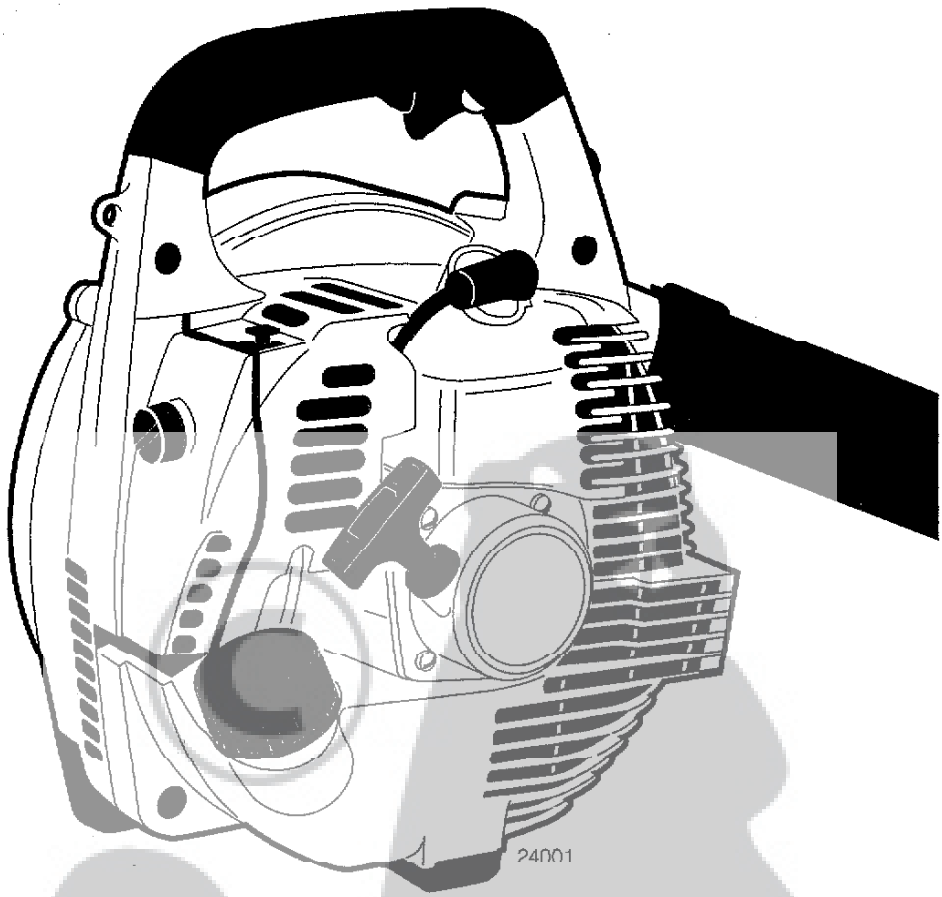
ISO 9001
CERTIFIED

SHINDAIWA OWNER'S MANUAL

EB240 BLOWER



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shindaiwa

WARNING!

Always wear eye and hearing protection when operating this machine. Minimize the risk of injury: Read this manual and familiarize yourself with its contents. This product is intended for outdoor use only and should be used only in well ventilated areas.

INTRODUCTION

Your Shindaiwa EB240 has been designed and built to deliver superior performance and reliability without compromise to quality, comfort, safety, or durability.

Shindaiwa high performance engines represent the leading edge of 2-cycle engine technology, delivering exceptionally high power at remarkably low displacement and weight. As a professional owner/operator, you'll soon discover why Shindaiwa is simply in a class by itself!

IMPORTANT!

The information contained in this manual describes machines available at the time of production. While every attempt has been made to give you the very latest information about your Shindaiwa EB240 blower, there may be some differences between your machine and what is described here. Shindaiwa. reserves the right to make changes in production without prior notice, and without obligation to make alterations to machines previously manufactured.

Before using this product, consult local regulations concerning noise restrictions and hours of operation.

WARNING!
The engine exhaust from this product contains substances which are harmful to your health.

CAUTION!
Never operate this machine without the muffler installed and properly functioning!

CONTENTS

ATTENTION STATEMENTS

This manual contains special "attention statements" surrounded by boxes and preceded by the triangular Attention Symbol.

WARNING!
A statement preceded by 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 machine damage.

Additional attention statements that are not preceded by the Attention Symbol are:

IMPORTANT!

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

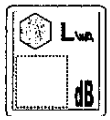
NOTE:

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

Read and follow this Operator's Manual. Failure to do so could result in serious injury.

Wear eye and hearing protection at all times during the operation of this machine.

Do not operate this machine if you are tired, ill or under the influence of alcohol, drugs, or medicine.



Sound Power Level (measured in accordance with 2000/14/EC)

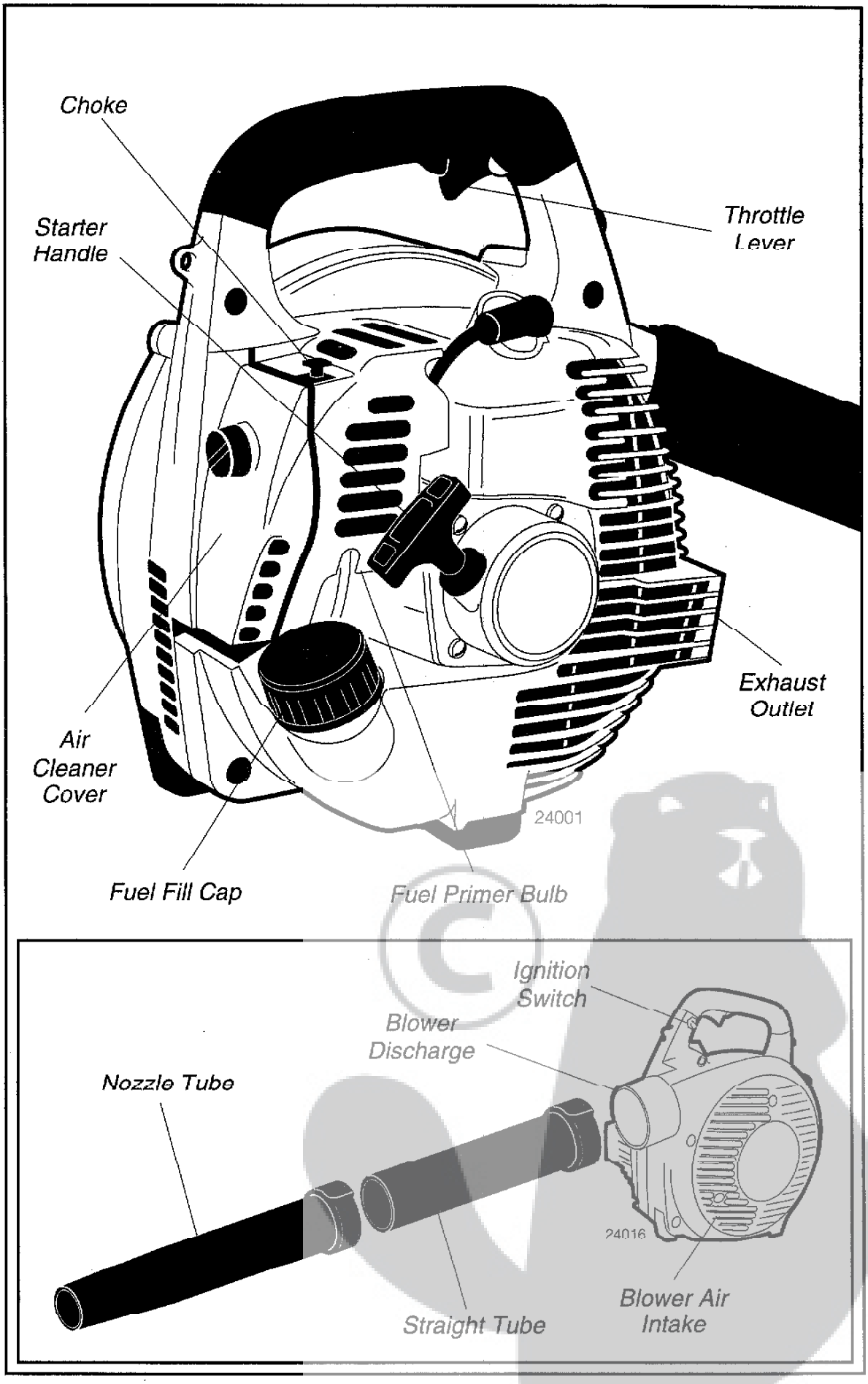
IMPORTANT!

