

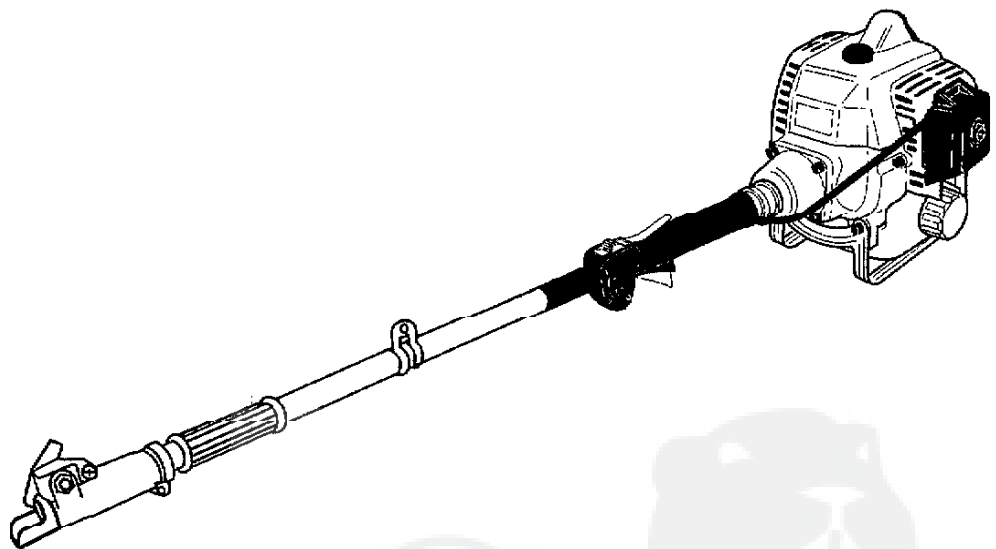
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shindaiwa

SHINDAIWA OWNER'S MANUAL

230PH MULTIPURPOSE ENGINE

CE



WARNING!

Read this manual and the manuals provided with Shindaiwa Splitboom Attachment series and familiarize yourself with its contents.

This machine is designed for cutting branches, grass, weed, bushes and trimming hedge with Shindaiwa Splitbooms, SBA-T230, SBA-P230, and SBA-AH230.

Do not use this machine for other purposes.

Minimize the risk of injury to yourself and others.

Do not operate or service this machine unless you clearly understand this manual.

Keep this manual at a particular place so that you can reread it whenever you have a question about its use.

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Attention Statements

Throughout this manual are special "attention statements".



WARNING!

A statement preceded by the triangular attention symbol and the word "WARNING" contains information that should be acted upon to prevent serious bodily injury.

CAUTION!

A statement preceded by the word "CAUTION" contains information that should be acted upon to prevent mechanical damage.

IMPORTANT!

A statement preceded by the word "IMPORTANT" is one that possesses special significance.

NOTE:

A statement preceded by the word "NOTE" contains information that is handy to know and may make your job easier.

Introduction

The Shindaiwa 230-series of hand-held power tools has been designed and built to deliver superior performance and reliability without compromise to quality, comfort, safety or durability.

Shindaiwa engines represent the leading edge of high-performance engine technology, delivering exceptionally high power with remarkably low displacement and weight. As an owner/operator, you'll soon discover for yourself why Shindaiwa is simply in a class by itself!

IMPORTANT!

The information contained in these instructions describes machines available at the time of publication.

Shindaiwa reserves the right to make changes to products without prior notice and without obligation to make alterations to machines previously manufactured.



WARNING!

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

Warning labels stuck to the machine mean as follows.



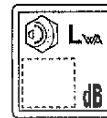
READ AND FOLLOW THE OPERATOR'S MANUAL. FAILURE TO DO SO COULD RESULT IN SERIOUS INJURY.



WEAR HEAD, EYE AND HEARING PROTECTION, NON-SLIP GLOVES AND NON-SKID BOOTS DURING THE OPERATION OF THIS MACHINE.



Never operate this tool or any other power equipment if you are tired, ill, or under the influence of alcohol, drugs, or any substance that could affect your ability or judgement.



Sound Power Level

(measured in accordance with 2000/14/EC)

IMPORTANT!

The operational procedures described in this manual are intended to help you get the most from your machine as well as to protect you and others from harm. These procedures are guidelines for safe operation under most conditions, and are not intended to replace any safety rules and/or laws that may be in force in your area. If you have questions regarding your 230-series power tool, or if you do not understand something in this manual, your Shindaiwa dealer will be glad to assist you. You may also contact Shindaiwa at the address printed on the back of this Manual.

Safety Labels

IMPORTANT!

Safety and Operation Information Labels: Make sure all information labels are undamaged and readable. Immediately replace damaged or missing information labels. New labels are available from your local authorized Shindaiwa dealer.

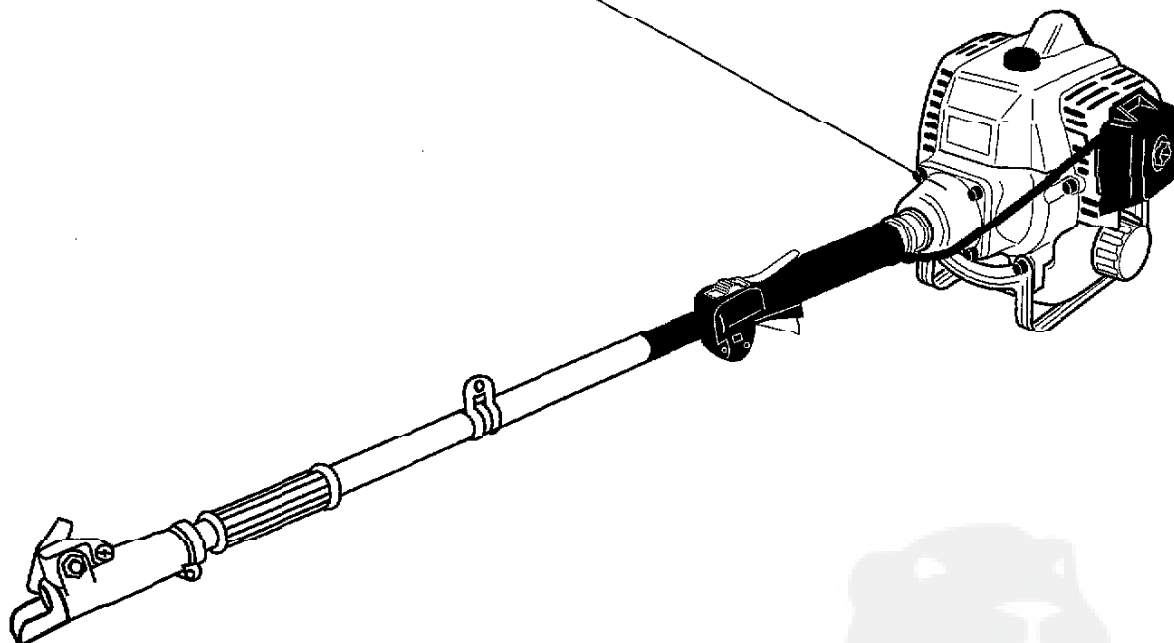


Figure 1

General Safety Precautions



WARNING!

