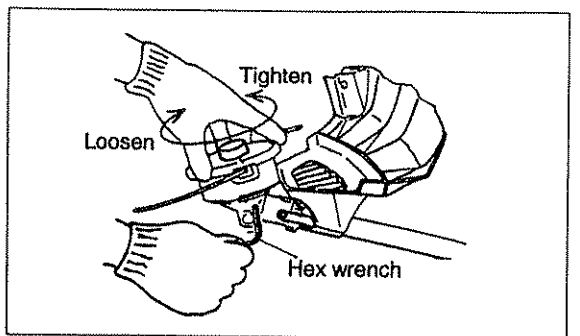
NOTE: The cutter blade-fastening nut (with spring washer) is a consumable part. If there appears any wear or deformation on the spring washer, replace the nut.



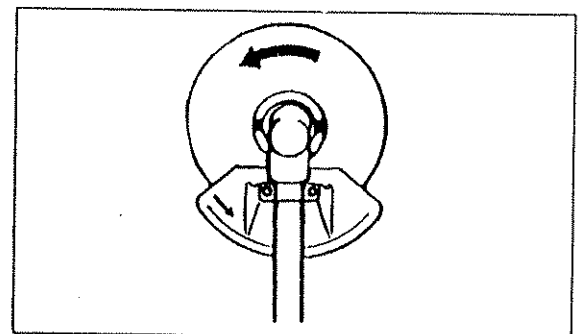
NOTE: The clamp washer (2), and nut (1) are not necessary for mounting the nylon cutting head. The nylon head should go on top of the receiver washer (3).



- Screw the nylon cutting head onto the shaft.



- Make sure that the head is the left 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!



Observe the Safety Instructions on page 3!

### 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.

#### The correct mixture ratio

Gasoline : ROBIN genuine two-stroke engine oil = 50:1 or

Gasoline : Other manufacturer's two-stroke engine oil = 25:1  
recommended

#### FOR CALIFORNIA REGULATION:

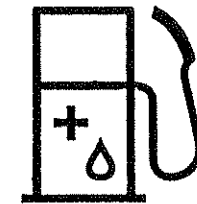
**THIS EQUIPMENT IS CERTIFIED TO OPERATE ON GASOLINE + TWO STROKE OIL**

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.

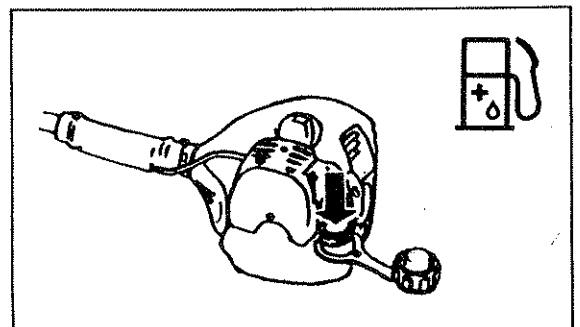


### The engine must be switched off!

- 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

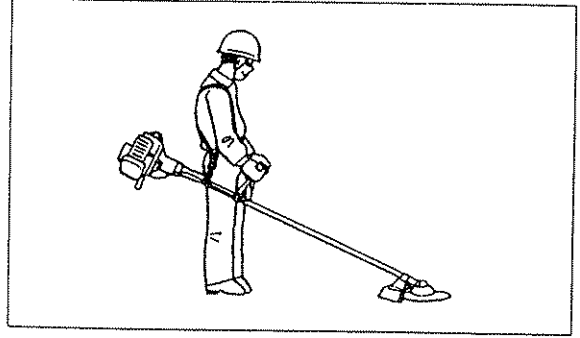
Fuel cannot be stored for an unlimited period of time. Purchase only the quantity required for a 4 week operating period. Only use approved fuel storage containers.