The operational procedures described in this manual are intended to help you get the most from your machine and also to protect you and others from harm. These procedures are general guidelines only, and are not intended to replace any safety rules/ laws that may be in force in your area.

If you have any questions regarding your EB240 blower, or if you do not understand something in this manual, your Shindaiwa dealer will be glad to assist you.

WARNING!
Do not make unauthorized modifications to this machine!

NOMENCLATURE



SPECIFICATIONS

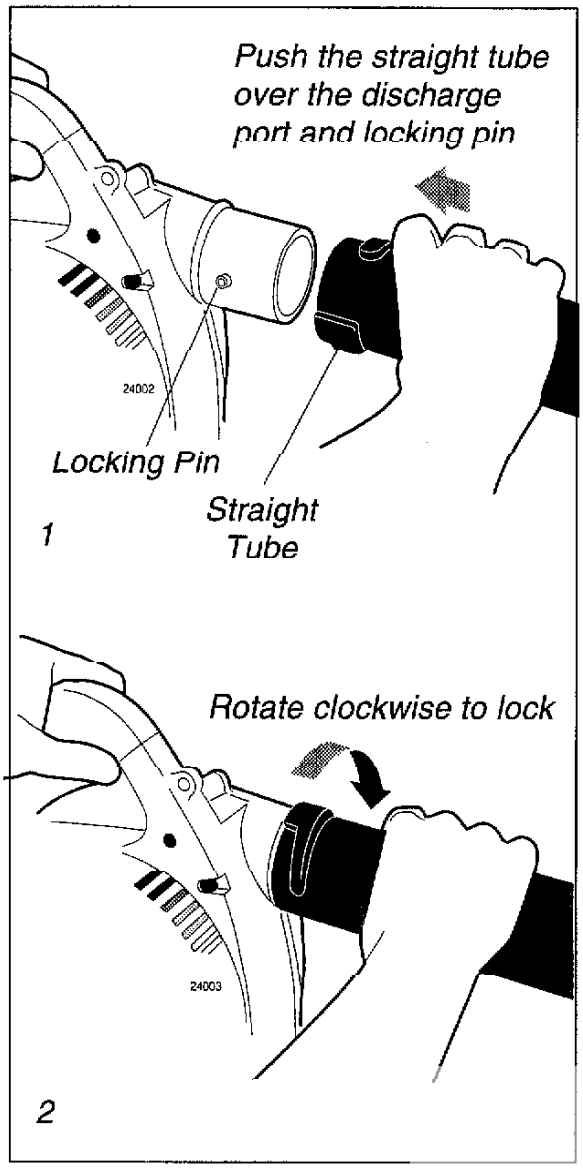
Model	EB240
Dimensions (LxWxH)	325x230x330mm
Engine Type	2cycle air cooled gas engie, vertical cylinder
Bore & Stroke	33x28mm
Displacement	24.0cm^3
Max Output/rpm	0.9kW at 7,000min^{-1}
Max Engine Speed	6,700min^{-1}
Engine Speed at Idling	2,500min^{-1}
Fuel	Gasoline/2-cycle Engine oil mixture (25:1)
Carburetor	Walbro diaphragm-type with primer pump
Ignition	All transistor electronic ignition system
Spark Plug	NGK BMR6A
Starting	Recoil starter
Stpping	Toggle switch
Fuel Tank Capacity	500cm^3
Air Cleaner Type	Semi-wet
Weight (dry;without blower tubes)	4.2kg
Sound Pressure Level (in accordance with ISO 7917)	88.5dB (A)
Sound Power Level (in accordance with ISO 10884.2)	102dB (A)
Vibration Level (in accordance with ISO 7916)	
Idling	2.0m/s^2
Wide Open Throttle	6.6m/s^2

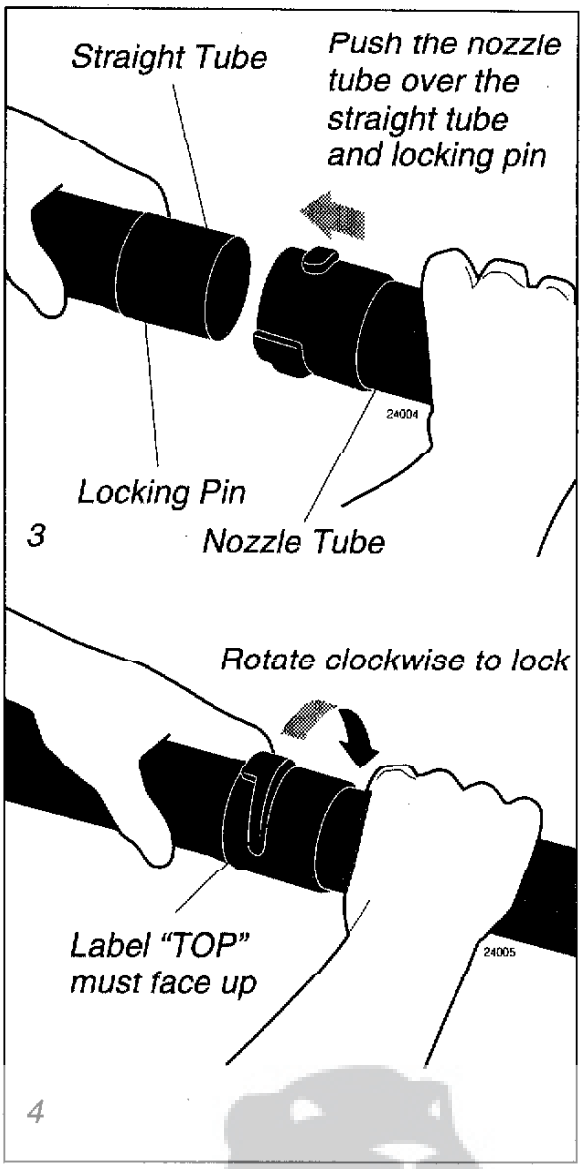
Standard Accessories and Tools

- 4 mm hex wrench
- Combination spark plug/13 mm wrench/screwdriver
- Tool bag

Shindaiwa reserves the right to make subsequent modifications to this product without prior notification.