Never operate power equipment of any kind if you are tired or if you are under the influence of alcohol, drugs, medication or any other substance that could affect your ability or judgement.



WARNING! Minimize the Risk of Fire

Never smoke or light fires near the 230PH Multipurpose Engine. Keep the machine away from excessive heat. Engine fuel is very flammable and fire could lead to serious personal injury or property damage.

Always stop the engine and allow it to cool before refueling. Avoid overfilling and wipe off any fuel that may have spilled.

Always Use caution when handling fuel. Move the 230PH Multipurpose Engine at least 3 meters from the fueling point before starting the engine.

Never place flammable material close to the engine muffler.

Never operate the machine with the muffler removed.



WARNING!

Use Good Judgment

Always wear eye protection to shield against thrown objects.

Always protect yourself from hazards such as thorny brush and flying debris by wearing gloves and close fitting clothing that covers arms and legs. Never wear shorts. Don't wear loose clothing or items such as jewelry that could get caught in machinery or underbrush. Secure long hair so it is above shoulder level.

Never run the engine indoors! Make sure there is always good ventilation. Fumes from engine exhaust can cause serious injury or death.

Always clear your work area of trash or hidden debris that could be thrown back at you or toward a bystander.

Always use the proper cutting tool for the job.

Always stop the machine immediately if it suddenly begins to vibrate or shake. Inspect for broken, missing or improperly installed parts or attachments.

Always hold the machine firmly with both hands when cutting or trimming, and maintain control at all times.

Always keep the handles clean.

Always disconnect the spark plug wire before performing any maintenance work.

Never permit a person without training or instruction to operate this machine.

Operating Precautions



WARNING!

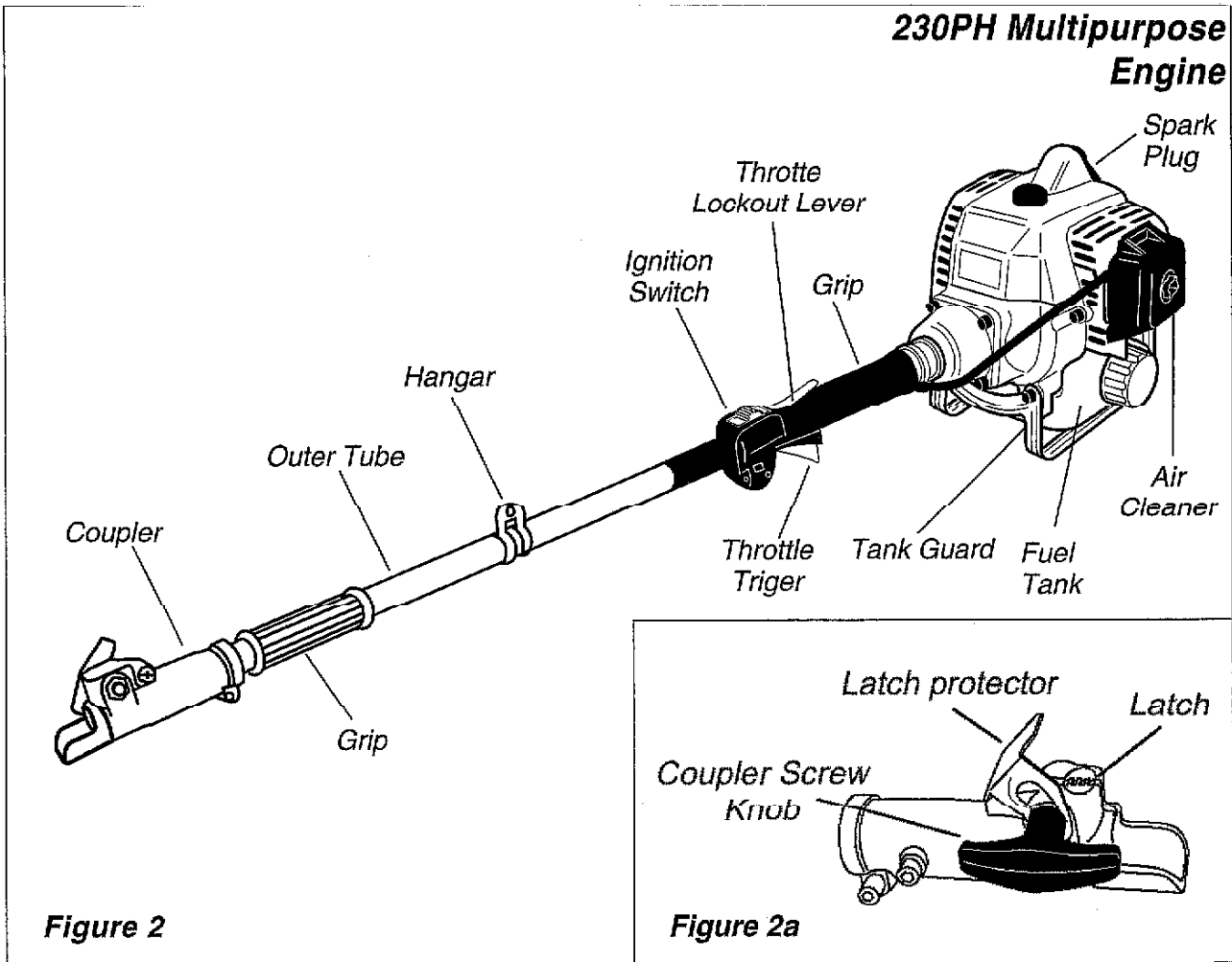
- Always make sure the cutting attachment tool is properly installed and firmly tightened before operation.
- Never use a cracked or warped cutting attachment: replace it with a serviceable one and make sure it fits properly.
- Keep the machine away from excessive heat. Engine fuel is very flammable and fire could lead to serious personal injury or property damage.
- Make sure there are no missing or loose fasteners, and that the stop switch and throttle controls are working properly.
- Before starting the engine, make sure the cutting attachment is not contacting anything.
- Always stop the engine immediately and check for damage if you strike a foreign object or if the machine becomes tangled. Do not operate with broken or damaged equipment.
- Never transport the machine or set it down with the engine running. An engine that's running could be accidentally accelerated causing the cutting attachment to rotate.
- Secure the machine during transportation to prevent leakage of fuel, damage or injury.
- Make sure of no fuel leaking from Fuel tank, Fuel cap, Fuel pipe and Carburetor and other parts which fuel may leak. Repair the machine if fuel leaking, making sure no leaking again.

CAUTION!

Never extend trimming line beyond the length specified for your unit.

Always keep the unit as clean as practical. Keep it free of loose vegetation, mud, etc.

Product Description



Using the accompanying illustrations as a guide, familiarize yourself with your machine and its various components. Understanding your machine helps ensure top performance, long service life, and safer operation. See Figure 2 and 2a.

WARNING!
Do not make unauthorized modifications or alterations to any of these units or their components.