## CORRECT HANDLING OF MACHINE

### Attachment of shoulder strap

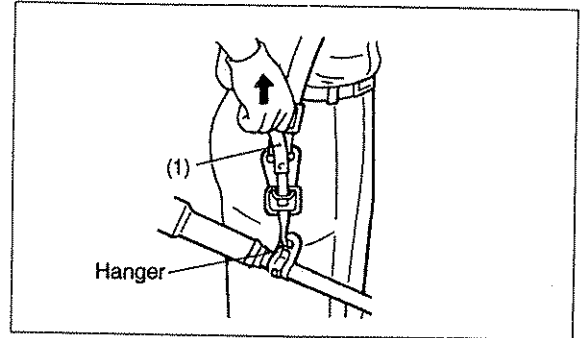
- Adjust the strap length so that the cutter blade will be kept parallel with the ground.



### 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!

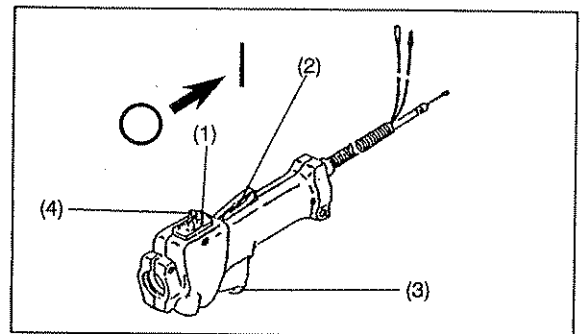


### Starting

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.

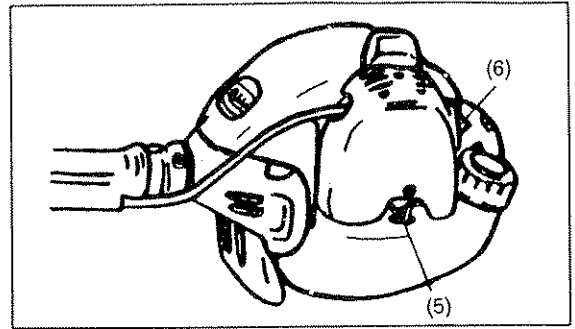
### Cold start

- Push the I-O switch (1) in the direction shown by the arrow.
- Grasp the handle (hand presser activates the safety lock-off lever (2)).
- Press the throttle lever (3) 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).

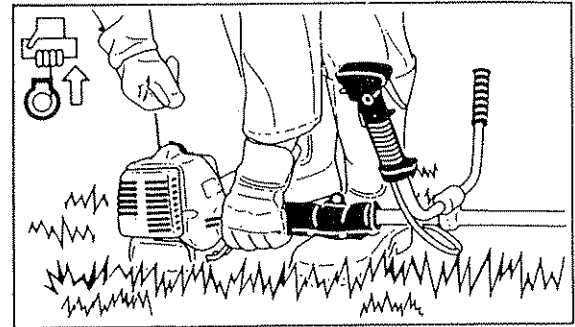




- First place the machine on the ground.
- Give a gentle push on the primer pump (5) repeatedly (7 - 10 times) until fuel comes into the primer pump.
- Move the choke lever (6) to the top position (↑).



- 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:

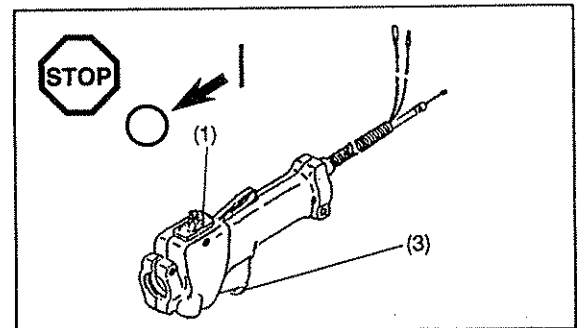
If the throttle lever is opened fully in a no-load operation, the engine rotation is increased to 10,000rpm or more. Never operate the engine at a higher speed than required and at an approximate speed of 6,000 - 8,000rpm.