ASSEMBLING THE BLOWER





Place the blower upright on the ground or on a sturdy work surface.

1. Grasp the straight tube as shown, and push the tube over the blower discharge port and locking pins.
2. Lock the straight tube to the blower discharge port by rotating the tube as shown.
3. Grasp the nozzle tube with the label "TOP" positioned as shown, and then push the nozzle over the straight tube and locking pins.
4. Lock the nozzle tube to the straight tube by rotating the nozzle tube as shown.

IMPORTANT!

Blower tube installation affects both blower balance and performance! The tube and nozzle are correctly installed when the label "Top" is visible to the operator during normal operation.

WARNING!
Danger from rotating impeller! Stop the engine before installing or removing the blower tubes! Never perform any maintenance or assembly procedures on this machine while the engine is running!

MIXING FUEL

Fuel Requirements

- Use only fresh, clean fuel
- Use only fuel with an octane rating of 87 or higher
- Mix all fuel with 2-Cycle Engine Oil at a gasoline/oil ratio of 25:1

WARNING!
Danger of fire! Never transfer or store fuels in the presence of combustible materials! Before starting the engine, always move the blower to a clear area at least 3-meters (10-feet) away from fuels and other combustible materials!

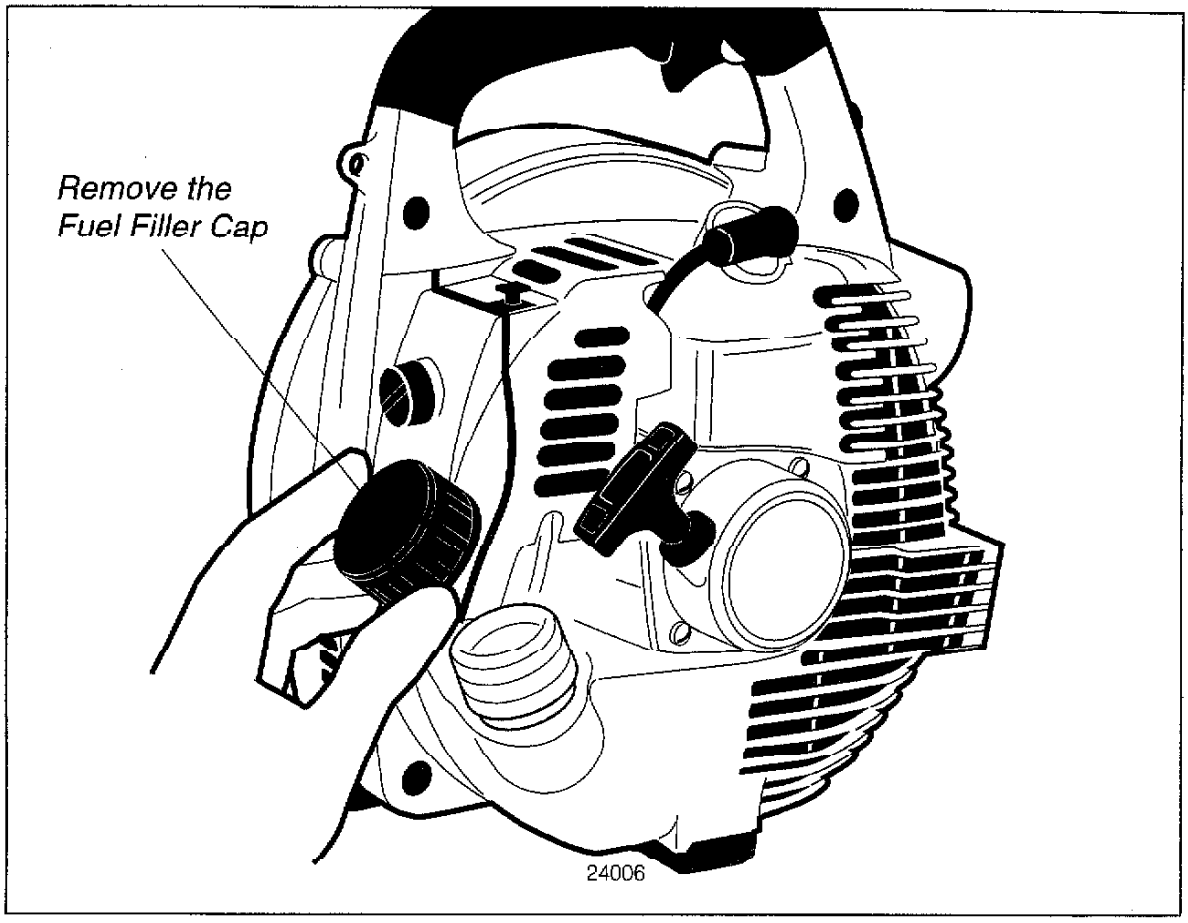
CAUTION!
Never attempt to mix fuel in the blower fuel tank! Always mix all fuels in a clean, approved container!

Some gasolines contain alcohol as an oxygenate! Oxygenated fuels may cause increased engine operating temperatures! Under certain conditions, alcohol-based fuels may also reduce the lubricating qualities of some mixing oils! Never use any fuel containing more than 10% alcohol by volume! When an oxygenated fuel *must* be used, fuel containing an ether-based oxygenate such as MTBE is to be preferred over alcohol!

IMPORTANT!

Mix only enough fuel for your immediate needs! If fuel must be stored longer than 30-days, it should first be treated with a stabilizer such as StaBil™ or equivalent product!

FILLING THE FUEL TANK



1. Place the blower upright on the ground or on a sturdy work surface, and wipe any debris from around the fuel cap.
2. Remove the fuel cap.
3. Fill the tank with clean, fresh fuel.
4. Replace the cap, and wipe away any spilled fuel before starting the blower.

WARNING!
Danger of fire and burn injury!

- **Always** use extreme care when handling fuel! Fuel is highly flammable!
- **Never** operate this blower if fuel system components are damaged or are leaking!
- **Never** attempt to refuel the engine while it is running!
- **Never** attempt to refuel a hot engine! Always allow the blower engine to cool before fueling!
- **Never** smoke or light any fires near the blower or fuels!
- **Always** transport and store fuels in an approved container!
- **Never** place flammable material close to the engine muffler!
- **Never** operate the blower without a properly functioning muffler installed!
- **Never** operate this blower unless it is properly assembled and in good working condition!

STARTING THE BLOWER

WARNING!
Danger from rotating impeller! The impeller will rotate whenever the blower is operated! Never operate this blower unless the intake cover and blower tubes are properly installed and in good working order!

Danger from thrown dust or debris! Always wear eye protection when operating this machine! Never direct the blower stream toward people or animals!

Never operate this blower unless all controls are properly installed and in good working order.

CAUTION!
The recoil starter can be damaged by abuse!

- Never pull the starter cord to its full length!
- Always engage the starter before cranking the engine!
- Always rewind the starter cord slowly!