Specifications

230PH Multipurpose Engine Dry Weight(less attachments).....	4.1kg
Engine Model	Shindaiwa S230
Engine Type	2-cycle,vertical-cylinder,air-cooled
Bore x Stroke	32 x 28 mm
Displacement	22.5 cm ³
Maximum Power Output	0.8kW@7500min ⁻¹
Fuel/Oil Ratio	25:1
Fuel Tank Capacity	554cm ³
Carburetor type	Walbro WYL
Ignition	One piece electronic,transistor-controlled
Spark Plug	NGK BMR6A
Air Filter	Semi-wet,quick-remove/install
Starting Method	Recoil
Stopping Method	Slide switch
Power Transmission Method	Automatic,centrifugal clutch

*Specifications are subject to change without notice.

Prior To Assembly

Before assembling, make sure you have all the components required for a complete unit:

- Engine/Outer tube assembly
- Strap
- Kit containing, this owner's/operator's manual and tool kit for routine maintenance. Tool kits vary by model and may include a hex wrench, spark plug/screw-driver combination wrench, and spanner wrench.

Carefully inspect all components for damaged.

IMPORTANT!

The terms "left", "left-hand", and "LH"; "right", "right-hand", and "RH"; "front" and "rear" refer to directions as viewed by the operator during normal operation.

Installing a Splitboom

1. Place the 230PH Multipurpose Engine and the Splitboom on a clean, flat surface so that both assemblies fit end to end. The 230PH assembly should be facing up, and the Splitboom should be positioned with the locking hole in the tube end facing up. See Figure 3.

CAUTION!

Keep the open ends of the tubes clean and free of impurities!

2. Slip off the protective covers from the ends of both tubes, and loosen the coupler screw knob.
3. Insert the tube of Splitboom into the coupler, with the tool decal facing up, until the line of the decal is flush with the end of the coupler. Twist the tool back and forth until you are sure it snaps in place by the coupler latch. See Figure 3.

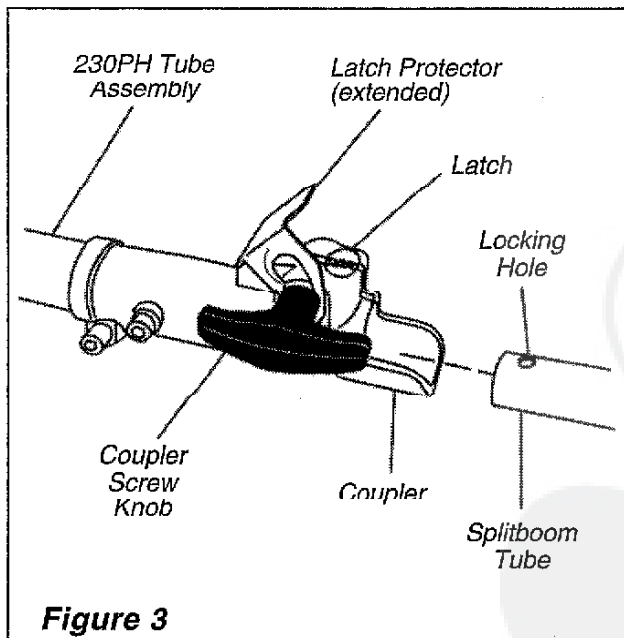


Figure 3

4. When the two tube halves are locked together, press down on the spring-loaded latch protector and tighten the coupler screw. See Figure 4.

CAUTION!

Make sure no gap between the Latch Protector and the Coupler.

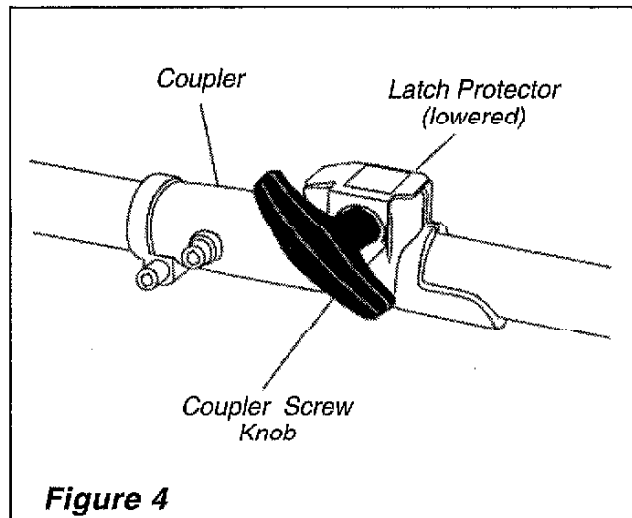


Figure 4

Removing a Tool Attachment

1. With the unit on a clean, flat surface, loosen the coupler screw. The spring-loaded coupler protector should pop up.
2. Press down on the latch with your finger or thumb. This releases the coupler lock. See Figure 5.
3. Pull the Splitboom out of the coupler.

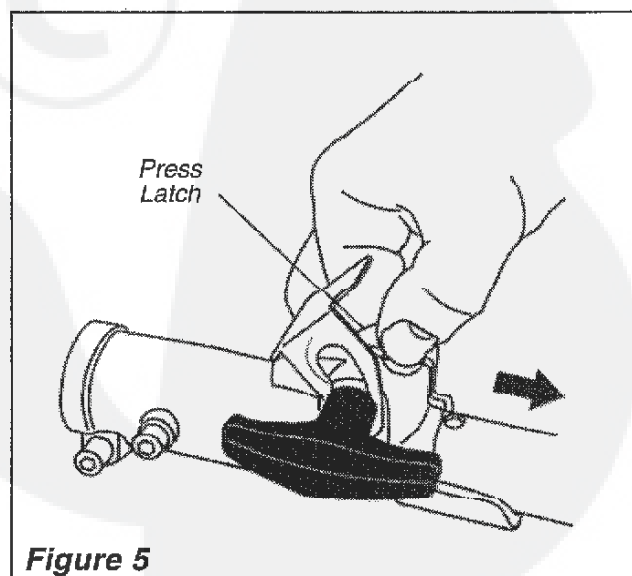


Figure 5

Mixing Fuel

CAUTION!

Some types of gasoline contain alcohol as an oxygenate. Oxygenated gasoline may cause increased operating temperatures.

Under certain conditions, alcohol-based gasoline may also reduce the lubricating qualities of some 2-cycle mixing oils. Never use any type of gasoline containing more than 10% alcohol by volume!

Generic oils and some outboard oils may not be intended for use in high-performance 2-cycle engines, and should never be used in your Shindaiwa engine.

IMPORTANT!

This engine is certified to operate on a 25:1 mixture consisting of unleaded gasoline and 2-cycle mixing oil only. Mix only enough fuel for your immediate needs! If fuel must be stored longer than 30 days, it should first be treated with a fuel stabilizer such as StaBil™.

- Mix fuel by combining unleaded gasoline with Shindaiwa Premium 2cycle Engine Oil at a ratio of 25:1 (5 liters of gasoline with 200 ml of 2-cycle mixing oil).
- Use only fresh, clean, unleaded gasoline with an octane rating of 87 or higher.

Filling the Fuel Tank



WARNING!

Minimize the risk of fire!