#### Starting the warm engine

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

#### Stopping

- Release the throttle lever (3) fully, and when the engine rpm has lowered, push the I - O switch (1) to "O" position the engine will now stop.

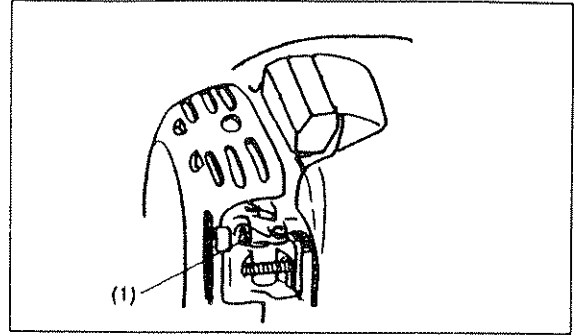


## IDLE ADJUSTMENT

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.



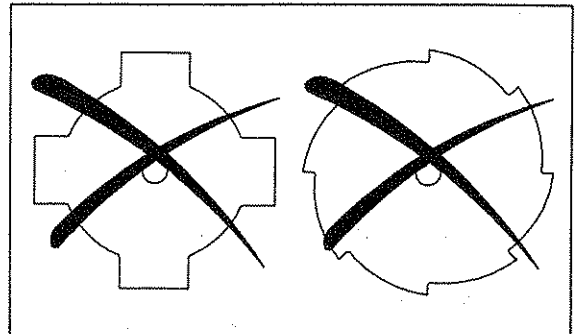
## RESHARPENING THE CUTTING TOOL

**CAUTION:** The cutting tools mentioned below must only be resharpened by an authorized facility. Manual resharpening 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 resharpening 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.



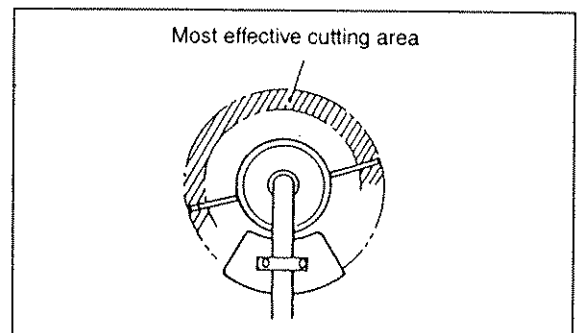
## NYLON CUTTING HEAD

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.

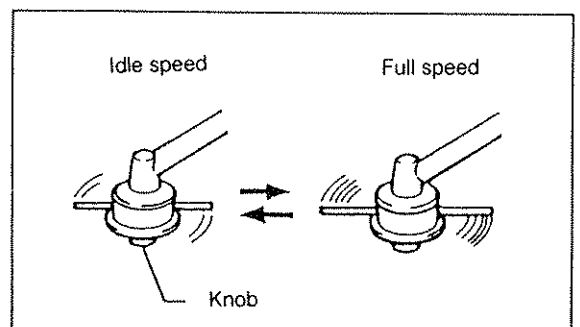
### Operation

- Increase the nylon cutting head speed to approx. 6,000rpm.  
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

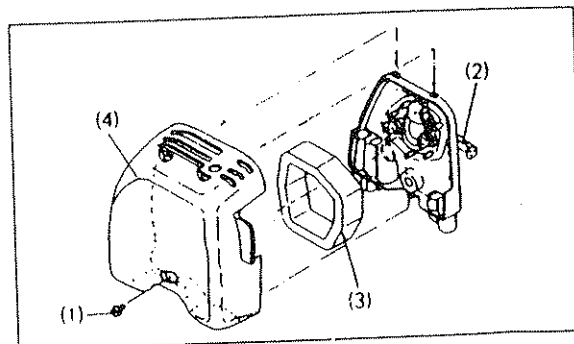


1. Before operation, pay particular attention to the tightness of Cutter Blade or nylon cutting head.  
Check bolts and nuts and retighten if necessary. : Every 8 hours (Daily)

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.