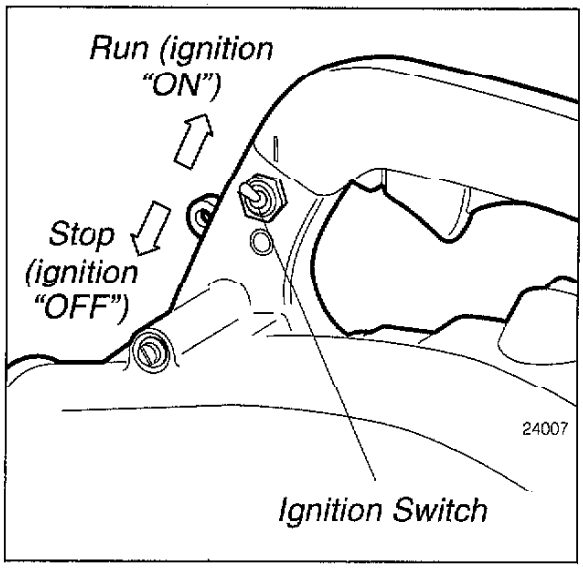
Never operate the blower if blower tubes are missing or damaged!

IMPORTANT!

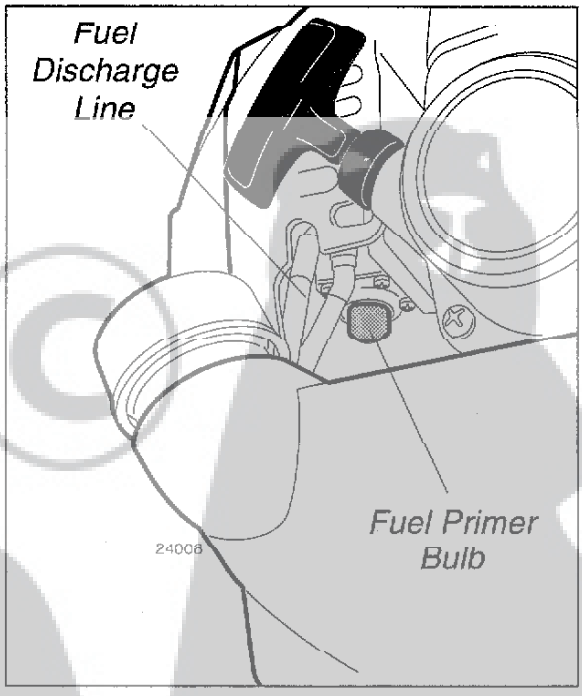
The engine ignition is controlled by a two-position "ON-OFF" switch located on the left side of the blower handle grip. This switch is typically labeled "I" for **ON** and "O" for **OFF**.

Starting Procedure

1. Switch the ignition to the "I" (ON) position.



2. Prime the fuel system by repeatedly depressing the fuel primer bulb until no air bubbles are visible in the fuel discharge line.



3. **Cold Engine Only.** Choke the engine by pulling the choke control to the fully extended position (choke is closed).
4. Place the blower on the ground, and hold the blower handle firmly with your right hand.
5. Pull the starter cord slowly until you feel the starter engage, then...
6. ...start the blower by pulling the starter cord upward rapidly.

If necessary, repeat Step 6 two or three times until the engine starts.

When the engine starts

IMPORTANT!

For maximum blower performance and operating life, allow the engine to warm before use.

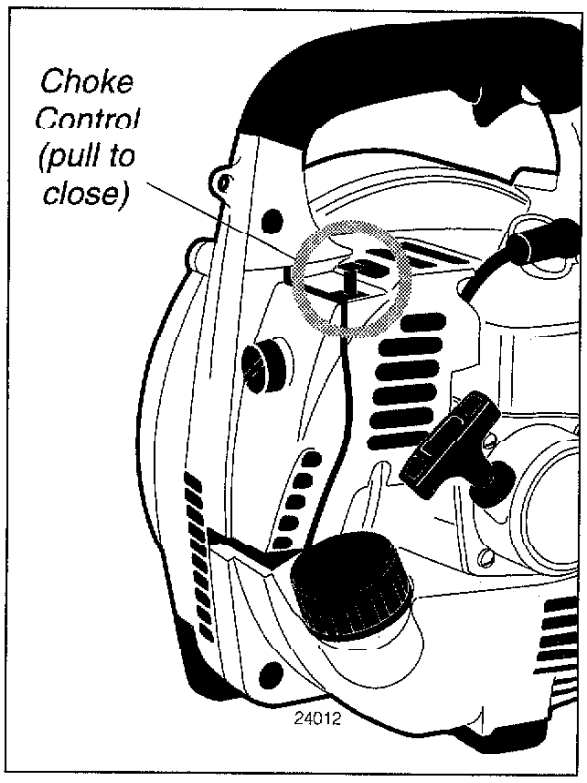
1. Run the engine at idle speed until operating temperature is reached (2 or 3 minutes).
2. As the engine warms, open the choke gradually by slowly pushing the choke control in to the fully retracted position.
3. The blower should now be ready for use.

If the engine does not start

Repeat the appropriate starting procedures for "hot" or "cold" engine. If the engine still will not start, follow the "Starting a Flooded Engine" procedure (below).

Starting a flooded engine

1. Disconnect the spark plug lead, and use the spark plug wrench to remove the spark plug in a counter-clockwise direction.
2. If the spark plug is fouled or is soaked with fuel, clean or replace the plug as required.