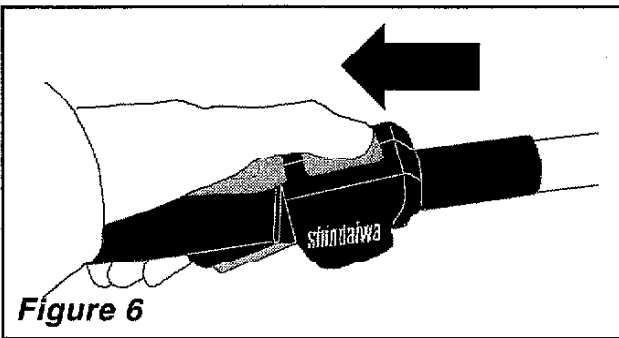
- Stop engine before refueling.
- Always allow the engine to cool before refueling!
- Wipe all spilled fuel and move the Multipurpose Tool Carrier at least 3 meters from the fueling point and source before restarting!
- Never smoke or light any fires near the 230PH Multipurpose Engine or fuel source!
- Never place any flammable material near the engine muffler!
- Never operate the engine without the muffler in good working condition.

1. Place the machine on a flat, level surface.
2. Clear any dirt or other debris from around the fuel filler cap.
3. Remove the fuel cap, and fill the tank with clean, fresh fuel.
4. Reinstall the fuel filler cap and tighten firmly.

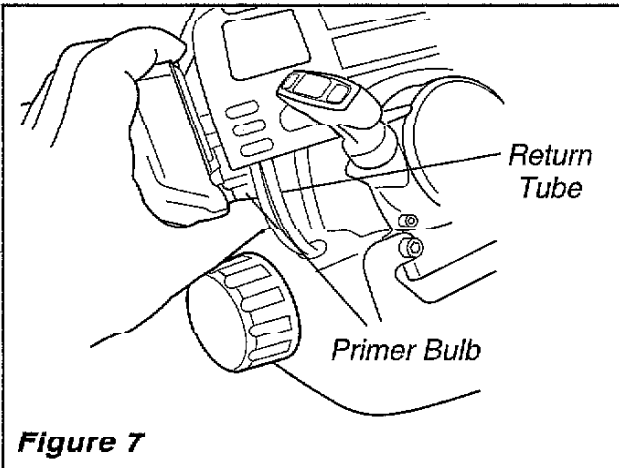
Starting A Cold Engine and/or Restarting After Refueling

IMPORTANT!

Engine ignition is controlled by a two position switch mounted on the throttle housing labeled, "I" for ON or START and "O" for OFF or STOP.



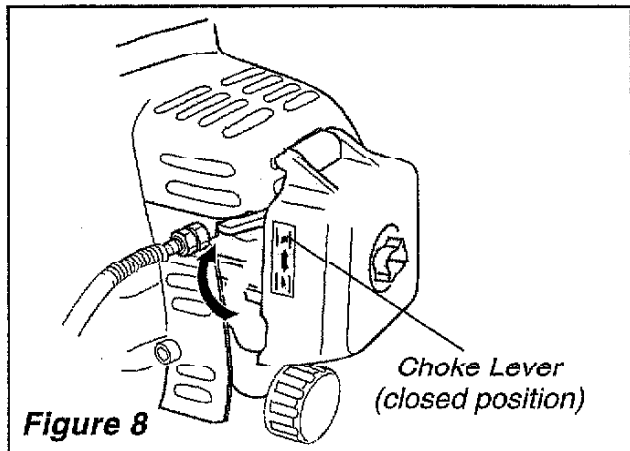
1. Slide the ignition switch to the "I" position (engine ON).



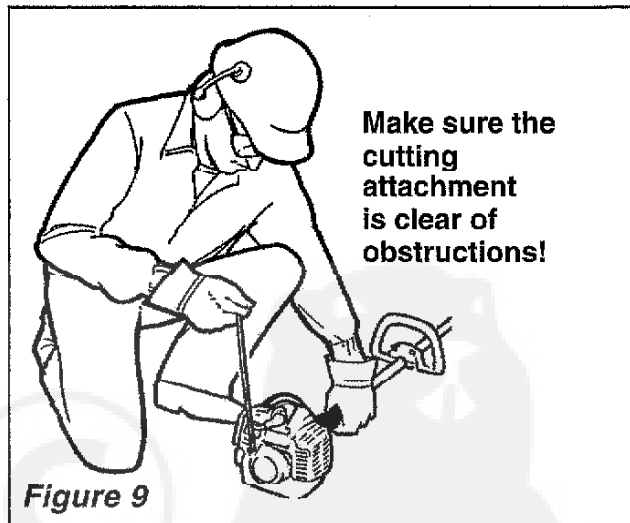
2. Press the primer bulb until fuel can be seen flowing in the transparent return tube. See Figure 7.

IMPORTANT!

The primer system only pushes fuel through the carburetor. Repeatedly pressing the primer bulb will not flood the engine with fuel.



3. **Cold Engine Only** Set the choke lever to the CLOSED position. See Figure 8.



4. While holding the outer tube firmly with one hand, slowly pull the recoil starter handle until resistance is felt, then pull quickly to start the engine. See Figure 9.

CAUTION!

Do not pull the recoil starter to the end of the rope travel. Pulling the recoil starter to the end of the rope travel can damage the starter.

Starting the Engine (continued)



WARNING!

When starting the engine, make sure the cutting attachment is well clear of bystanders, pets or objects. The cutting attachment may oscillate during start-up.

IMPORTANT!

If the engine fails to start after several attempts with the choke in the closed position, the engine may be flooded with fuel. If flooding is suspected, move the choke lever to the open position and repeatedly pull the recoil starter to remove excess fuel and start the engine. If the engine still fails to start, refer to the troubleshooting section of this manual.

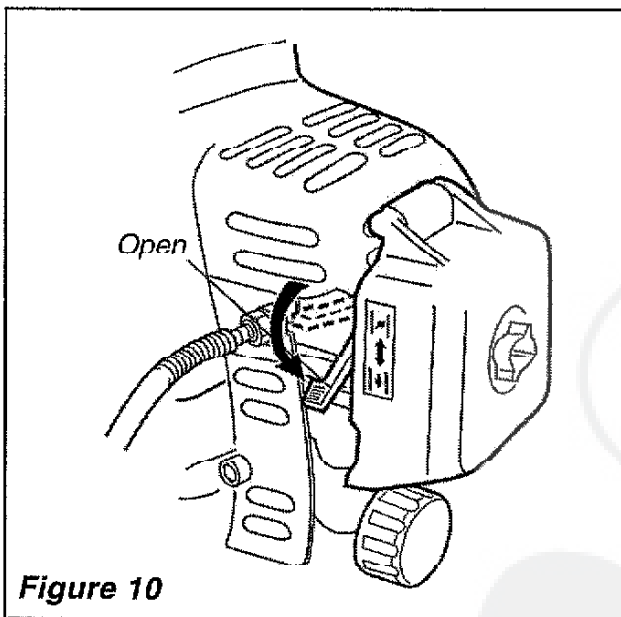


Figure 10

5. When the engine starts, slowly move the choke lever to the "OPEN" position. See Figure 10. (If the engine stops after the initial start, close the choke and restart.)

