

Robin

Brush Cutter

NB2050 A

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.

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.



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SYMBOLS

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

	Read instruction Manual		Keep the area of operation clear of all persons and pets
	Take Particular Care and Attention		Wear protective helmet, eye and ear protection
	Forbidden		Top permissible tool speed
	Keep distance		Fuel and oil mixture
	Flying object hazard		Engine-Manual start
	No smoking		Emergency stop
	No open flame		First Aid
	Protective gloves must be worn		ON/START
	Kickback		OFF/STOP

SAFETY INSTRUCTIONS

General Instructions

- To ensure correct operation, 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.
- It is recommended only to lend the brush cutter to people who have proven to be experienced with brush cutters. Always hand over the instruction manual.
- First users should ask the dealer for basic instructions to familiarize oneself with the handling of an engine powered cutter.
- Children and young persons aged under 18 years must not be allowed to operate the brush cutter. Persons over the age of 16 years may however use the device for the purpose of being trained only whilst under supervision of a qualified trainer.
- 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.

Intended use of the machine

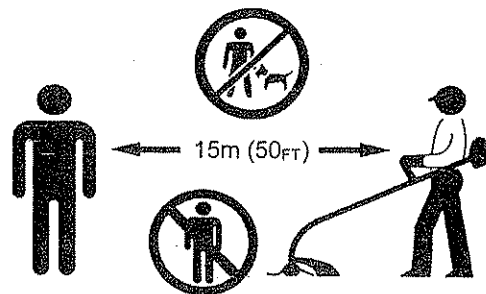
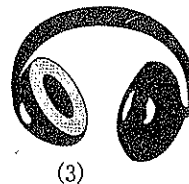
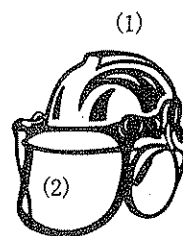
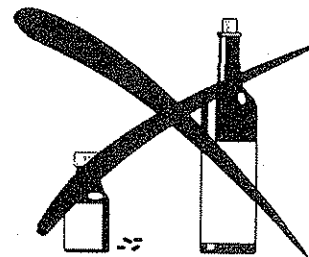
- The Brush cutter is only intended for cutting grass, weeds, Bushes, undergrowth it should not be used for any other purpose such as Edging or hedge cutting as this may cause injury.

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 as 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 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 sturdy 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.



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.

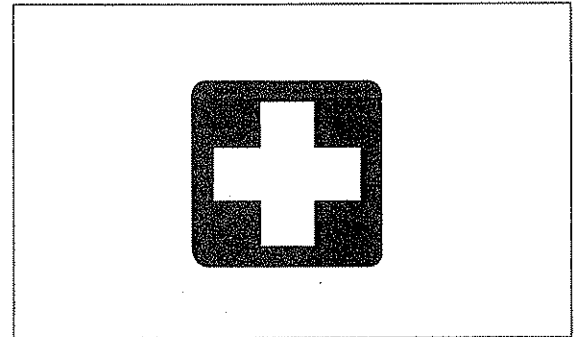
The performance of maintenance or repair work by the user is limited to those activities as described in the instruction manual. All other work is to be done by an Authorized Service Agent. Use only genuine spare parts and accessories released and supplied by ROBIN.

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.



TECHNICAL DATA

Model		NB2050 A
Dimensions : length x width x height (without cutting blade)	mm	1740 x 220 x 220 (68.5" x 8.7" x 8.7")
Mass (without plastic guard and cutting blade)	kg	3.8 (8.4 lb)
Volume (fuel tank)	L	0.4
Engine displacement	cm ³	20.0
Maximum engine performance	kw	0.57/7000 min ⁻¹
Engine speed at recommended max. spindle speed	min ⁻¹	8800
Maximum spindle speed (corresponding)	min ⁻¹	6000
Fuel consumption	kg/h	—
Specific fuel consumption	g/kwh	—
Idling speed	min ⁻¹	3000
Clutch engagement speed	min ⁻¹	4000
Carburetor (Diaphragm - carburetor)	type	TK TZ9V
Ignition system	type	Solid state ignition
Spark plug	type	NGK BM7A
Electrode gap	mm	0.6 - 0.7
Mixture ratio (Fuel : ROBIN 2-stroke oil)		50 : 1
Gear ratio		14/18

*** WARNING: MODEL NB2050 must not be used with a saw blade.**

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.

For NB2050

- The outside diameter of the cutter blade must be 230 mm (9-1/16"). Never use any blades surpassing 230 mm (9-1/16") in outside diameter.

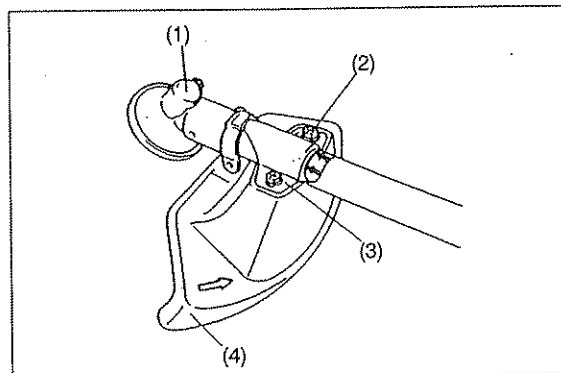
NB2050(A)		
Star Blade	Eddy Blade	Protector for metal blades
PART NO. 6208501400	PART NO. 6258505200	PART NO. 6258038000

NB2050(A)	
Nylon cutting head	Protector for cord cutter
	PART NO. 6218008003

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.

For NB2050

- 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 M6 x 30 (2).

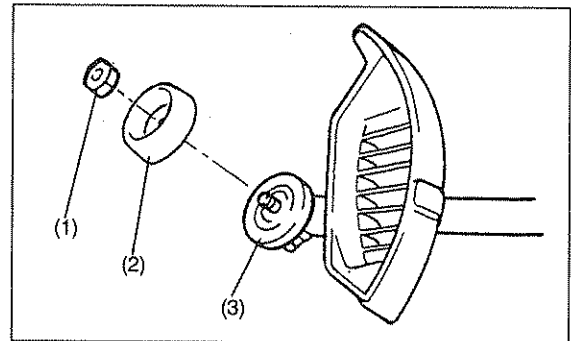


MOUNTING OF CUTTER BLADE OR NYLON CUTTER HEAD

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

For NB2050

- 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).



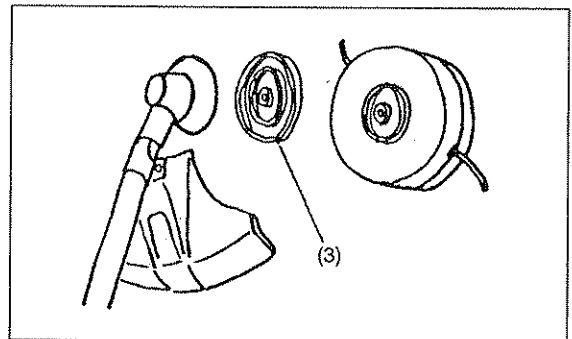
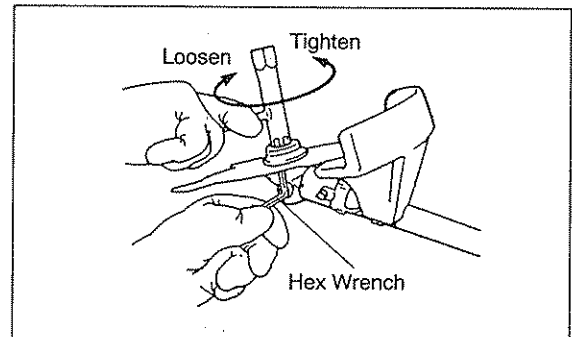
For NB2050 with the hex wrench still in place.

