



Operator's Manual BRD-2620 Bed Redefiner

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



Read and understand all provided literature before use. Failure to do so could result in serious injury.

Note: This product complies with CAN ICES-2/NMB-2.

TABLE OF CONTENTS

Introduction	3
Servicing Information	4
Parts and Serial Number.....	4
Service	4
ECHO Consumer Product Support.....	4
Product Registration	4
Additional Literature	4
Safety	5
Manual Safety Symbols and Important Information	5
International Symbols	6
Personal Condition and Safety Equipment	8
Equipment.....	13
Emission Control (Exhaust & Evaporative)	14
EPA Emissions Control Information	14
Description	15
Contents.....	16
Assembly.....	17
Support Handle	17
Edger Blade Installation	17
Operation	18
Fuel.....	18
Starting Cold Engine	22
Starting Warm Engine	23
Stopping Engine	25
Operation Techniques	25
Edging Operation	28
Maintenance	30
Skill Levels	31
Maintenance Intervals.....	31
Air Filter	33
Fuel Filter	34
Spark Plug	35
Cooling System.....	36
Exhaust System	37
Carburetor Adjustment.....	39
Troubleshooting	40
Storage	42
Long-Term Storage (Over 30 Days).....	42
Specifications	43
Product Registration.....	44

INTRODUCTION

Specifications, descriptions, and illustrative material in this literature are as accurate as possible. Specifications are subject to change without notice. Illustrations might include optional equipment and accessories, and might not include all standard equipment. Your equipment might appear slightly different than pictured equipment.



Read and understand all provided literature. Literature contains specifications and information for safety, operation, maintenance, storage, and assembly specific to this product. Scan QR codes for more information.



For additional literature, including safety manuals where applicable, or questions regarding terms used in this manual, visit:

<https://www.echo-usa.com/manuals>



OR

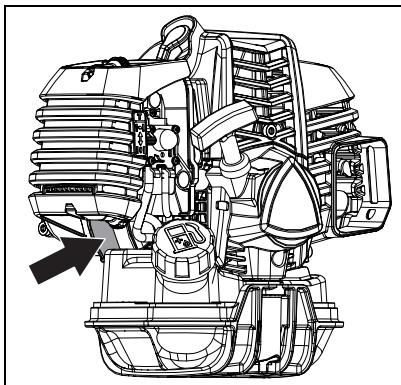
<https://www.shindaiwa-usa.com/manuals>



SERVICING INFORMATION

Parts and Serial Number

Genuine ECHO parts and assemblies for your ECHO products are available only from an Authorized ECHO Dealer. When you do need to buy parts, always have the model number and serial number of the unit with you. For future reference write them in the space provided below.



Model No. _____ Serial No. _____

Service

Service of this product during the warranty period must be performed by an Authorized ECHO Service Dealer. For the name and address of the Authorized ECHO Service Dealer nearest you, ask your retailer or call: 1-800-432-ECHO (3246). Dealer information is also available on our Web Site www.echo-usa.com. When presenting your unit for Warranty service/repairs, proof of purchase is required.

ECHO Consumer Product Support

If you require assistance or have questions concerning the application, operation, or maintenance of this product, call the ECHO Consumer Product Support Department at 1-800-432-ECHO (3246) from 8:00 a.m. to 5:00 p.m. (Central Standard Time) Monday through Friday. Before calling, please know the model and serial number of your unit.

Product Registration

Register your ECHO equipment online at www.echo-usa.com or by filling out the product registration sheet included in this manual. Registering your product confirms warranty coverage and provides a direct link to ECHO if we find it necessary to contact you.

Additional Literature

In addition to finding information online, information is available from your Authorized ECHO Service Dealer, or by contacting ECHO Incorporated, 400 Oakwood Road, Lake Zurich, IL 60047, 1-800-432-ECHO (3246).

SAFETY

Manual Safety Symbols and Important Information

Throughout this manual and on the product itself, you will find safety alerts and helpful, informational messages preceded by symbols or key words. The following is an explanation of those symbols and key words and what they mean to you.

DANGER

The safety alert symbol accompanied by the word “DANGER” calls attention to an act or condition which WILL lead to serious personal injury or death if not avoided.

WARNING

The safety alert symbol accompanied by the word “WARNING” calls attention to an act or condition which CAN lead to serious personal injury or death if not avoided.

CAUTION

The safety alert symbol accompanied by the word “CAUTION” calls attention to an act or condition which may lead to minor or moderate personal injury if not avoided.

NOTICE

The enclosed message provides information necessary for the protection of the unit.

Note: This enclosed message provides tips for use, care and maintenance of the unit.



CIRCLE AND SLASH SYMBOL

This symbol means the specific action shown is prohibited. Ignoring these prohibitions can result in serious or fatal injury.