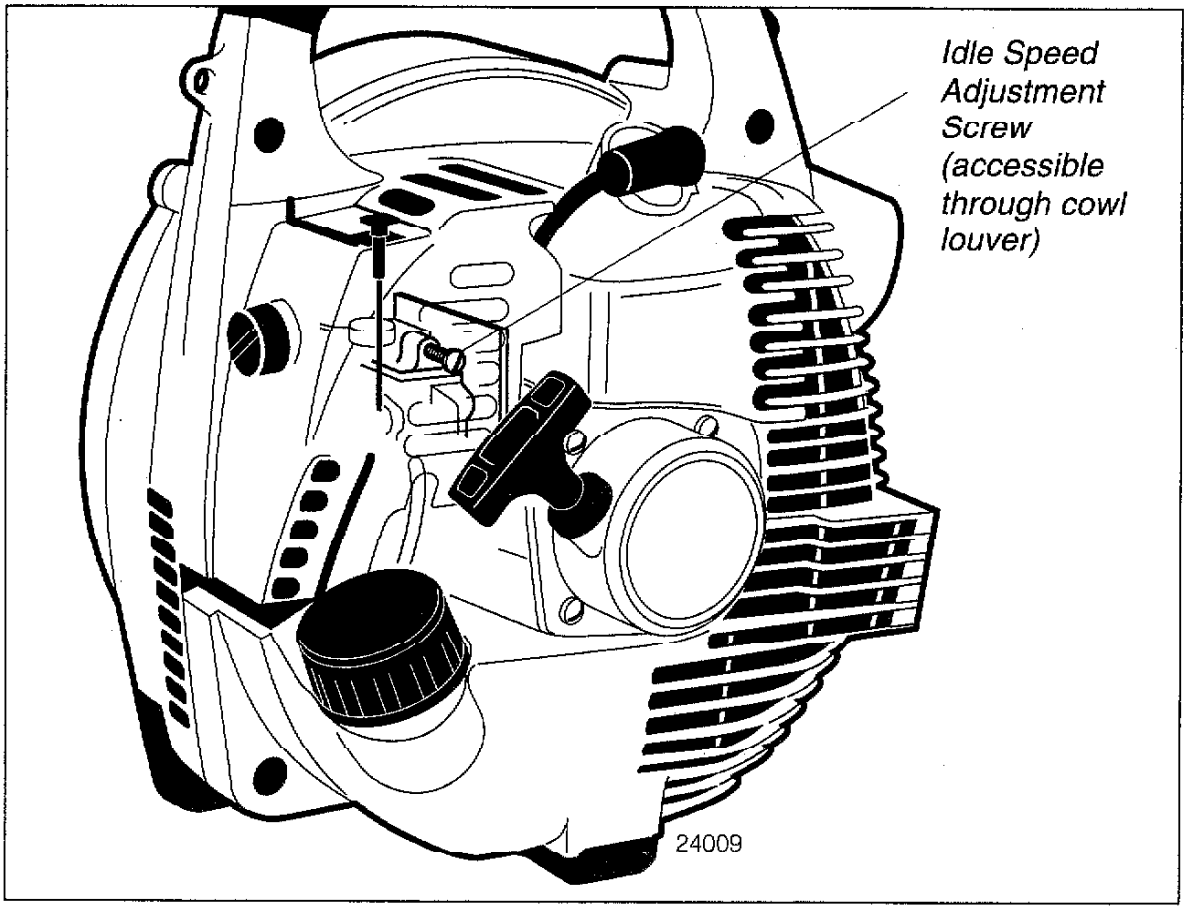


3. Clear excess fuel from the combustion chamber by cranking the engine several times while the spark plug is removed.
4. Install the spark plug and firmly tighten it with the spark plug wrench. If a torque wrench is available, torque the spark plug to 148–165 inch-pounds. Reconnect the spark plug lead.

CAUTION!
Incorrect spark plug installation can result in serious engine damage!

5. Repeat the starting procedures for "warm engine."
6. If the engine still fails to fire or start, refer to the troubleshooting flowchart at the end of this manual.

ADJUSTING ENGINE IDLE SPEED



1. Start the engine by following the procedures described on the preceding pages.
2. Run the engine at idle speed until operating temperature is reached (2-3 minutes).
3. Use a screwdriver to adjust the engine idle speed to 2,300–2,500 min^{-1}.

   ■ Turn the idle screw clockwise to increase engine idle speed.

   ■ Turn the idle screw counter-clockwise to decrease engine idle speed.

IMPORTANT!

Blower tubes and intake cover must be installed while adjusting engine idle! Engine idle speed will also be affected if either the intake cover or blower tubes are blocked, damaged or incorrectly installed!

STOPPING THE ENGINE

1. Cool the engine by allowing it to run at idle for 2 to 3 minutes.
2. Stop the engine by moving the ignition switch to the "O" (OFF) position.

IMPORTANT!

If the engine continues to run with the ignition switch in the "O" (OFF) position, stop the engine by pulling the choke control out to the fully closed position.

A clean and unrestricted airflow is essential to your blower's engine performance and durability! Before attempting any carburetor adjustments, inspect and clean the engine air cleaner as described on page 12 of this manual.

USING THE BLOWER

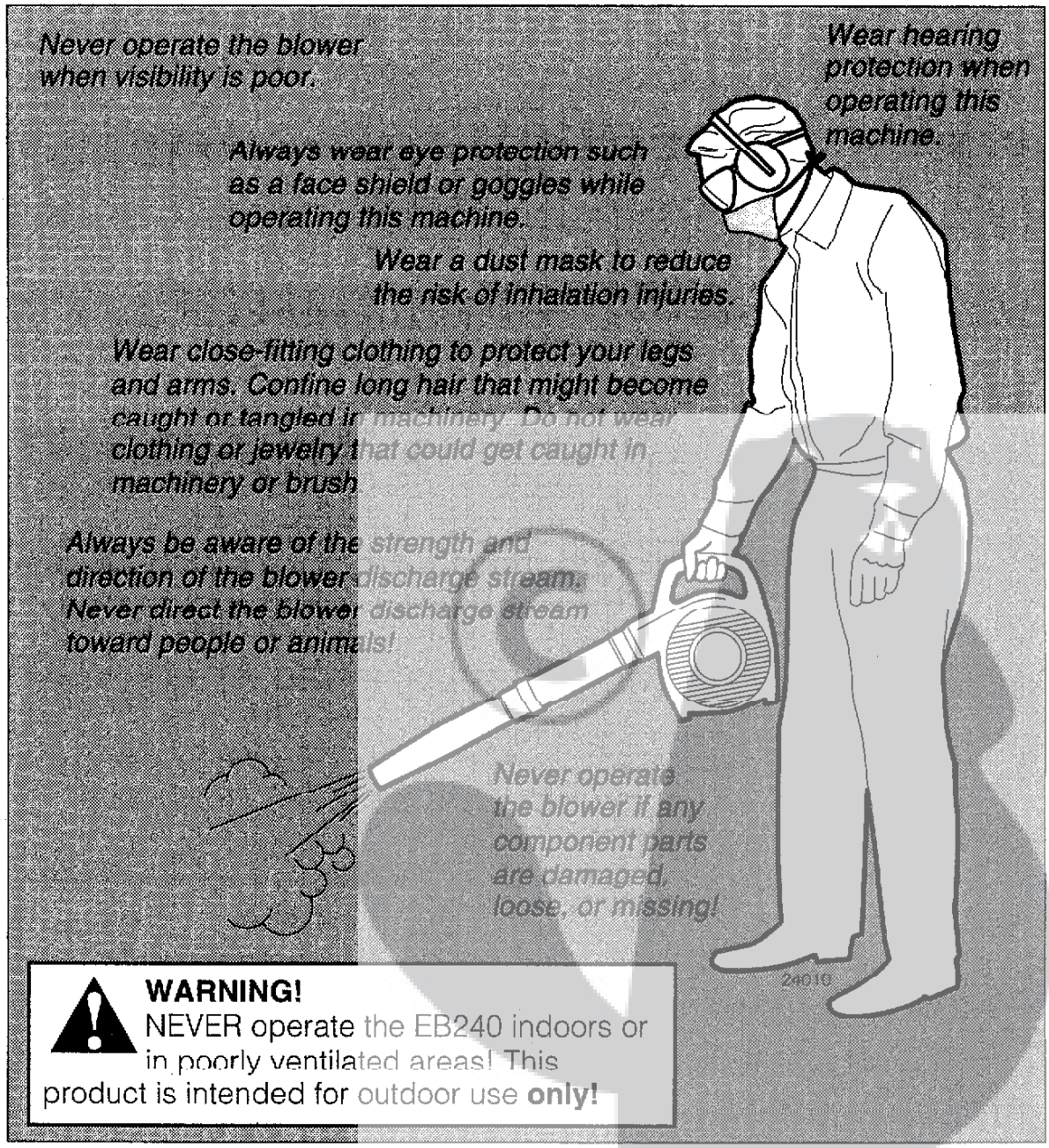
THINK SAFETY!