- 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 - 23 N·m]

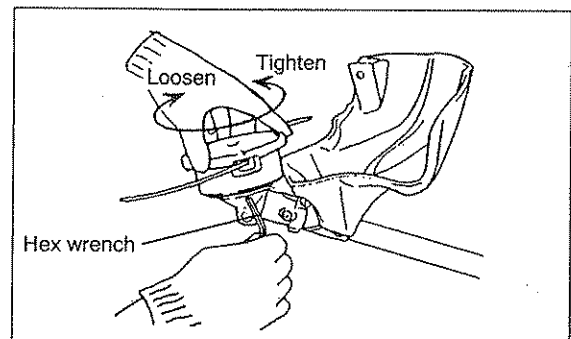
NOTE: Always wear gloves when handling the cutter blade.

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.

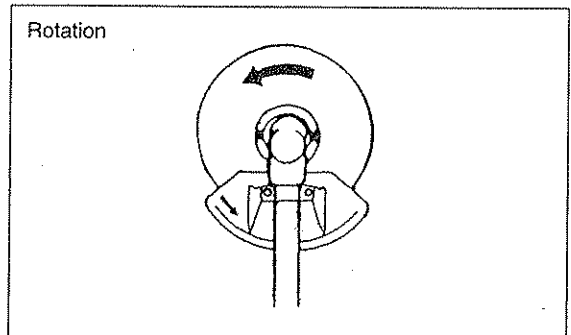
NOTE: The clamp washer (2), and nut (1) are not necessary for mounting the nylon cutting head. The nylon head should go on top of the receiver washer (3).



- Screw the nylon cutting head onto the shaft.



Make sure that the blade 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!

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 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 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 sparks.
5. Be sure to wipe off spilled fuel before attempting to start the engine.
6. Do not attempt to refuel a hot engine.

Refuelling

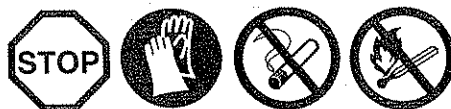
The engine must be switched off!

- Thoroughly clean the area around the fuel filler cap (2), to prevent dirt from getting into the fuel tank (1).
- Unscrew the fuel filler cap (2) and fill the tank with fuel.
- Tightly screw on the fuel filler cap (2).
- Clean screw fuel filler cap (2) and tank after refueling!

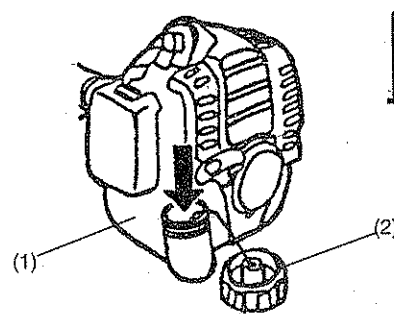
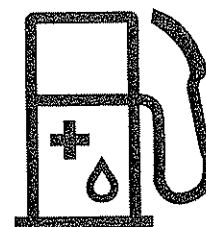
Storage of Fuel

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.



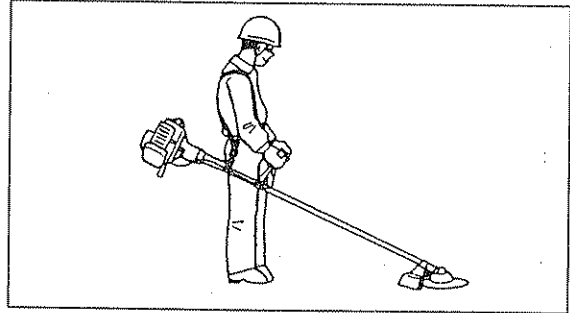
Observe the Safety Instructions on page 4!



CORRECT HANDLING OF MACHINE

Attachment of shoulder strap

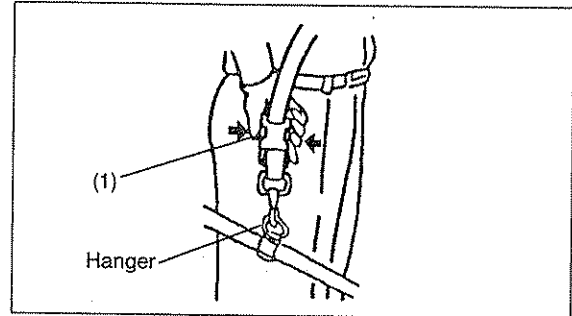
- Adjust the strap length so that the cutter blade will be kept parallel with the ground.



Detachment

- In an emergency, pull the notches (1) at both sides, 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

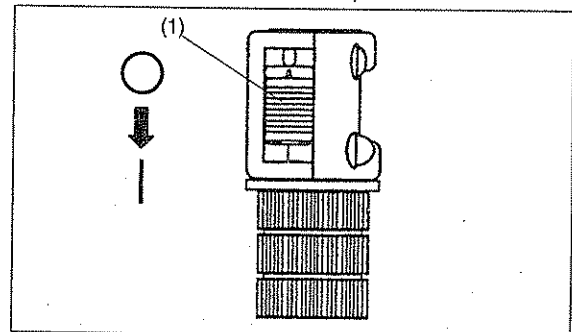
Move at least 3m away from the place of refuelling. Place the brush cutter on a clean piece of ground taking care that the cutting tool does not come into contact with the ground or any other objects.



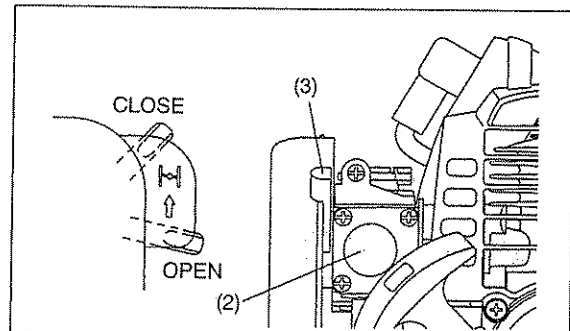
Cold start

For machine with Loop Handle

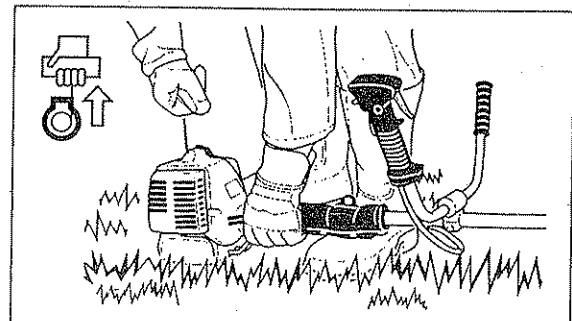
- Push the I-O switch (1) in the direction shown by the arrow.