Starting a Warm Engine.

Starting a warm engine involves all the same steps as starting a cold engine, EXCEPT:

- The choke lever should be in the OPEN position. See Figure 10.



WARNING!

Never start the engine from the operating position.

When the Engine Starts...

- After the engine starts, allow the engine to warm up at idle 2 or 3 minutes before operating the machine.
- After the engine is warm, pick up the machine and clip on the strap if so equipped. See page 14.
- Actuating the throttle makes the cutting attachment speed up; releasing the throttle permits the attachment to slow down. If the cutting attachment continues to move when the engine returns to idle, the carburetor idle speed should be adjusted (see the next page).

Stopping the Engine

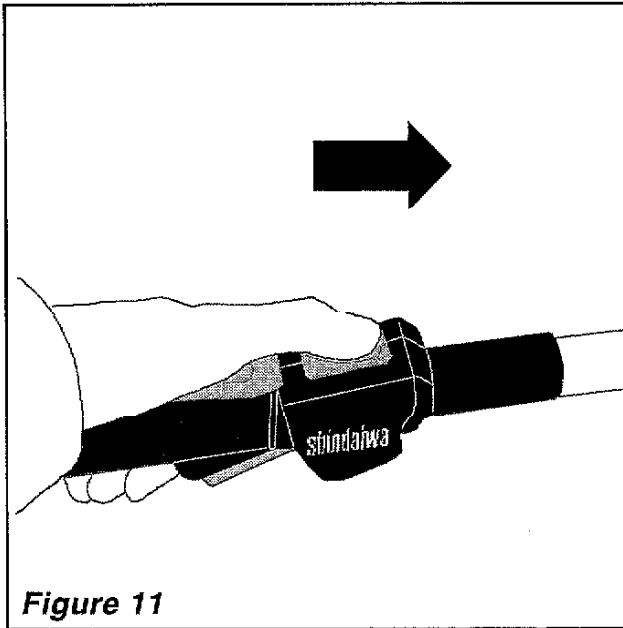


Figure 11

Idle the engine briefly before stopping, then slide the ignition switch to the “O” (STOP) position.
See Figure 11.

Adjusting Engine Idle

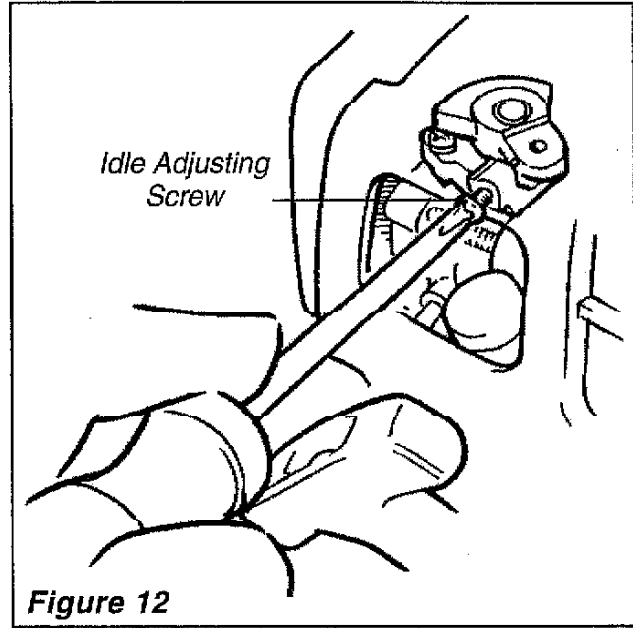


Figure 12

The idle speed must be adjusted so the clutch will fully disengage at engine idle, causing the cutting attachment to stop moving.

Check and Adjust Idle Speed

1. Start the engine and allow it to warm up at engine idle.
2. If the cutting attachment moves at engine idle, reduce idle speed by turning the idle adjusting screw counter-clockwise. See figure 12.

IMPORTANT!

Use a tachometer to adjust engine idle if one is available.

Standard idle speed is:
 $2,750 \text{ min}^{-1} \pm 250 \text{ min}^{-1}$.



WARNING!

The cutting attachment must NEVER move at engine idle.

Checking Unit Condition

NEVER operate the unit with the cutting attachment shield or other protective devices (ignition switch etc.) removed!



WARNING!

A cutting attachment shield or other protective device is no guarantee of protection against ricochet. **YOU MUST ALWAYS GUARD AGAINST FLYING DEBRIS!**

OPERATION

Use only authorized Shindaiwa parts and accessories with your Shindaiwa product. Do not make modifications to your machine without the written approval of Shindaiwa.

ALWAYS make sure the Splitboom is properly installed and firmly tight-ened before operation.

NEVER use a cracked or warped cutting attachment: replace it with a serviceable one.

ALWAYS make sure the cutting attachment fits properly into the appropriate cutter holder. If a properly installed attachment vibrates, replace the attachment with a new one and re-check.

ALWAYS stop the engine immediately and check for damage if you strike a foreign object or if the machine becomes entangled. Do not operate with broken or damaged equipment.

NEVER allow the engine to run at high RPM without a load. Doing so could damage the engine.

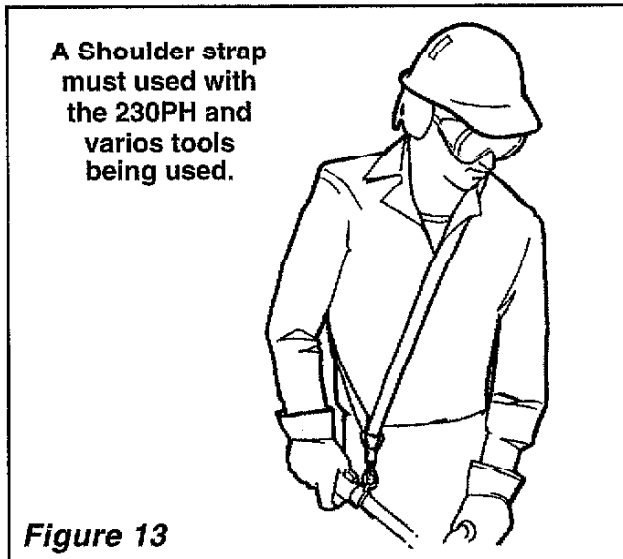
NEVER operate a machine with worn or damaged tools or tool holder.

Shoulder Strap

NOTE:

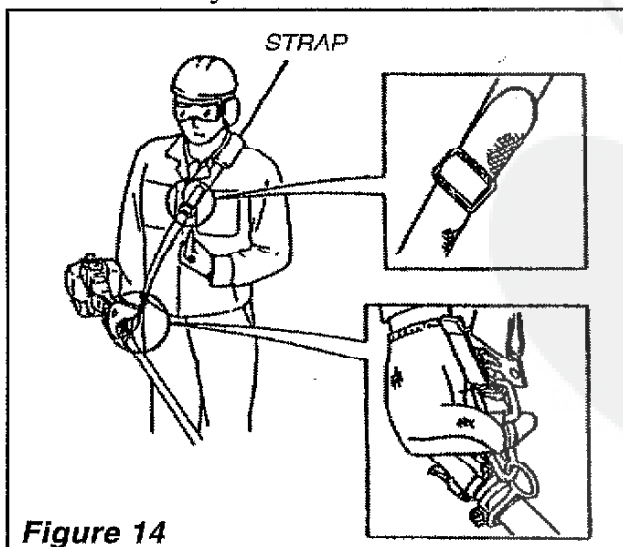
A shoulder strap accessory must be required for use with 230PH Multipurpose Engine. A shoulder strap can increase operator comfort during extended periods of operation.