In the hands of an experienced operator, the EB240 can efficiently move a wide variety of debris ranging from grass clippings to gravel. As a general rule, try to operate your EB240 at the **lowest throttle setting** necessary to get the job done:

- Use low throttle settings when clearing lightweight materials from around lawns or shrubbery.
- Use medium to higher throttle settings to move lightweight grass or leaves from parking lots or walkways.
- Use full throttle when moving heavy loads such as dirt or snow.

IMPORTANT!

Blower noise increases at higher throttle settings! Always use the lowest throttle setting required to get the job done!



WARNING!
NEVER operate the EB240 indoors or in poorly ventilated areas! This product is intended for outdoor use **only!**

ROUTINE MAINTENANCE

WARNING!
Before performing any maintenance on this blower, stop the engine and disconnect the spark plug wire!

Daily Maintenance

- Remove dirt and debris from the blower exterior.
- Inspect engine, tank, and hoses for fuel leaks, and repair as necessary.
- Inspect the entire blower for loose, damaged, or missing components, and repair as necessary.
- Inspect the engine cooling fins for accumulations of dirt or debris, and clean as necessary.

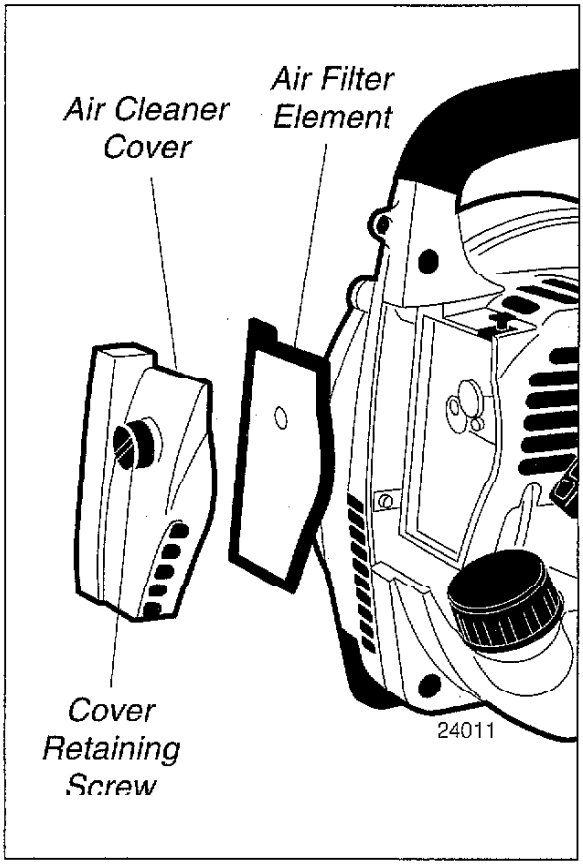
CAUTION!
Dirty or damaged cooling system components may allow the engine to overheat, possibly causing serious engine damage!

Operating the blower with loose, missing, or damaged components could allow the engine to overspeed, possibly causing serious engine damage!

- Inspect the blower for damage, loose or missing components or fastenings, and repair as necessary.

EVERY 10 HOURS

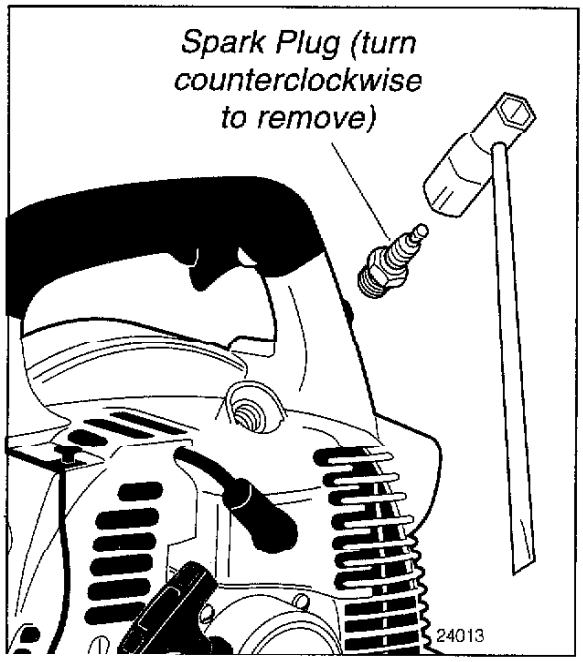
(more frequently in dusty conditions)



1. Loosen the air cleaner cover retaining screw, and remove the cover and filter element.
2. Inspect the element. If the element is distorted or damaged, replace it with a new one.
3. Wash the element in neutral solvent or warm soapy water, and squeeze or blow dry. Wash the air cleaner cover in neutral solvent or warm soapy water, and wipe or blow dry.
4. Install the element and cover, and then tighten the cover retaining screw.

CAUTION!
Never operate the blower if the air cleaner assembly is damaged or missing!

EVERY 10/15 HOURS



1. Use the spark plug wrench to remove the spark plug (turn counter-clockwise to remove).
2. Clean and adjust the spark plug gap to 0.6 mm (0.024"). Replace any damaged or visibly worn plug with an NGK BMR6A or equivalent.
3. Install the spark plug finger-tight in the cylinder head, then tighten it firmly with the spark plug wrench. If a torque wrench is available, torque the spark plug to 148–165 inch-pounds.

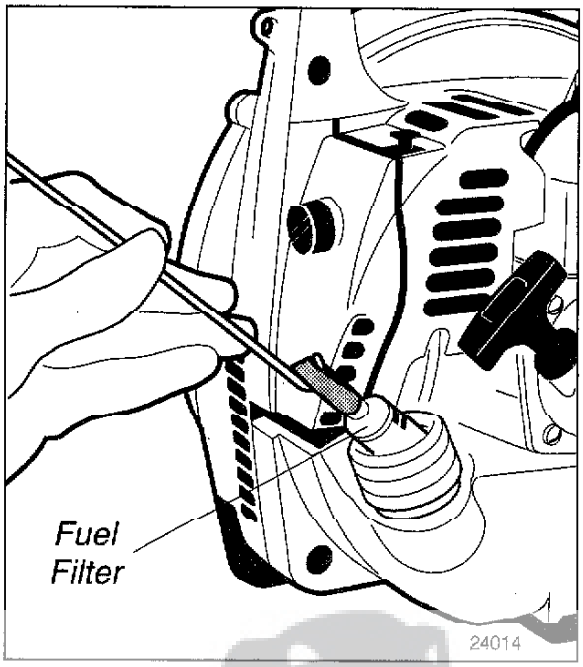
CAUTION!
Never allow dirt or debris to enter the cylinder bore! Before removing the spark plug, thoroughly clean the spark plug and cylinder head area!

Allow the engine to cool before servicing the spark plug! Cylinder threads can be damaged by tightening or loosening the spark plug while the engine is hot!

Incorrect spark plug installation can result in serious engine damage!

EVERY 50 HOURS
(more frequently if you note reduced performance)

- **INSPECTION** Inspect the entire blower and tubes for damage, including loose or missing components, and repair as necessary.
- **SPARK PLUG** Replace the spark plug with an NGK BMR6A (or equivalent), gapped to 0.6 mm (0.024").