- First place the machine on the ground.
- Give a gentle push on the primer pump (2) repeatedly (7-10 times) until fuel comes into the primer pump.
- Move the choke lever (3) 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 quick 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.



Note: – If the starter handle is pulled repeatedly when the choke lever remains at " | ● | " position, the engine will not start easily due to excessive fuel intake.

- In case of excessive fuel intake, remove the spark plug and pull the starter handle slowly to remove excess fuel. Also, dry the electrode section of the spark plug.

Caution during operation:

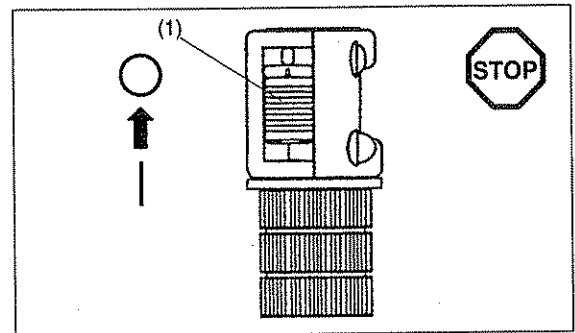
If the throttle lever is opened fully in a no-load operation, the engine rotation is increased to $10,000 \text{ min}^{-1}$ or more. Never operate the engine at a higher speed than required and at an approximate speed of $6,000 - 8,000 \text{ min}^{-1}$.

Starting the warm engine

- As described above, except without moving the choke lever (choke lever remains in the down position " | ● | ").
- Give a gentle push on the primer pump (1) repeatedly (7-10 times) until fuel comes into primer pump.

Stopping

- Release the throttle lever fully, and when the engine rpm has lowered, push the I-O switch (1) to "O" position the engine will now stop.
- Be aware that the cutting head may not stop immediately and allow it to slow down fully.

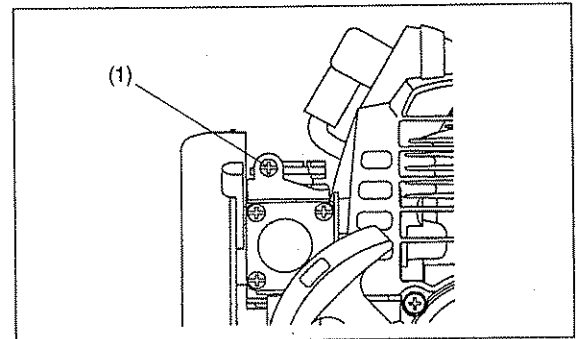


IDLE ADJUSTMENT

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 $3,000 \text{ min}^{-1}$.
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.



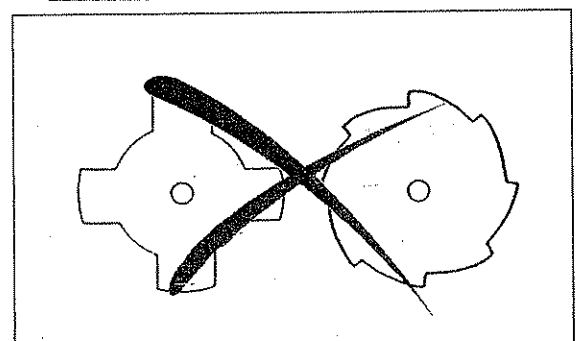
RESHARPENING THE CUTTING TOOL

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.

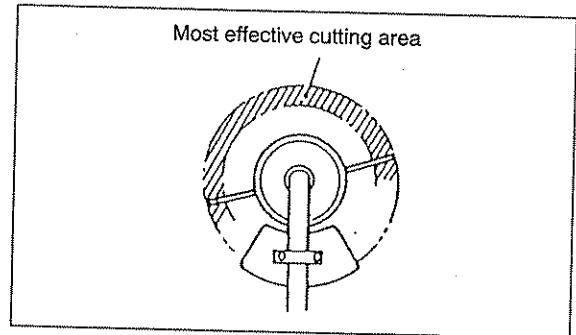


NYLON CUTTING HEAD

The nylon cutting head is a dual string trimmer head capable of 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.

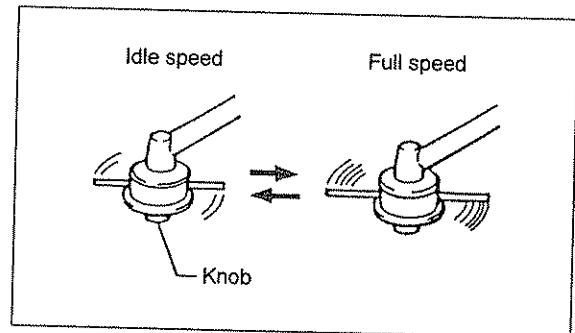
Operation

- Increase the nylon cutting head speed to approx. 6,000 min⁻¹. Low speed (under 4,800 min⁻¹) 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 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".



SERVICING INSTRUCTIONS



CAUTION: Before doing any work on the brush cutter, always switch off the motor and pull the plug cap off the spark plug (see "checking the spark plug").
Always wear protective gloves!

To ensure a long service life and to avoid any damage to the equipment, the following servicing operations should be performed at regular intervals.

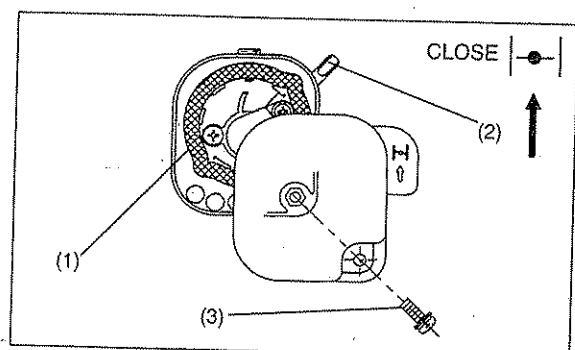
Daily checkup and maintenance

- Before operation, check the machine for loose screws or missing parts. Pay particular attention to the tightness of the cutter blade or nylon cutting head.
- Before operation, always check for clogging of the cooling air passage and the cylinder fins. Clean them if necessary.
- Perform the following work daily after use:
 - Clean the brush cutter externally and inspect for damage.
 - Clean the air filter. When working under extremely dusty conditions, clean the filter the several times a day.
 - Check the blade or the nylon cutting head for damage and make sure it is firmly mounted.
 - Check that there is sufficient difference between idling and engagement speed to ensure that the cutting tool is at a standstill while the engine is idling (if necessary reduce idling speed).
- If under idling conditions the tool should still continue to run, consult your nearest Authorized Service Agent.
- Check the functioning of the I-O switch, the lock-off lever, the control lever, and the lock button.

Cleaning of air cleaner

Clogging of the element (1) may sometimes make it difficult or impossible to start up the engine or increase the engine speed.
After the end of operation, be sure to clean the air cleaner as mentioned below.

- To prevent dust or dirt from entering into the carburetor, set the choke lever (2) to "CLOSE" position.
- Remove the air cleaner cover screw with a socket-wrench driver.
- Place the finger under the air cleaner cover, push down the cover lower part, and detach the air cleaner cover.
- Take out the element (1), clean it with lukewarm water mixed with neutral detergent, and dry it completely.