See Figure 13.



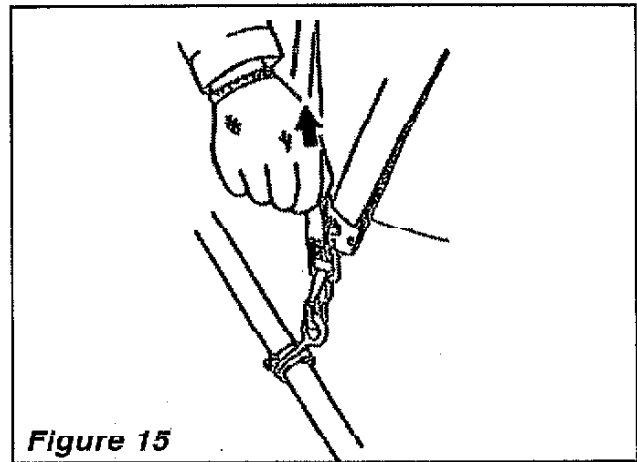
To Wear the Strap

1. Hook the strap hook to the hanger on the outer pipe.
2. Hook the strap so that hook stays at your right hand side.
3. Adjust the length of the strap so that you can hold and operate the machine comfortably.



Emergency Release

In case of emergency, strongly pull the white tab at the hook. The machine will be released from the strap.



General Maintenance



WARNING!

Before performing any maintenance, repair or cleaning work on the machine, make sure the engine and cutting attachment are completely stopped. Disconnect the spark plug wire before performing service or maintenance work.



WARNING!

Non-standard parts may not operate properly with your unit and may cause damage and lead to personal injury.

Muffler

This machine must never be operated with a faulty or missing muffler. Make sure the muffler is well secured and in good condition. A worn or damaged muffler is a fire hazard and may also cause hearing loss.

Spark Plug

Keep the spark plug and wire connections tight and clean.

Fasteners

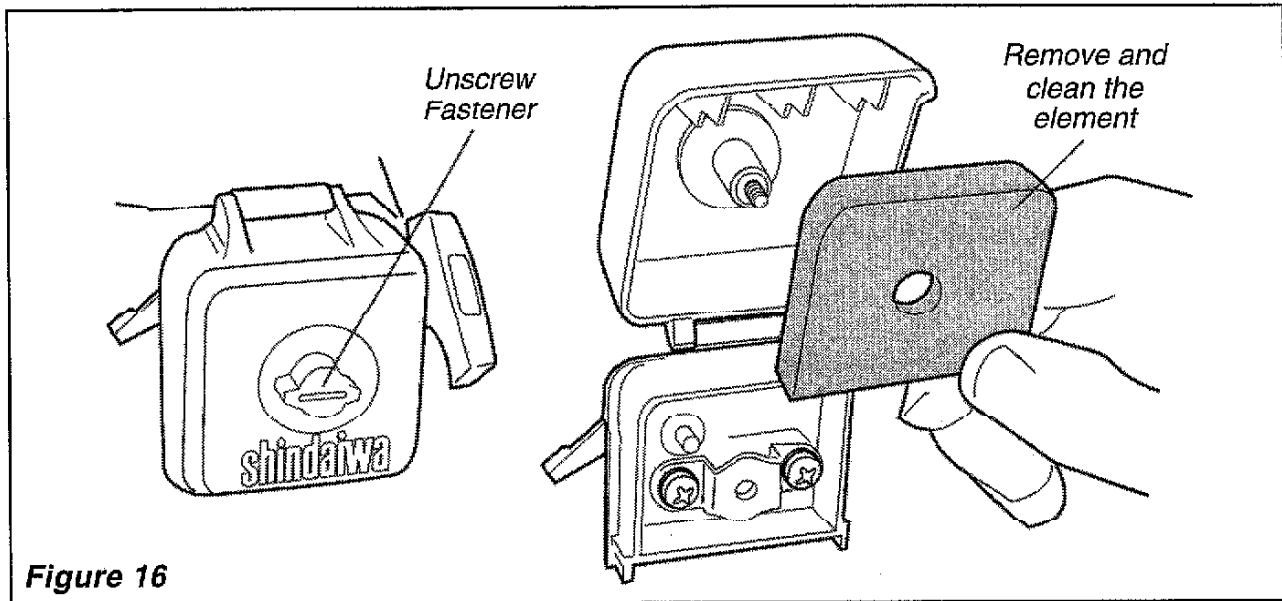
Make sure nuts, bolts, and screws (except carburetor adjusting screws) are tight.

Daily Maintenance

Prior to each work day, perform the following:

- Check for loose or missing screws or components. Make sure the tool and cutting attachment is securely fastened.
- Check the entire machine for leaking fuel or grease.
- Remove dirt or debris from the engine and muffler, check the cooling fins and air cleaner for clogging, and clean them as necessary. Check and clean the cooling system (air intake grills, flywheel fins, cylinder fins, and air filter). Dirt build-up in these areas could cause engine overheating, induce premature wear, or create a fire hazard.

10-Hour Maintenance



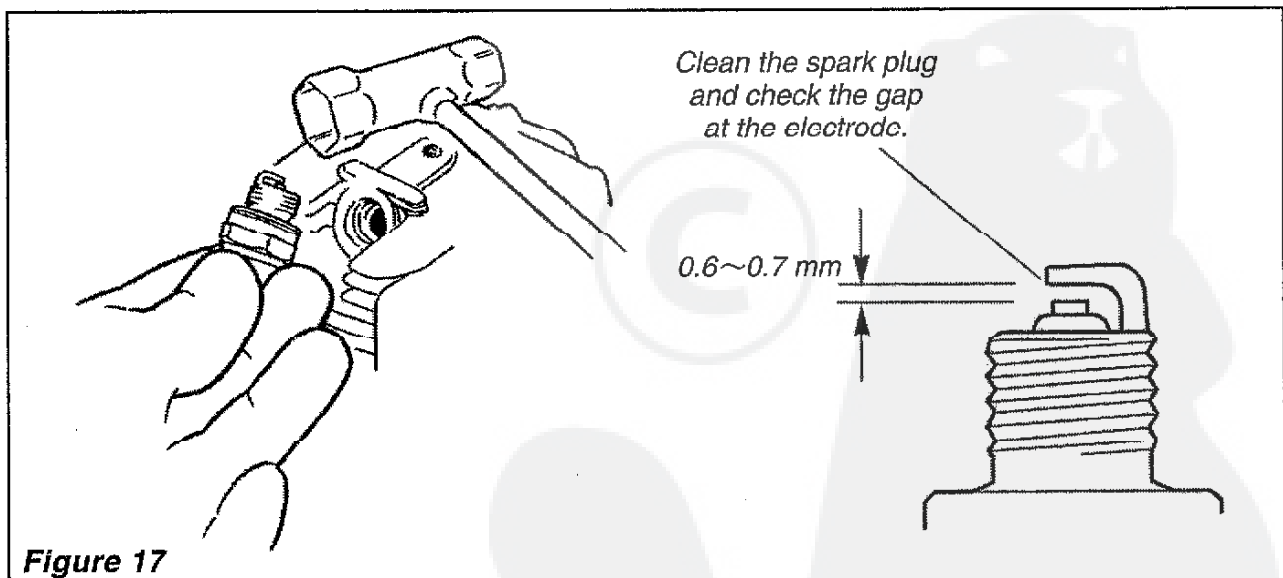
Every 10 hours of operation (more frequently in dusty or dirty conditions): Remove the air cleaner element from the carburetor and clean it thoroughly with soap and water. Let dry and reassemble the element.