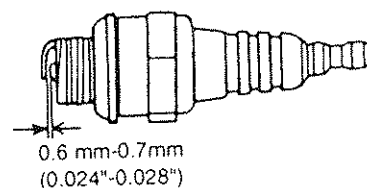


4. Checkup of spark plug. : Every 8 hours (Daily)

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

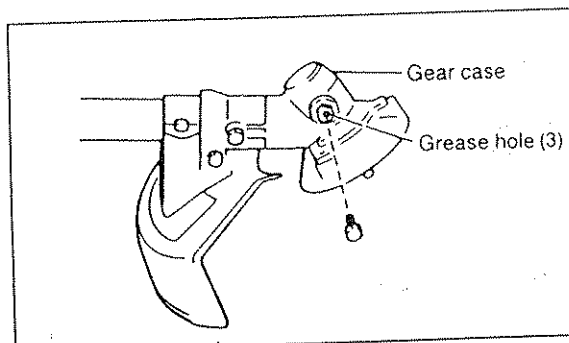
If the gap is too wide or too narrow, adjust it.

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



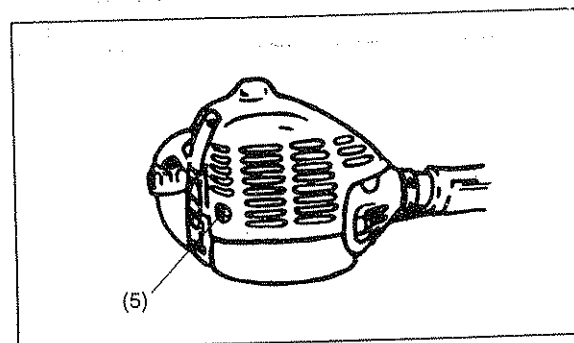
5. Supply of grease to gear case.