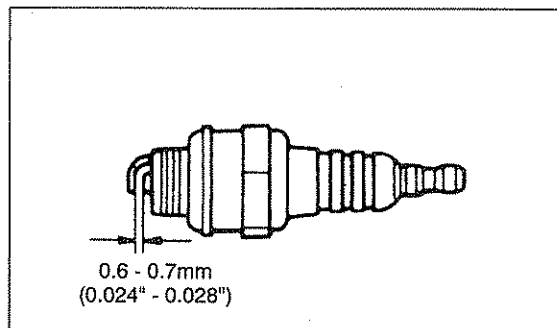
- After cleaning, attach the element.
- Insert the claw at the case upper part into the hole at the upper part of the air cleaner cover. Then, attach the air cleaner cover by pushing it, and tighten the screw (3).

NOTE: If there is excessive dust or dirt adhering to the air cleaner, clean it every day. A clogged air cleaner may make it difficult or impossible to start the engine or increase the engine rotational speed.

Checking the spark plug

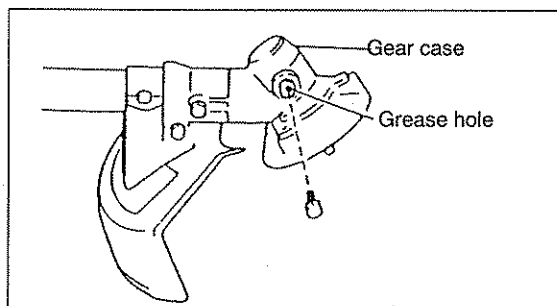
- Only use the supplied universal wrench to remove or to install the spark plug.
- The gap between the two electrodes of the spark plug should be 0.6 - 0.7 mm (0.024" - 0.028"). If the gap is too wide or too narrow, adjust it. If the spark plug is clogged with carbon or fouled, clean it thoroughly or replace it.

CAUTION: Never touch the spark plug connector while the engine is running (danger of high voltage electric shock).



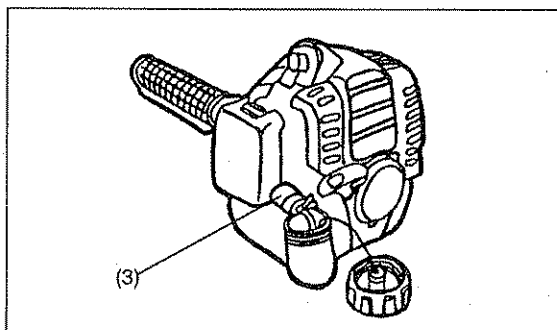
Supply of grease to gear case

- Supply grease (Shell Alvania 3 or equivalent) to the gear case through the grease hole every 30 hours. (Genuine ROBIN grease may be purchased from your ROBIN dealer.)



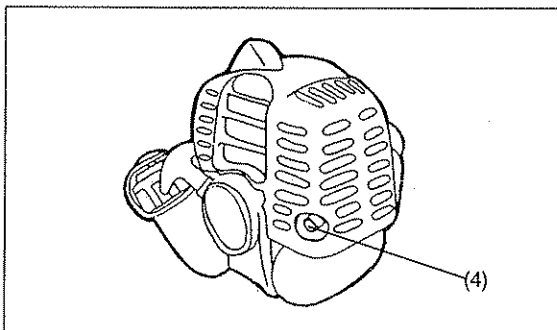
Suction head in the fuel tank

- The felt filler (3) of the suction head is used to filter the fuel required by the carburetor.
- A periodical visual inspection of the felt filter is to be conducted. For that purpose open the tank cap, use a wire hook and pull out the suction head through the tank opening. Filters found to have hardened, been polluted or clogged up are to be replaced.
- Insufficient fuel supply can result in the admissible maximum speed being exceeded. It is therefore important to replace the felt filter at least quarterly to ensure satisfactory fuel supply to the carburetor.



Cleaning of muffler exhaust port

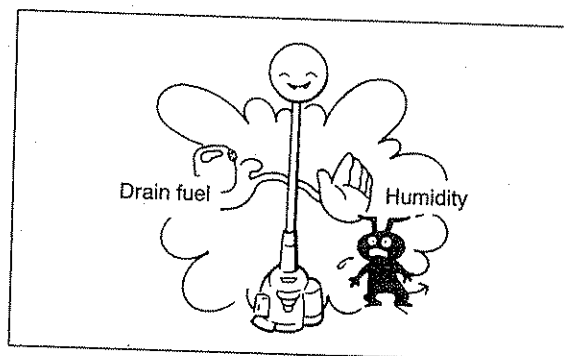
- Check of muffler exhaust port (4) regularly.
- If it is clogged by carbon deposits, carefully scratch the deposits out with a suitable tool.



Any maintenance or adjustment work that is not included and described in this manual is only to be performed by Authorized Service Agents.

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.	Fault in fuel supply or compression system, mechanical defect
		No ignition spark	I-O 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
Engine starts but dies		Tank filled ignition spark existing	Carburetor contaminated, have it cleaned
	Fuel supply	Tank filled	Incorrect idling adjustment, carburetor contaminated
Insufficient performance			Fuel tank vent defective, fuel supply line interrupted, cable or I-O switch faulty
	Several systems may simultaneously be affected	Engine idling poor	Air filter contaminated, carburetor contaminated, muffler clogged, exhaust duct in the cylinder clogged

EMISSION COMPLIANCE PERIOD

For handheld engine : The Emissions

Compliance Period referred to on the Emissions

Compliance label indicates the number of operating hours for which the engine has been shown to meet Federal emission requirements.

Category C=50 hours, B=125 hours, and A=300 hours.

FEDERAL EMISSION COMPONENT DEFECT WARRANTY

EMISSION COMPONENT DEFECT WARRANTY COVERAGE - This emission warranty is applicable in all States, except the State of California

FUJI ROBIN INDUSTRIES LTD. and Carswell Import & Marketing Associates, Inc., Winston-Salem, North Carolina, (herein "CARSWELL") warrant to the initial retail purchaser and each subsequent owner, that this utility equipment engine (herein "engine") was designed, built, and equipped to conform at the time of initial sale to all applicable regulations of the U.S. Environmental Protection Agency (EPA), and that the engine is free of defects in materials and workmanship which would cause this engine to fail to conform with EPA regulations during its warranty period.

For the components listed under PARTS COVERED, the dealer or service center authorized by CARSWELL will, at no cost to you, make the necessary diagnosis, repair, or replacement necessary to ensure that the engine complies with applicable U.S. EPA regulations.

EMISSION COMPONENT DEFECT WARRANTY PERIOD

The warranty period for this engine begins on the date of sale to the initial purchaser and continues for a period of 2 years.

PARTS COVERED

Listed below are the parts covered by the Emission Component Defect Warranty. Some of the parts listed below may require scheduled maintenance and are warranted up to the first scheduled replacement point for that part.