International Symbols

Symbol	Description	Symbol	Description
	Warning, See Operator's Manual	H	Carburetor Adjustment - High Speed Mixture
	Wear Eye, Ear and Head Protection	T	Carburetor Adjustment - Idle Speed
	Wear Hand and Foot Protection	L	Carburetor Adjustment - Low Speed Mixture
	Safety/Alert		STOP Switch
	Hot Surface		Fuel and Oil Mixture
	DO NOT Allow Flames or Sparks Near Fuel		Ignition ON / OFF
	DO NOT Smoke Near Fuel		Purge Bulb
	Choke Control "RUN" Position (Choke Open)		Choke Control "COLD START" Position (Choke Closed)
	Keep Feet Away From Blade		Rotating Cutting Attachment

Symbol	Description	Symbol	Description
	Thrown Objects		Direction of Blade
	DO NOT USE LINE HEADS - Blades Only		DO NOT USE BLADES - Line Heads Only
		Keep Bystanders and Helpers Away 15 m (50 ft.)	
		AVOID KICKOUT Keep Bystanders At Least 15 m (50 ft.) Away	
		Beware Thrown Objects Wear Eye Protection	

Note: Not all symbols will appear on your unit.



Personal Condition and Safety Equipment

WARNING

Cancer and Reproductive Harm
www.P65Warnings.ca.gov

WARNING



The muffler or catalytic muffler and surrounding cover may become extremely hot. If unit is equipped with muffler, always keep clear of exhaust and muffler area, otherwise serious personal injury might occur.

WARNING

Users of this product risk injury to themselves and others if the unit is used improperly and/or safety precautions are not followed. Proper clothing and safety gear must be worn when operating unit.

Physical Condition

Your judgment and physical dexterity may not be good:

- If you are tired or sick
- If you are taking medication
- If you have taken alcohol or drugs

Operate unit only if you are physically and mentally well.

Eye Protection

WARNING

- ◆ Eye protection that meets ANSI Z87.1 or CE requirements must be worn whenever you operate the unit.
- ◆ For additional safety, a full-face shield can be worn over safety glasses or goggles to provide protection from sharp branches or flying debris.

Hand Protection

Wear sturdy, no-slip, rubber work gloves to improve your grip on the handles. Gloves also provide protection against cuts and scratches, cold environments, and reduce the transmission of machine vibration to your hands.

Hearing and Ear Protection

ECHO recommends wearing personal protective equipment whenever unit is used.

Breathing Protection

Operators who are sensitive to dust or other common airborne allergens may need to wear a dust mask to prevent inhaling these materials while operating unit. Dust masks can provide protection against dust, plant debris, and other plant matter such as pollen. Make sure the mask does not impair your vision, and replace the mask as needed to prevent air restrictions.

Proper Clothing

Wear snug-fitting, durable clothing:

- Pants should have long legs, shirts should have long sleeves.
- DO NOT WEAR SHORTS.
- DO NOT WEAR TIES, SCARVES, JEWELRY, or clothing with loose or hanging items that could become entangled in moving parts or surrounding growth.
- Keep clothing buttoned or zipped, and keep shirt tails tucked in.
- Wear sturdy work shoes with nonskid rubber soles.
- DO NOT WEAR OPEN TOED SHOES.
- DO NOT OPERATE UNIT WITH BARE FEET.

Keep long hair away from engine and air intake. Retain hair with cap or net.

Heavy protective clothing can increase operator fatigue, which may lead to heat stroke. Schedule heavy work for early morning or late afternoon hours when temperatures are cooler.

 WARNING

The components of this machine generate an electromagnetic field during operation, which can interfere with some pacemakers. To reduce the risk of serious or fatal injury, persons with pacemakers should consult with their physician and the pacemaker manufacturer before operating this machine. In the absence of such information, ECHO does not recommend the use of this machine by anyone who has a pacemaker.

Extended Operation and Extreme Conditions **CAUTION**

Prolonged exposure to cold and/or vibration can result in injury. Read and follow all safety and operation instructions to minimize risk of injury. Failure to follow instructions can result in painful wrist/hand/arm injuries.

It is believed that a condition called Raynaud's Phenomenon, which affects the fingers of certain individuals, may be brought about by exposure to vibration and cold. Exposure to vibration and cold may cause tingling and burning sensations, followed by loss of color and numbness in the fingers. The following precautions are strongly recommended, because the minimum exposure, which might trigger the ailment, is unknown.

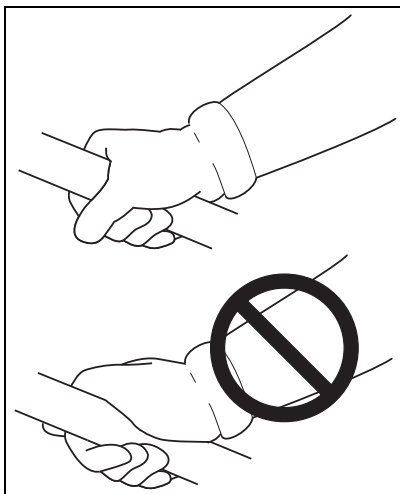
- Keep your body warm, especially the head, neck, feet, ankles, hands, and wrists.
- Maintain good blood circulation by performing vigorous arm exercises during frequent work breaks, and also by not smoking.
- Limit the hours of operation. Try to fill each day with jobs where operating the unit or other hand-held power equipment is not required.
- If you experience discomfort, redness, and swelling of the fingers followed by whitening and loss of feeling, consult your physician before further exposing yourself to cold and vibration.