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

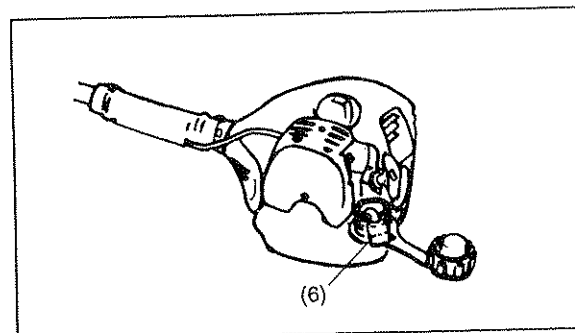


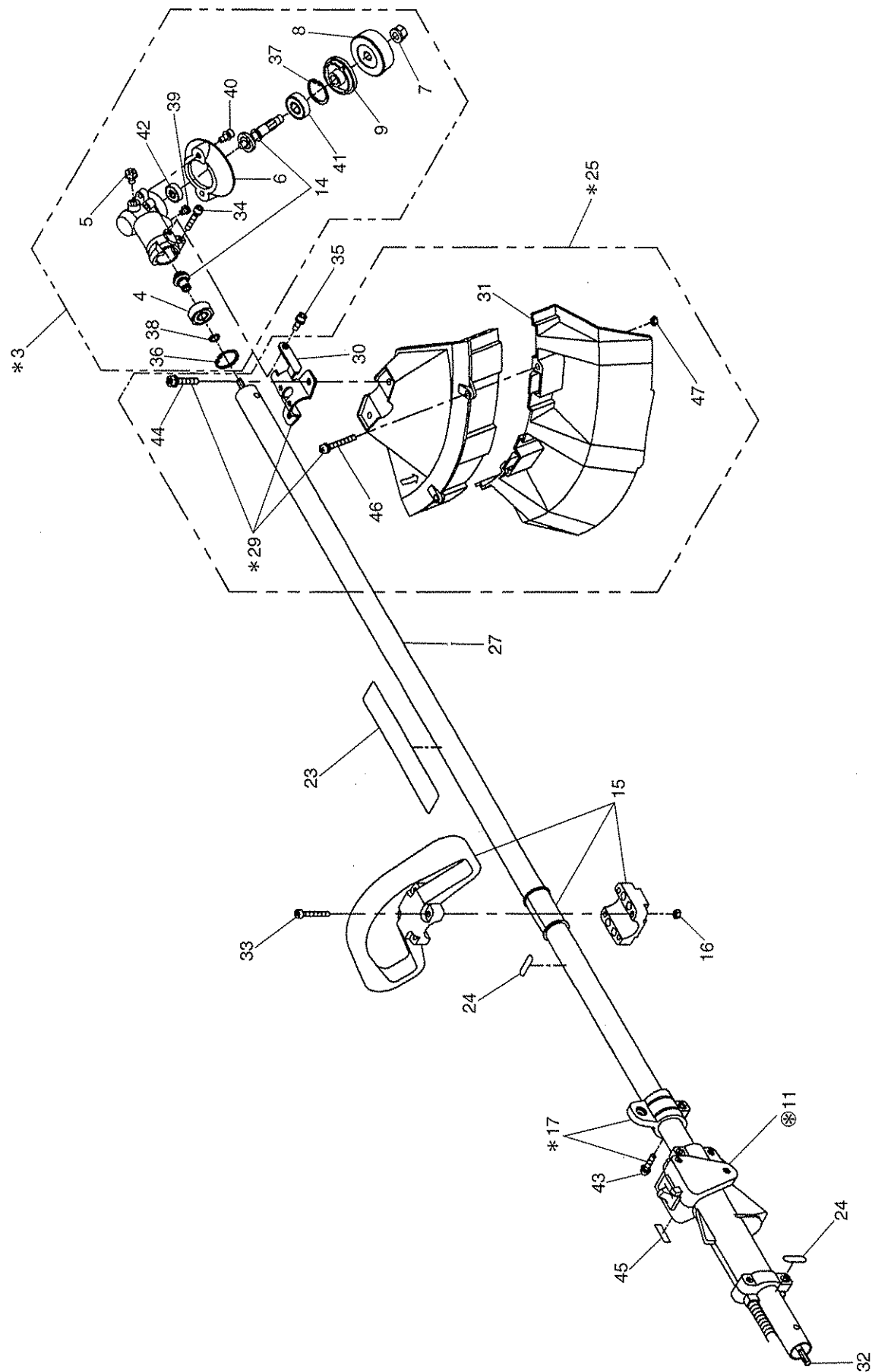
7. Check of fuel filter. If clogged, clean the filter (6).

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.