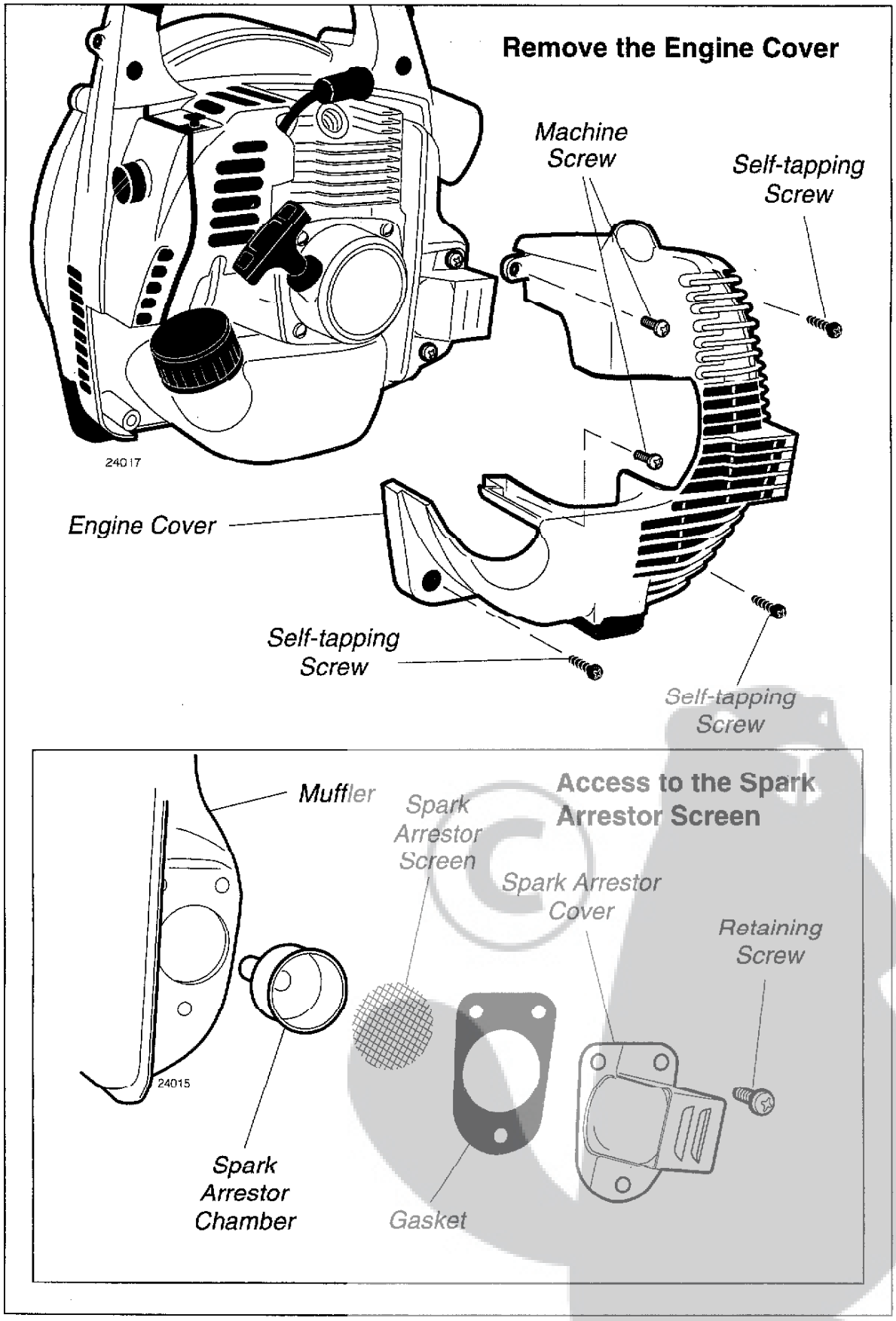


- **FUEL FILTER** Use a wire hook to extract the fuel filter from inside the fuel tank, and then remove and wash the filter element in clean fuel.

  Before reinstalling the filter, inspect the condition of the fuel line. If damage or deterioration are noted, the blower should be removed from service until it can be inspected by a Shindaiwa-trained service technician.
- **COOLING SYSTEM** Remove the engine cover (as described under "Spark Arrestor"), and use a wood or plastic scraper and a soft brush to remove dirt and debris from the cylinder fins and crankcase.

SPARK ARRESTOR MAINTENANCE

Hard starting or a gradual loss of performance can be caused by carbon deposits lodged in the spark arrestor screen. For maximum performance, the spark arrestor screen should be periodically cleaned as follows:



1. Remove the spark plug.
2. Remove three self-tapping screws and two machine screws from the engine cover, and then gently move the engine cover aside.
3. Remove the three spark arrestor retaining screws, then remove the spark arrestor cover, screen, gasket, and chamber.
4. Use a plastic scraper or wire brush to remove carbon deposits from the arrestor screen, chamber, and cover.
5. Inspect the screen carefully, and replace any screen that has been perforated, distorted, or is otherwise unserviceable.
6. Install the chamber, screen, gasket and cover in the reverse order of disassembly, and then install and securely tighten the three cover retaining screws.
7. Install the engine cover, and verify that the fuel line connections are still tightly in place.
8. Install the engine cover retaining screws in the reverse order of removal, and tighten securely.
9. Install and tighten the spark plug, and reconnect the spark plug wire.

CAUTION!
Always replace cover screws in the same holes as removed! Substitution or incorrect assembly of engine cover screws can permanently damage aluminum castings and plastic components!

STORAGE (30 days or longer)

- **CLEANING** Thoroughly clean the blower exterior.
- **INSPECTION** Inspect the entire blower and tubes for damage, including loose or missing components, and repair as necessary.
- **FUEL** Drain the fuel tank, and then clear the carburetor and lines by running the blower until it stops from lack of fuel.

CAUTION!
Never store this product with any fuel remaining in the tank, fuel lines, or carburetor! Your Shindaiwa warranty does not include coverage for damage caused by "stale" or contaminated fuels!

- **LUBRICATION** Remove the spark plug, and then pour approximately 1/4-oz of oil into the cylinder through the spark plug hole. Before reinstalling the spark plug, pull the recoil starter 2 or 3 times to distribute the oil over the cylinder walls.
- **AIR CLEANER** Remove, clean, and reinstall the filter element as described under "daily maintenance."
- **STORAGE** Store the blower in a clean, dry, dust-free environment.

TROUBLESHOOTING GUIDE

ENGINE DOES NOT START

What To Check		Possible Cause	Remedy
Does the engine crank?	NO →	Faulty recoil starter. Fluid in the crankcase. Internal damage.	Return blower to dealer.
YES ↓			
Good compression?	NO →	Loose spark plug. Excess wear on cylinder, piston, rings.	Tighten and re-test. Return blower to dealer.
YES ↓			
Does the tank contain fresh fuel of the proper grade?	NO →	Fuel/mixture incorrect, stale, contaminated.	Re-fill with fresh fuel of the correct mixture (gasoline and 2-cycle Engine Oil−25:1 ratio)
YES ↓			
Is fuel visible and moving in the return line when priming?	NO →	Check for clogged fuel filter and/or vent.	Clean as required; re-start
YES ↓			
Is there spark at the spark plug wire terminal?	NO →	The ignition switch is OFF ("O") Faulty ignition ground. Faulty transistor unit.	Move switch to ON ("I") and re-start Return blower to dealer.
YES ↓			
Check the spark plug	→	If the plug is wet, excess fuel may be in the cylinder.	Crank the engine with the plug removed, replace the plug, and re-start.
		The plug may be fouled or improperly gapped.	Clean and re-gap the plug to 0.6 mm (0.024 inch). Re-start.
		The plug may be damaged internally or of the wrong size.	Replace the plug with an NGK BMR6A Re-start.