See Figure 16.

CAUTION!

Do not operate the machine if the air cleaner or element is damaged, or if the element is wet.

10/15-Hour Maintenance



Every 10 to 15 hours of operation: Remove and clean the spark plug. Adjust the spark plug electrode gap to 0.6 ~0.7 mm. If the plug must be replaced, use only a NGK BMR6A. See Figure 17.

CAUTION!

Before removing the spark plug, clean the area around the plug to prevent dirt and dust from falling into internal engine parts.

50-hour Maintenance

Every 50 hours of operation
(more frequently in dusty or dirty conditions):

- Remove and clean the cylinder cover and clean grass and dirt from the cylinder fins.
- Use a hooked wire to extract the fuel filter from inside the fuel tank. See figure 18. Remove and replace the filter element. Before reinstalling the filter, inspect the condition of the fuel line. If damage or deterioration are noted, the 230PH Multipurpose Engine should be removed from service until it can be inspected by a Shindaiwa-trained service technician.

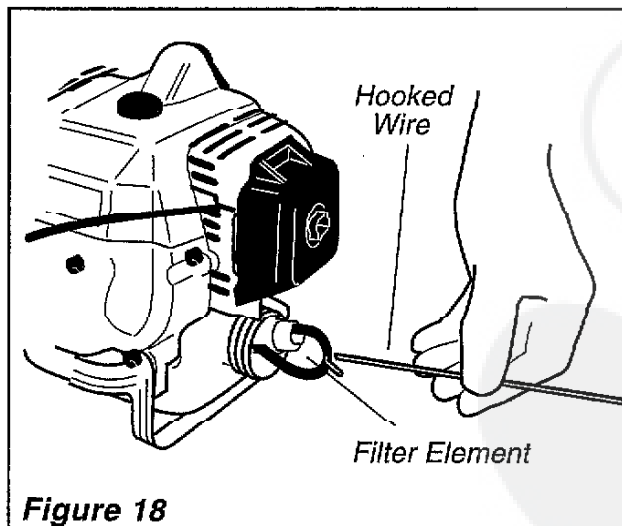


WARNING!

Never operate this machine with a damaged or missing muffler! Operating with missing or damaged exhaust components is a fire hazard, and could also damage your hearing.

CAUTION!

Make sure you do not pierce the fuel line with the end of the hooked wire, the line is delicate and can be damaged easily.



Storage

Short Term Storage

(Less than 30 days)

- Clean the air filter.
- Clean cylinder fins, flywheel fins, and muffler surfaces.
- Clean cooling air intake grill.
- Clean debris from outer tube exterior surfaces.
- Drain fuel tank.
- Cover engine and store unit in a clean, dry place.

Long Term Storage

(More than 30 days)

CAUTION!

Never store this unit for more than 30 days with fuel remaining in the tank, fuel lines or carburetor! Strong with fuel remaining in the fuel tank, fuel lines and carburetor may cause gum deposits in the fuel system.

IMPORTANT!

All units to be stored, for 30 days or longer, with fuel remaining in the fuel tank, hose, and carburetor and fuel system should be conditional with a fuel stabilizer such as STA-BIL™.

Whenever the machine is going to be stored for 30 days and longer, prepare the unit for storage as follows:

- Drain all fuel from fuel tank and allow unit to run until all the fuel in the carburetor is spent.

- Remove the spark plug and pour about 7g of oil into the cylinder through the spark plug hole. Crank the engine over slowly two or three times so oil will coat the cylinder wall and piston rings.
- Reinstall the spark plug.
- Repair damaged or faulty components as necessary.
- Service air filter as outlined in page 16.
- Clean all external parts thoroughly and apply a light coating of oil to all metal surfaces.
- Cover the engine and store the brushcutter in a clean, dry place.
- Cover the blade with the blade cover.

Troubleshooting Guide

ENGINE DOES NOT START

What to check	Possible cause	Remedy
Does the engine crank? YES ↓	NO → Faulty recoil starter. Fluid in the crankcase. Internal damage.	Consult with an authorized servicing dealer.
Good compression? YES ↓	NO → Loose spark plug. Excess wear on cylinder, piston, rings	Tighten and re-test. Consult with an authorized servicing dealer.
Does the tank contain fresh fuel of the proper grade? YES ↓	NO → Fuel incorrect, stale, or contaminated; mixture incorrect.	Refill with fresh fuel of the correct mixture (gasoline and Sindaiwa 2-cycle Mixing Oil at 25:1 ratio)
Is fuel visible and moving in the return line when priming? YES ↓	NO → Check for clogged fuel filter and/or vent.	Clean as required; restart.
Is there spark at the spark plug wire terminal? YES ↓	NO → The ignition switch is in "0" (OFF) position. Faulty ignition ground. Faulty transistor unit.	Move switch to "I" (On) position and re-start. Consult with an authorized servicing dealer.
Check the spark plug	NO → If the plug is wet, excess fuel may be in the cylinder. The plug is fouled or improperly gapped. The plug is damaged internally or of the wrong size.	Crank the engine with the plug removed, reinstall the spark plug, and re-start. Clean and re-gap the spark plug to 0.6~0.7mm. Re-start. Replace the spark plug with a NGK BMR6A.

Troubleshooting Guide (continued)

LOW POWER OUTPUT

What to check	Possible cause	Remedy
<p>Is the engine overheating?</p>	Operator is overworking the machine.	Shorten trimmer line. Cut at a slower rate.
	Carburetor mixture is too lean.	Consult with an authorized servicing dealer.
	Improper fuel ratio.	Refill with fresh fuel of the correct mixture (gasoline and Shindaiwa 2-cycle Mixing Oil, 25:1 ratio).
	Fan, fan cover, cylinder fins dirty or damaged.	Clean, repair or replace as necessary.
	Carbon deposits on the piston or in the muffler.	Consult with an authorized servicing dealer.
<p>Engine is rough at all speeds. May also have black smoke and/or unburned fuel at the exhaust.</p>	Clogged air cleaner element.	Service the air cleaner.
	Loose or damaged spark plug.	Tighten or replace.
	Air leakage or clogged fuel line.	Repair or replace fuel filter and/or fuel line.
	Water in the fuel.	Refill with fresh fuel of the correct mixture (gasoline and Shindaiwa 2-cycle Mixing Oil, 25:1 ratio).
	Piston seizure.	Consult with an authorized servicing dealer.
	Faulty carburetor and/or diaphragm.	Consult with an authorized servicing dealer.
<p>Engine is knocking.</p>	Overheating condition.	See above.
	Improper fuel.	Check fuel octance rating; check for presence of alcohol in the fuel (pg. 10). Refuel as necessary.
	Carbon deposits in the combustion chamber.	Consult with an authorized servicing dealer.