## MACHINE BODY

## NB223-253A PARTS LIST

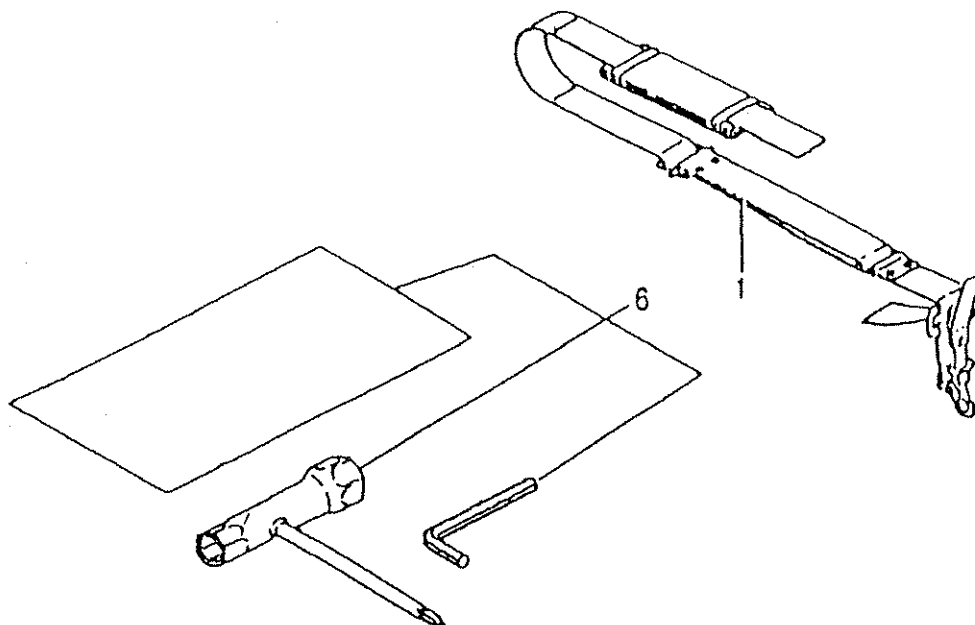
(U.S. SPEC.)

KEY No.	CARSWELL PART No.	QTY.	DESCRIPTION	MANUFACTURER PART No.
* 3	5435	1	Case, gear assembly (incl. 4-9, 14, 34, 36-42)	621 30170 03
4	6008	1	Ball Bearing (# 609 ZZ)	621 25003 00
5	5309	1	Bolt, oil (M6 9W)	625 30110 12
6	3519	1	Guard	621 85002 00
7	5438	1	Nut	625 85050 01
8	6112	1	Washer, clamp compl.	621 80030 00
9	5459	1	Washer, receive	621 85016 01
⊗ 11		1	Control lever assembly	621 50260 00
14	5437	1	Gear set	621 30210 01
15		1	Handle compl.	611 40050 00
16		4	Nut (M5)	00227 0500 0:
* 17	5306	1	Hanger assembly (incl. 43)	625 40190 00
23	3015	1	Label, caution	621 95195 01
24	5434	2	Label, caution	625 95147 00
* 25		1	Protector assembly (incl. * 29, 31, 46, 47)	625 80580 00
27	5432	1	Pipe, shaft compl.	621 10150 01
* 29		1	Protector assembly (incl. 30, 44)	625 80610 00
30		1	Clamp, protector	625 85082 00
31		1	Protector compl.	625 80480 02
32		1	Shaft	619 15004 01
33		4	Socket head bolt (M5x33)	0119 05986 0
34	6268	1	Socket head bolt (M5x25 SW)	0119 05989 0
35		1	Socket head bolt (M5x14W SW)	0119 05949 0
36	1187	1	Snpring, inner( $\phi$ 24)	00314 2400 0
37	6129	1	Snpring, inner( $\phi$ 26)	00314 2600 0
38	6130	1	Snpring, outer( $\phi$ 8)	00315 0800 0
39	6130	1	Screw, pan head(M5x6)	00431 0506 0
40	6128	2	Socket head bolt(M5x12 W SW)	0119 05978 0
41		1	Ball bearing(#6000 DDU)	0600 10991 0
42	5310	1	Ball bearing(#626 ZZ)	0600 06999 0
43	3617	1	Screw assembly(M5x20 W, SW )	00117 0630 0
44	5440	2	Boltassembly, cross recess(M6x30 W, SW)	00117 0630 0
45		1	Label	0736 25995 0
46		2	Screw assembly(M5x40 W SW)	00436 0540 0
47		2	Nut	00218 0500 0

## STANDARD ACCESSORY

# NB223-253A PARTS LIST

(U.S.SPEC.)

[illegible]





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

PLACE  
STAMP  
HERE

From

**CMA** CARSWELL IMPORT &  
MARKETING ASSOCIATES, INC.  
P.O. Box 4169, Winston-Salem, N.C. 27115



**FUJI ROBIN INDUSTRIES LTD.**