- 1) Fuel Metering System
 - (i) Carburetor and internal parts
 - (ii) Fuel filter, if applicable
 - (iii) Throttle stopper, if applicable
 - (iv) Choke System, if applicable
- 2) Air Induction System
 - (i) Air cleaner plate
 - (ii) Air cleaner case
 - (iii) Air cleaner element

- 3) Ignition System
 - (i) Spark plug
 - (ii) Flywheel Magneto
 - (iii) Ignition Coil
- 4) Miscellaneous Items Used in Above Systems
 - (i) Fuel hoses clamps and sealing gaskets

OBTAINING WARRANTY SERVICE

To obtain warranty service, take your engine to the nearest Authorized CARSWELL, distributor or dealer. Bring your sales receipts indicating date of purchase for this engine. The dealer or service center authorized by CARSWELL will perform the necessary repairs or adjustments within a reasonable amount of time and furnish you with a copy of the repair order. All parts and accessories replaced under this warranty become the property of CARSWELL.

WHAT IS NOT COVERED

- * Conditions resulting from tampering, misuse, improper adjustment (unless they were made by the dealer or service center authorized by CARSWELL during a warranty repair), alteration, accident to recommended fuel and oil, or not performing required maintenance services.
- * The replacement parts used for required maintenance services.
- * Consequential damages such as loss of time, inconvenience, loss of use of the engine of equipment, etc.
- * Diagnosis and inspection charges that do not result in warranty-eligible service being performed.
- * Any non-authorized replacement part, or malfunction of authorized parts due to use of non-authorized parts.

OWNER'S WARRANTY RESPONSIBILITIES

As the engine owner, you are responsible for the performance of the required maintenance listed in your owner's manual, CARSWELL recommends that you retain all receipts covering maintenance on your engine, but CARSWELL can not deny warranty solely for the lack of receipts or for your failure to ensure the performance of all scheduled maintenance.

As the engine owner, you should however be aware that the CARSWELL may deny your warranty coverage if your engine or a part has failed due to abuse, neglect, improper maintenance or unapproved modifications.

You are responsible for presenting your engine to the nearest dealer or service center authorized by CARSWELL when a problem exists.

If you have any questions regarding your warranty rights and responsibilities, you should contact the CARSWELL Warranty service department at 910-767-7700 (toll free from GA, NC, SC, TN & VA 1-800-929-1948) for the information.

THINGS YOU SHOULD KNOW ABOUT THE EMISSION CONTROL SYSTEM WARRANTY

MAINTENANCE AND REPAIRS

You are responsible for the proper use and maintenance of the engine. You should keep all receipts and maintenance records covering the performance of regular maintenance in the event questions arise. These receipts and maintenance records should be transferred to each subsequent owner of the engine. CARSWELL reserves the rights to deny warranty coverage if the engine has not been properly maintained.

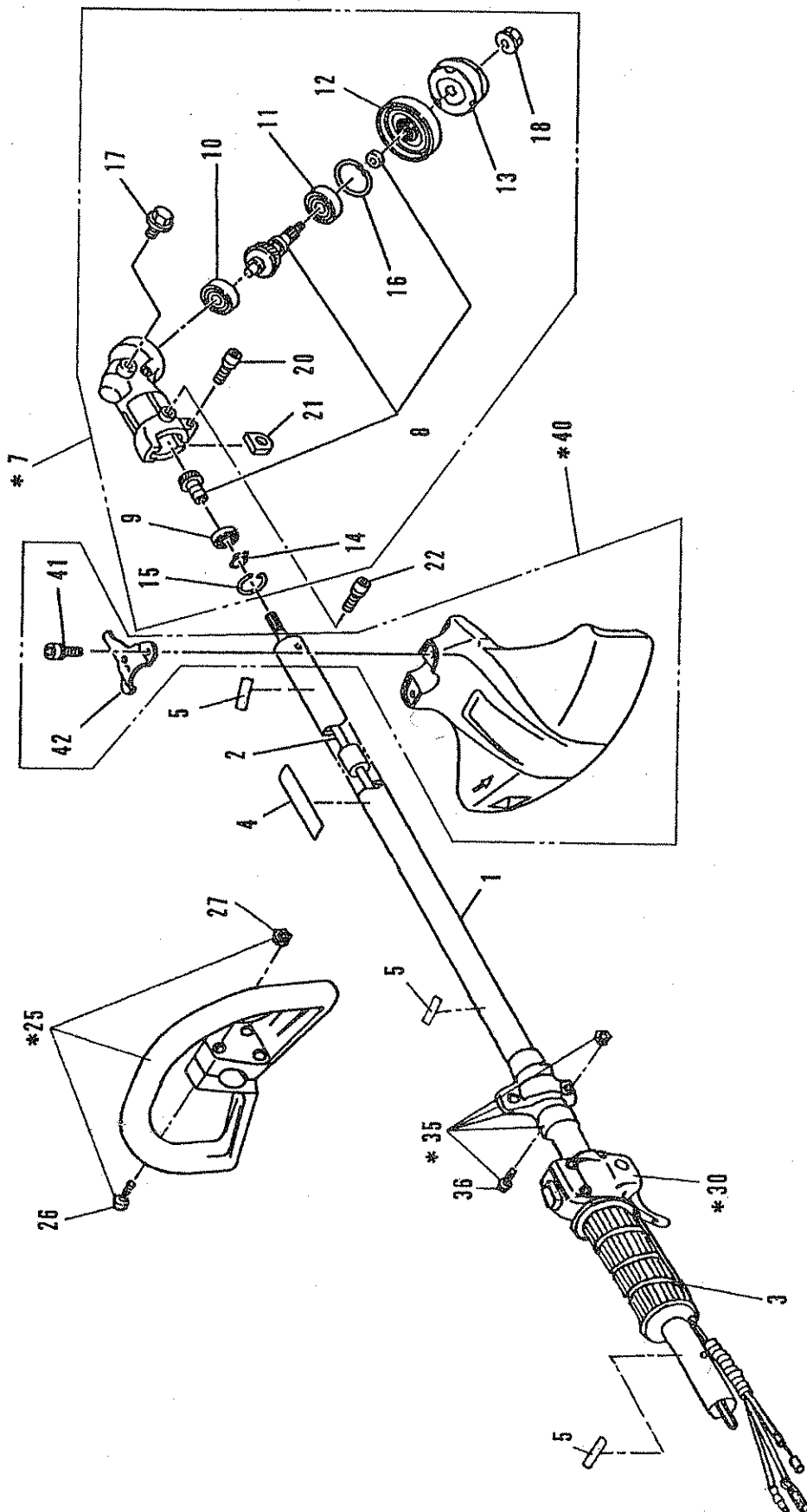
Warranty claims will not be denied, solely because of the lack of required maintenance or failure to keep maintenance records.

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 CARSWELL. 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.

If other than the parts authorized by CARSWELL are used for maintenance replacements or for the repair of components affecting emission control, you should assure yourself that such parts are warranted by their manufacturer to be equivalent to the parts authorized by CARSWELL in their performance and durability.

HOW TO MAKE A CLAIM

All repairs qualifying under this limited warranty must be performed by a dealer or service center authorized by CARSWELL. In the event that any emission-related part is found to be defective during the warranty period, you shall notify CARSWELL at 910-767-7700 (toll free from GA, NC, SC, TN & VA 1-800-929-1948) and you will be given the appropriate warranty service facilities where the repair can be performed.