Troubleshooting Guide (continued)

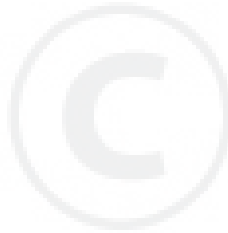
ADDITIONAL PROBLEMS

Symptom	Possible cause	Remedy
<div style="border: 1px solid black; padding: 5px; display: inline-block;">Poor acceleration.</div>	Clogged air cleaner element.	Clean the air cleaner element.
	Clogged fuel filter.	Replace the fuel filter.
	Carburetor mixture too lean.	Consult with an authorized servicing dealer.
	Idle speed set too low.	Adjust: 2,750 min ⁻¹ (±250)
<div style="border: 1px solid black; padding: 5px; display: inline-block;">Engine stops abruptly.</div>	Switch turned off.	Reset the switch and re-start.
	Fuel tank empty.	Refuel.
	Clogged fuel filter.	Replace filter.
	Water in the fuel.	Drain; replace with clean fuel.
	Shorted spark plug or loose terminal.	Clean and replace spark plug, tighten the terminal.
	Ignition failure.	Consult with an authorized servicing dealer.
	Piston seizure.	Consult with an authorized servicing dealer.
<div style="border: 1px solid black; padding: 5px; display: inline-block;">Engine difficult to shut off.</div>	Ground (stop) wire is disconnected, or switch is defective.	Test and replace as required.
	Overheating due to incorrect spark plug.	Replace spark plug with NGK BMR6A.
	Piston seizure.	Idle engine until cool.
<div style="border: 1px solid black; padding: 5px; display: inline-block;">Cutting attachment moves at engine idle.</div>	Engine idle too high.	Set idle: 2,750 mn ⁻¹ (±250)
	Broken clutch spring or worn clutch spring boss.	Replace spring/shoes as required, check idle speed.

Troubleshooting Guide (continued)

ADDITIONAL PROBLEMS

Symptom	Possible cause	Remedy
Excessive vibration.	Warped or damaged tool.	Inspect and repair tool as required.
	Loose coupler.	Tighten coupler securely.
	Bent main shaft/worn or damaged bushings.	Inspect and replace as necessary.
Cutting attachment will not move.	Shaft not installed in powerhead, coupler or gearcase.	Inspect and reinstall as required.
	Broken shaft.	Consult with an authorized servicing dealer.
	Damaged gearcase.	Consult with an authorized servicing dealer.



European Distributors List

Ref No.	Country	Name	Address	Tel No.	Fax No.
1	France	Yvan Beal	21, avenue De l'Agriculture, B.P.16-Zone Industrielle du Brezet, 63014 Clermont- Ferrand Cedex 1	(33) 04 73 91 93 51	(33) 04 73 90 23 11
2	Italy	Fercad S.P.A.	Via Retrone, 49, 36077- Altavilla Vicentia, Vicenza	(39) 0444 220811	(39) 0444 348986
3	Germany	Iseki Maschinen GmbH	Rudolf-Diescl-Str. 4, 40670 Meerbusch	(49) 02159 5205 0	(49) 02159 520512
4	England	PLM Power Products Ltd.	Unit 5-6, The Shires Industrial Estate, Essington Close, Birmingham Road, Lichfield, Staffs, WS14 9AZ	(44) 01543 414477	(44) 01543 414541
5	Ireland	Danfay Ltd.	61D Sallynoggin Road, Dun Laoghaire, Co. Dublin	(353) 1 2859177	(353) 1 2858810
6	Holland	Matracom Int. B.V	Hogelandseweg 51, 6545 AB Nijmegen	(31) 024 373 1990	(31) 024 373 1765
7	Belgium	Intergarden Import N.V.	Brechtsebaan 284-B 2900 Schoten	(32) 03 652 02 61	(32) 03 652 02 40
8	Switzerland	Solo Motorgeraete AG	Seuzachstrasse 26, CH- 8413 Neftenbach	(41) 52 315 1221	(41) 52 315 1004
9	Portugal	Joaquim Verdasca Junior Heads Lda	Apartado 11-2490, Ourem	(351) 249 544540	(351) 249 544361
10	Greece	Technellas S.A.	92, Athinon Avenue, 104 42 Athens	(30) 1 5193 110	(30) 1 5193 114
11	Finland	Tuonti Jarvela KY	Itkonniemenkatu 11, PB1234 70501 Kuopio	(358) 17 2652 845	(358) 17 2652 801
12	Turkey	Taral Tarim Makina VeAletleri Sanayi A.S.	Gumussuyu Caddesi Hastane Yolu No.1 34020 Topkapi-Maltepe, Istanbul	(90) 212 567 95 50	(90) 212 674 06 79

DECLARATION OF CONFORMITY (ENGLISH)

DECLARATION OF CONFORMITY

We hereby declare the Shindaiwa Engine Brushcutter,
Model SBA-T230/CE with 230PH/CE

meets the following respective requirements.

Council Directives:

89/336/EEC as amended

98/37/EC as amended

2000/14/EC as amended

Standard taken:

EN 292 parts 1&2

ISO 11806

CISPR 12

Measured sound power level: 109dB(A)

Guaranteed sound power level: 110dB(A)

Technical documentaiton is kept by:

K. Maeda DIV. Manager

Engineering Research and Development DIV.

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2002-12-10



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DECLARATION OF CONFORMITY (ENGLISH)

DECLARATION OF CONFORMITY

We hereby declare the Shindaiwa Pole Pruner,
Model SBA-P230/CE with 230PH/CE

meets the following respective requirements.

Council Directives:

89/336/EEC as amended

98/37/EC as amended

2000/14/EC as amended

Standard taken:

EN 292 parts 1&2

ISO/DIS 11680-1

CISPR 12

Measured sound power level: 109dB(A)

Guaranteed sound power level: 110dB(A)

Technical documentation is kept by:

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DECLARATION OF CONFORMITY (ENGLISH)

DECLARATION OF CONFORMITY

We hereby declare the Shindaiwa Articulated Hedge Trimmer,
Model SBA-AH230/CE with 230PH/CE

meets the following respective requirements.

Council Directives:

89/336/EEC as amended

98/37/EC as amended

2000/14/EC as amended

Standard taken:

EN 292 parts 1&2

CISPR 12

Measured sound power level: 108dB(A)

Guaranteed sound power level: 109dB(A)

Technical documentation is kept by:

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