TROUBLESHOOTING GUIDE (continued)

LOW POWER OUTPUT

What To Check	Possible Cause	Remedy
Is the engine overheating?	Operator is overworking the machine.	Use lower throttle setting.
	Carburetor mixture is too lean.	Return blower to dealer.
	Improper fuel ratio.	Re-fill with fresh fuel of the correct mixture (gasoline and 2-cycle Engine Oil – 25:1 ratio)
	Fan, fan cover, cylinder fins dirty or damaged.	Clean, repair or replace as necessary.
	Carbon deposits on piston or in the muffler.	Decarbonize.
Engine is rough at all speeds. May also have black smoke and/or unburned fuel at the exhaust.	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 filter and/or fuel line.
	Water in the fuel.	Drain the fuel system, replace the fuel.
	Piston seizure.	Return blower to dealer.
	Faulty carburetor and/or diaphragm.	Return blower to dealer
Engine is knocking.	Overheating condition.	Idle engine until cool; find reason for overheat.
	Improper fuel.	Check fuel octane rating; check for presence of alcohol in the fuel. Refuel as necessary.
	Carbon deposits in the combustion chamber.	Decarbonize.

TROUBLESHOOTING GUIDE (continued)

ADDITIONAL PROBLEMS

Symptom	Possible Cause	Remedy
Poor acceleration. →	Clogged air cleaner element.	Clean the element.
	Clogged fuel filter.	Replace the fuel filter as required.
	Carburetor mixture too lean.	Return blower to the dealer.
	Idle speed set too low.	Adjust: 2,300–2,500 min^{-1}
Engine stops abruptly. →	Ignition switch turned OFF.	Set the switch to "I" (ON) and re-start.
	Fuel tank empty.	Refuel.
	Clogged fuel filter.	Clean or replace filter as required.
	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.	Return blower to the dealer.
	Piston seizure.	Return blower to the dealer.
Engine difficult to shut off. →	Ground (stop) wire is disconnected, or switch is defective.	Test and replace as required.
	Overheating due to incorrect spark plug.	Correct plug:NGK BMR6A
	Overheated engine.	Idle engine until cool.
Excessive vibration →	Warped or damaged blower fan	Inspect and replace fan as required.
	Loose bolt or fastener	Tighten as required.
	Internal engine damage.	Return blower to 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 Vicentina, Vicenza	(39) 0444 220811	(39) 0444 348986
3	Germany	Iseki Maschinen GmbH	Rudolf-Diesel-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

DECLARATION OF CONFORMITY

We hereby declare the Shindaiwa Blower,
Model EB240 (EB240/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: 102dB(A)

Guaranteed sound power level: 103dB(A)

Technical documentation is kept by:
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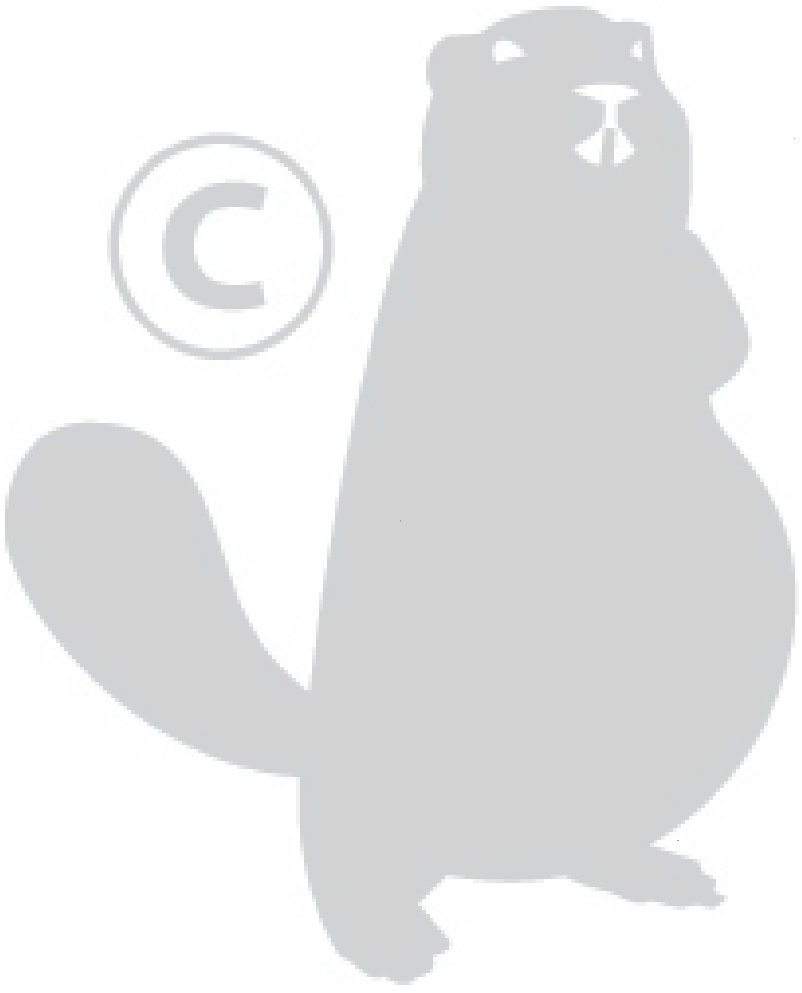

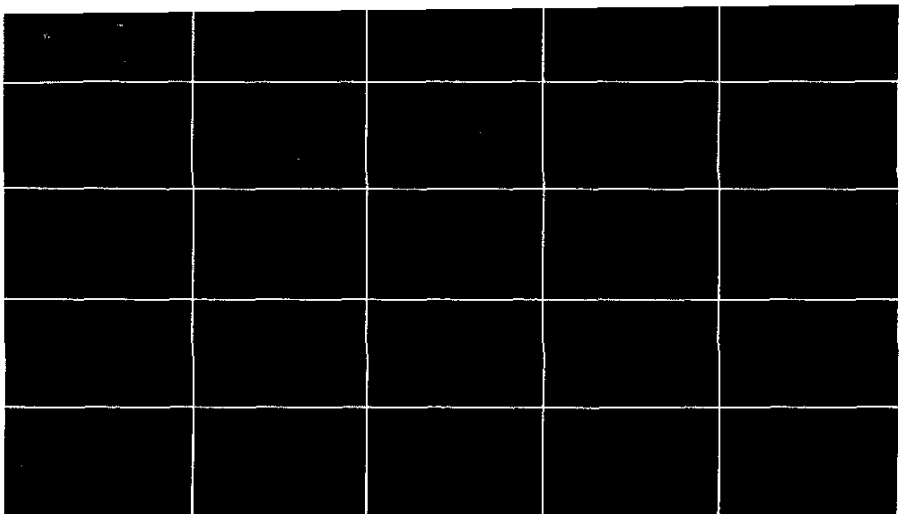

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