MACHINE BODY

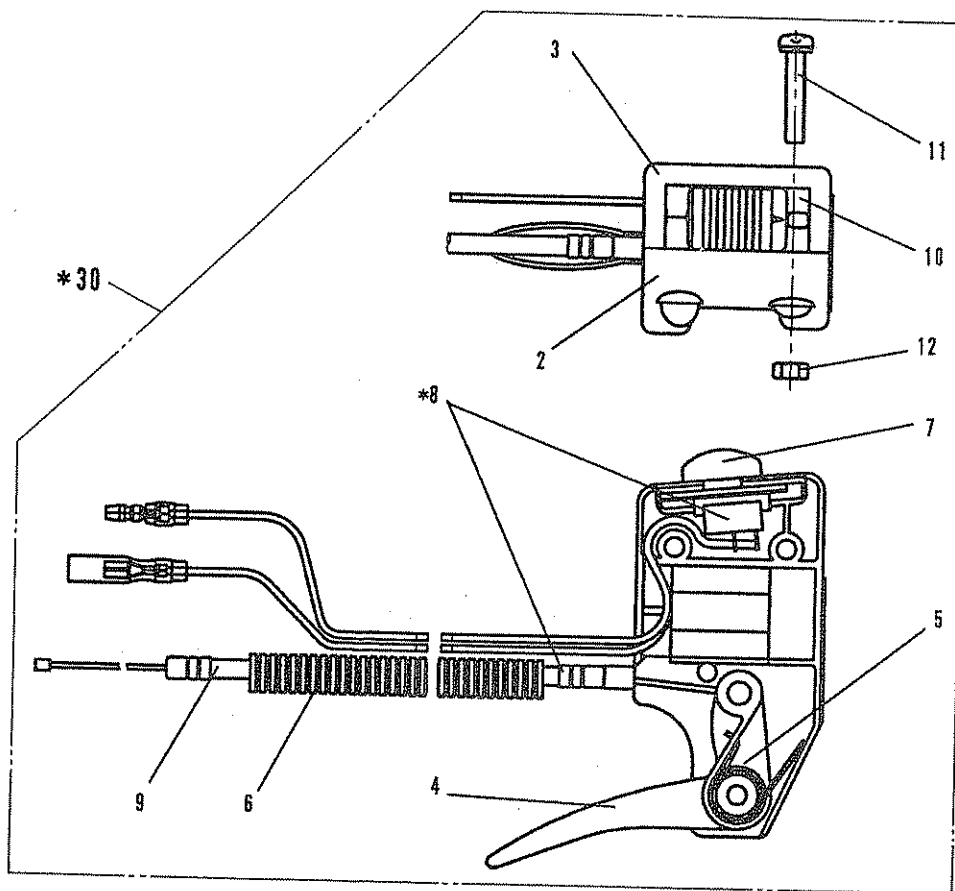
NB2050 (A) PARTS LIST

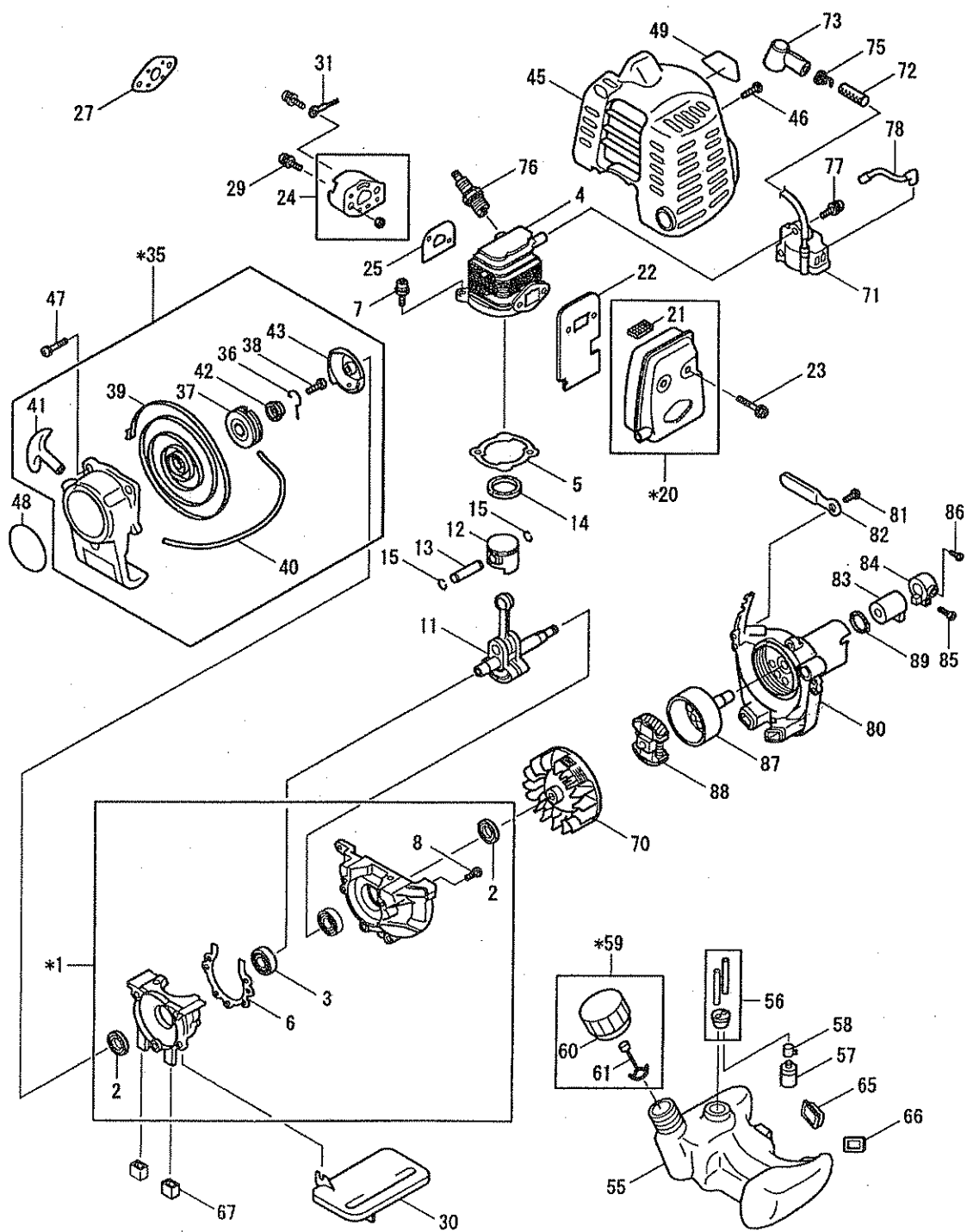
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NB2050 (A) PARTS LIST

(U.S. SPEC.)

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ENGINE BODY

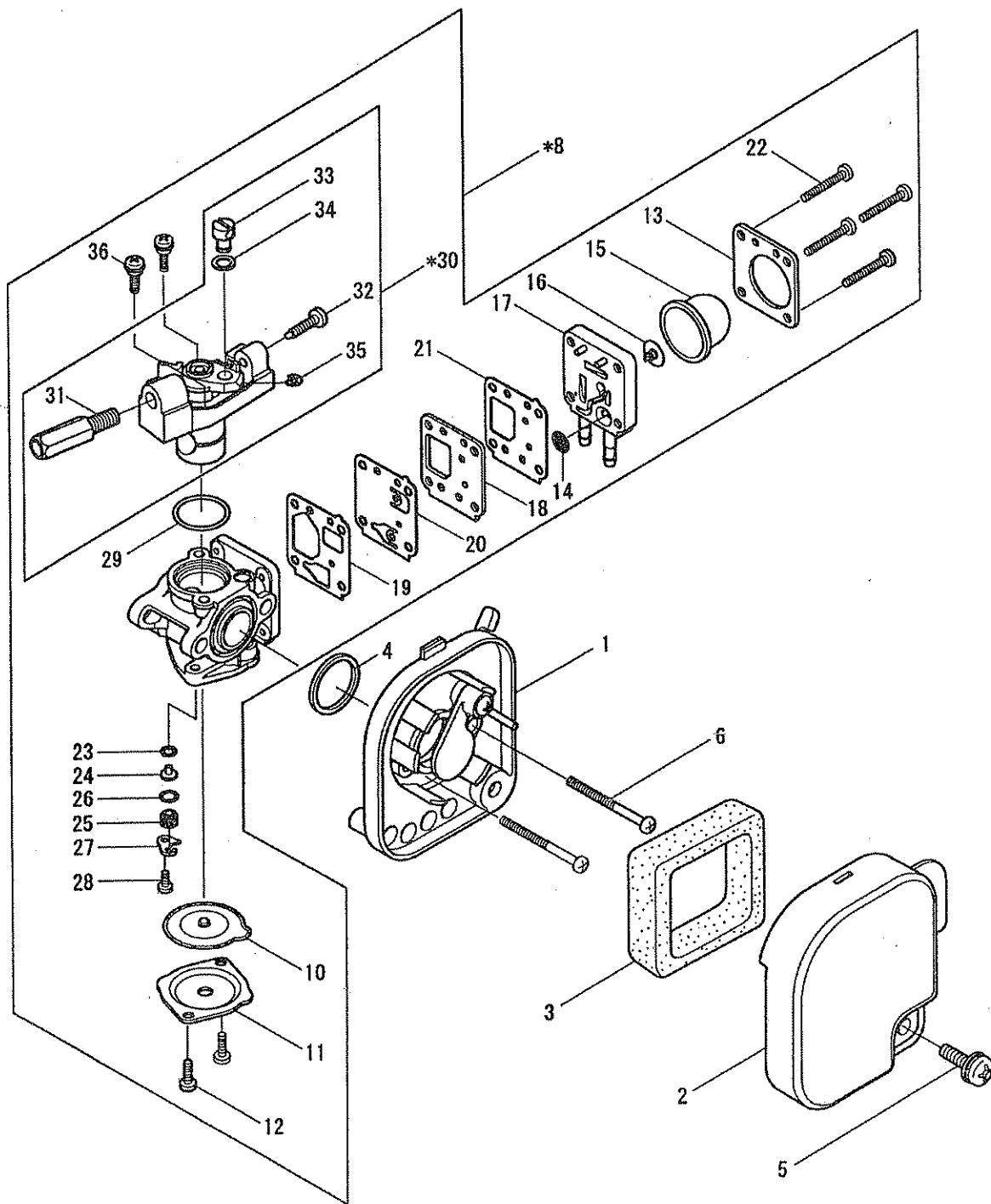
NB2050 (A) PARTS LIST

(U.S. SPEC.)

KEY NO.	OUR PART No.	QUANTITY	DESCRIPTION	PART No.
* 1	5559	1	CRANKCASE ASSY (INCL. 2, 3, 6, 8)	5191004001
2	7148	2	OIL SEAL	0440109980
3	1386	2	BALL BEARING (#6000)	0600109980
4	5561	1	CYLINDER	5191500702
5	5517	1	GASKET, CYLINDER	5191500301
6	5518	1	GASKET, CRANKCASE	5191500400
7	5333	2	SOCKET HEAD BOLT (M5×20 W, SW)	0119059730
8	5341	3	SCREW (M5×25 SW)	0140059520
11	5562	1	CRANKSHAFT COMPL	5192001001-4
12	5563	1	PISTON	5192500800-1
13	5564	1	PIN, PISTON	5192500500
14	5565	1	RING, PISTON	5192500600
15	5330	2	CLIP	0565089970
* 20	5566	1	MUFFLER, EXHAUST (INCL. 21)	5193001002-1
21		1	SPARK ARRESTER	5193001050
22	5568	1	GASKET, MUFFLER	5193500002
23	5567	2	SOCKET HEAD BOLT (M5×40 W)	0119059520
24	6537	1	INSULATOR COMPL	5233014000-2
25	5520	1	GASKET, INSULATOR	5193500500
27	6686	1	GASKET, AIR CLEANER	5103502800
29	5569	2	SCREW (M5×25 W, SW)	0140059500
30	5570	1	PLATE, MUFFLER	5193500101
31	6907	1	WIRE	6165500201
* 35	5571	1	STARTER, REWIND (INCL. 36~43)	5195001001
36	5572	1	SWING ARM	5195002100
37	5573	1	REEL	5195002030
38	5574	1	SET SCREW	5195002060
39	5575	1	SPIRAL SPRING	5195002050
40	5576	1	STARTER ROPE	5255016020
41	7614	1	STARTER KNOB	5225004020
42	5577	1	COLLAR	5195002110
43	5578	1	PULLEY	5195500000
45		1	COVER, CYLINDER	5195500104
46	5580	1	TAPPING SCREW (5×14)	6601500500
47	5581	3	SCREW ASSEMBLY (M4×25 W, SW)	0043604250
48		1	LABEL, MODEL	6199517200
49	3699	1	LABEL, TRADE MARK	5219500200

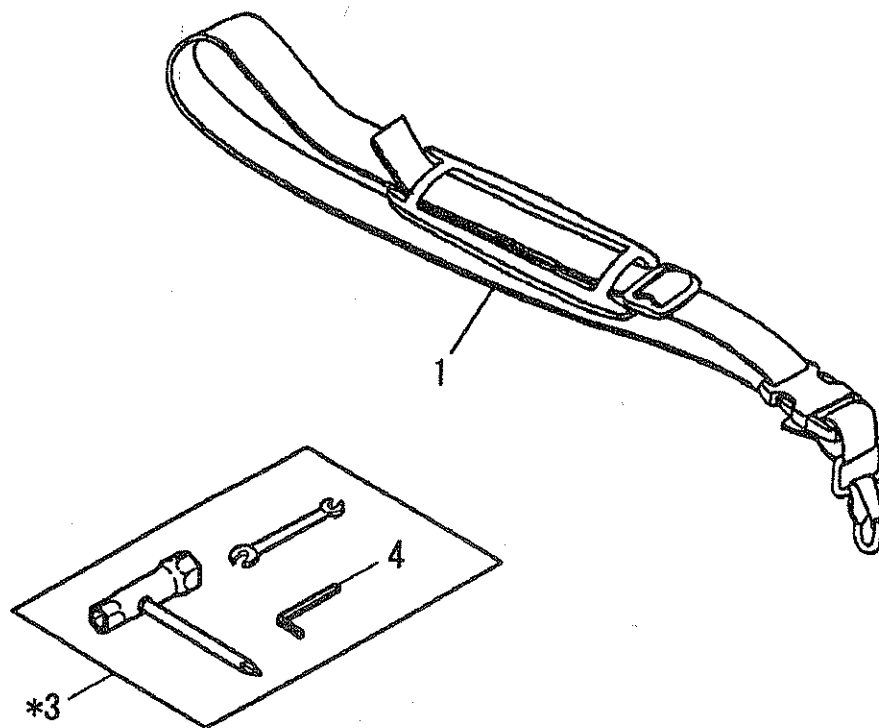
(U.S. SPEC.)

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(U.S. SPEC.)

[illegible]

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LIMITED TWO YEAR WARRANTY

Carswell Import & Marketing Associates, Inc. (hereafter CIMA), sales agent for Fuji Robin Industries, Ltd. warrants each new Robin brush cutter for twenty-four (24) months according to the following terms.

This warranty extends to the original retail purchaser only and commences on the date of original retail purchase.

Any part of Robin brush cutter supplied by CIMA and found in the reasonable judgment of an Authorized Robin Service Center to be defective in material or workmanship will be repaired by an Authorized Robin Service Dealer without charge for parts and labor.

The Robin brush cutter including any defective part must be returned to an Authorized Robin Service Dealer within the warranty period. The expense of delivering the Robin brush cutter to the dealer for warranty work and the expense of returning it back to the owner after repair or replacement will be paid for by the owner.

CIMA's responsibility in respect to claims is limited to making the required repairs or replacements and no claim of breach of warranty shall be cause for cancellation or rescission of the contract of sale of any Robin brush cutter. Proof of purchase will be required by the dealer to substantiate any warranty claim. All warranty work should be performed by an Authorized Robin Service Dealer.

This warranty is limited to ninety (90) days from the date of original retail purchase for any Robin brush cutter that is used for rental or commercial purposes, or any other income-producing purpose.

This warranty does not cover any Robin brush cutter that has been subject to misuse, neglect, negligence, or accident, or that has been operated in any way contrary to the operating instructions as specified in the Robin Operator's Manual. The warranty does not apply to any damage to the Robin brush cutter that is the result of improper maintenance or to any Robin brush cutter or parts that have not been assembled or installed as specified in the Robin Operator's Manual. The warranty does not cover any Robin brush cutter that has been altered or modified so as to adversely affect the product's operation, performance or durability or that has been altered or modified so as to change its intended use. In addition, the warranty does not extend to repairs made necessary by normal wear, or by the use of parts or accessories which are either incompatible with the Robin brush cutter or adversely affect its operation, performance or durability.

Robin reserves the right to change or improve the design of any Robin brush cutter without assuming any obligation to modify any brush cutter previously manufactured.

ALL IMPLIED WARRANTIES ARE LIMITED IN DURATION TO THE TWENTY-FOUR (24) MONTHS WARRANTY PERIOD OR NINETY (90) DAYS FOR BRUSH CUTTERS USED FOR ANY INCOME PRODUCING PURPOSE. ACCORDINGLY, ANY SUCH IMPLIED WARRANTIES INCLUDING MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR OTHERWISE, ARE DISCLAIMED IN THEIR ENTIRETY AFTER THE EXPIRATION OF THE APPROPRIATE TWENTY-FOUR (24) MONTHS OR NINETY (90) DAYS WARRANTY PERIOD.

CIMA'S OBLIGATION UNDER THIS WARRANTY, IS STRICTLY AND EXCLUSIVELY LIMITED TO THE REPAIR OR REPLACEMENT OF DEFECTIVE PARTS, AND CIMA DOES NOT ASSUME OR AUTHORIZE ANYONE TO ASSUME FOR THEM ANY OTHER OBLIGATION. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU.

CIMA ASSUMES NO RESPONSIBILITY FOR INCIDENTAL, CONSEQUENTIAL OR OTHER DAMAGES INCLUDING, BUT NOT LIMITED TO, EXPENSE FOR GASOLINE, EXPENSE OF RETURNING THE ROBIN BRUSH CUTTER TO AUTHORIZED SERVICE DEALER AND EXPENSE OF DELIVERING IT BACK TO THE OWNER, MECHANIC'S TRAVEL TIME, TELEPHONE OR, TELEGRAM CHARGES, RENTAL OF A LIKE PRODUCT DURING THE TIME WARRANTY SERVICE IS BEING PERFORMED, TRAVEL, LOSS OR DAMAGE TO PERSONAL PROPERTY, LOSS OF REVENUE, LOSS OF THE BRUSH CUTTER, LOSS OF TIME, OR INCONVENIENCE. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

This warranty applies to Robin brush cutter sold by CIMA in the United States. To validate this warranty original purchaser must complete the attached Warranty Registration Form and return it within ten (10) days of purchase.

CARSWELL IMPORT
AND MARKETING ASSOCIATES, INC.
WINSTON-SALEM, NORTH CAROLINA 27115

Fuji Robin Industries, Ltd.
Numazu, Shizuoka, Japan

WARRANTY SERVICE

Warranty service can be performed by an Authorized Robin Service Dealer regardless of whether the consumer purchased the Robin product originally from that dealer. However, we recommend you first contact the original dealer who sold you the product. Remember, it is your responsibility to deliver your Robin product along with proof of purchase to the dealer within the warranty period, and all work must be performed by an Authorized Robin Service Dealer.

Example of Parts and Service not covered by Warranty

Normal service requirements occurring during the warranty period such as carburetor or ignition adjustment.

Normal service over and above repair or replacement of defective parts.

Repair or maintenance service due to normal wear, improper maintenance, misuse, neglect, negligence, accident, also alternations or modifications which adversely affect product's performance, durability, or change their intended use.

Repairs or maintenance made necessary due to use of parts or accessories which are not compatible with Robin products or adversely affect its operation, performance, or durability.

Products not operated or maintained in accordance with the instruction Manual.

Normal cleaning, lubrication, adjustments, or replacement of such items as spark plugs, filters, ignition points, etc.

Expense of delivering the product to an Authorized Service Dealer or of returning such products, or mechanics travel time, or cost of any rental of a like product during the period warranty service is being performed.

Warranty applies only to original retail purchaser.

Owner's Obligation and Responsibility-

It is the responsibility of the owner to provide for normal maintenance service and replacement of service items and to maintain all components in proper adjustment. These are not considered defects in material or workmanship. Individual operation and application determine the need for normal maintenance service.

Robin Warranty Registration

Owner's Name _____

Address _____

City State Zip

Dealer's Name _____

Address _____

City State Zip

Date of Purchase _____

Model No. _____ Serial No. _____

This Registration Form must be completed and returned within ten (10) days of purchase.

(Detach and Mail)



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

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



FUJIROBIN INDUSTRIES LTD.