Repetitive Stress Injuries (RSI)

It is believed that overusing the muscles and tendons of the fingers, hands, arms, and shoulders may cause soreness, swelling, numbness, weakness, and extreme pain in those areas. Certain repetitive hand activities may put you at a high risk for developing a Repetitive Stress Injury (RSI). An extreme RSI condition is Carpal Tunnel Syndrome (CTS), which could occur when your wrist swells and squeezes a vital nerve that runs through the area. Some believe that prolonged exposure to vibration may contribute to CTS. CTS can cause severe pain for months or even years.

To reduce the risk of RSI/CTS, do the following:

- Avoid using your wrist in a bent, extended, or twisted position. Instead try to maintain a straight wrist position. Also, when grasping, use your whole hand, not just the thumb and index finger.
- Take periodic breaks to minimize repetition and rest your hands.
- Reduce the speed and force with which you do the repetitive movement.
- Do exercises to strengthen the hand and arm muscles.
- Immediately stop using all power equipment and consult a doctor if you feel tingling, numbness, or pain in the fingers, hands, wrists, or arms. The sooner RSI/CTS is diagnosed, the more likely permanent nerve and muscle damage can be prevented.



DANGER

All overhead electrical conductors and communications wires can have electricity flow with high voltages. This unit is not insulated against electrical current. Never touch wires directly or indirectly, otherwise serious injury or death can result.

DANGER

Do not operate gas-powered products indoors or in inadequately ventilated areas. Engine exhaust contains poisonous emissions and can cause serious injury or death.

Read Manuals

- Provide all users of this equipment with literature for instructions on safe operation.

Clear The Work Area

- Always clear the work area of foreign objects, and check for any hidden hazards. spectators and fellow workers must be warned, and children and animals prevented from coming nearer than 50 ft. (15 m) while the unit is in use.

Keep A Firm Grip

- Always hold throttle handle and support handle with thumbs and fingers tightly encircling the handles.

Keep A Solid Stance

- Maintain footing and balance at all times. Do not stand on slippery, uneven or unstable surfaces. Do not work in odd positions or on ladders. Do not over reach.

Avoid Hot Surfaces

- Keep exhaust area clear of flammable debris. Avoid contact during and immediately after operation.



Equipment

WARNING

Use only ECHO attachments. Serious injury may result from the use of a non-approved attachment combination. ECHO Incorporated will not be responsible for the failure of cutting devices, attachments or accessories which have not been tested and approved by ECHO. Read and comply with all safety instructions listed in this manual and safety manual.

- ◆ Check unit for loose or missing nuts, bolts, and screws. Tighten or replace as needed.
- ◆ Inspect shield for damage and that shield is securely in place. Replace if shield is damaged or missing.
- ◆ Check that the cutting attachment is firmly attached and in safe operating condition.
- ◆ Check that support handle is adjusted for safe, comfortable operation. See Assembly Section for proper adjustment.

WARNING

Moving parts can amputate fingers or cause severe injuries. Keep hands, clothing and loose objects away from all openings.

- ◆ ***ALWAYS stop engine, disconnect spark plug, and make sure all moving parts have come to a complete stop before removing obstructions, clearing debris, or servicing unit.***
- ◆ ***DO NOT start or operate unit unless all guards and protective covers are properly assembled to unit.***
- ◆ ***NEVER reach into any opening while the engine is running. Moving parts may not be visible through openings.***

WARNING

Periodically check fuel system (fuel lines, vent, grommet, fuel tank, and fuel cap) for leaks especially if the unit is dropped. If damage or leaks are found, do not use unit, otherwise serious personal injury or property damage may occur. Have unit repaired by an authorized servicing dealer before using.

EMISSION CONTROL (EXHAUST & EVAPORATIVE)

EPA Emissions Control Information

The emission control system for the engine is EM (engine modification) and, if the second to last character of the Engine Family on the Emission Control Information label (see example) is "B", "C", "K", or "T", the emission control system is EM and TWC (3-way catalyst). The fuel tank/fuel line emission control system is EVAP (evaporative emissions).

EMISSION CONTROL INFORMATION

ENGINE FAMILY: XEHS.0214KO DISPLACEMENT: 21.2 cc
EMISSION COMPLIANCE PERIOD: 300 Hours
THIS ENGINE MEETS U.S.EPA EXH/EVP EMISSION
REGULATIONS FOR MODEL YEAR XXXX REFER TO OWNER'S MANUAL
FOR MAINTENANCE SPECIFICATIONS AND ADJUSTMENTS.

YAMABIKO CORP.



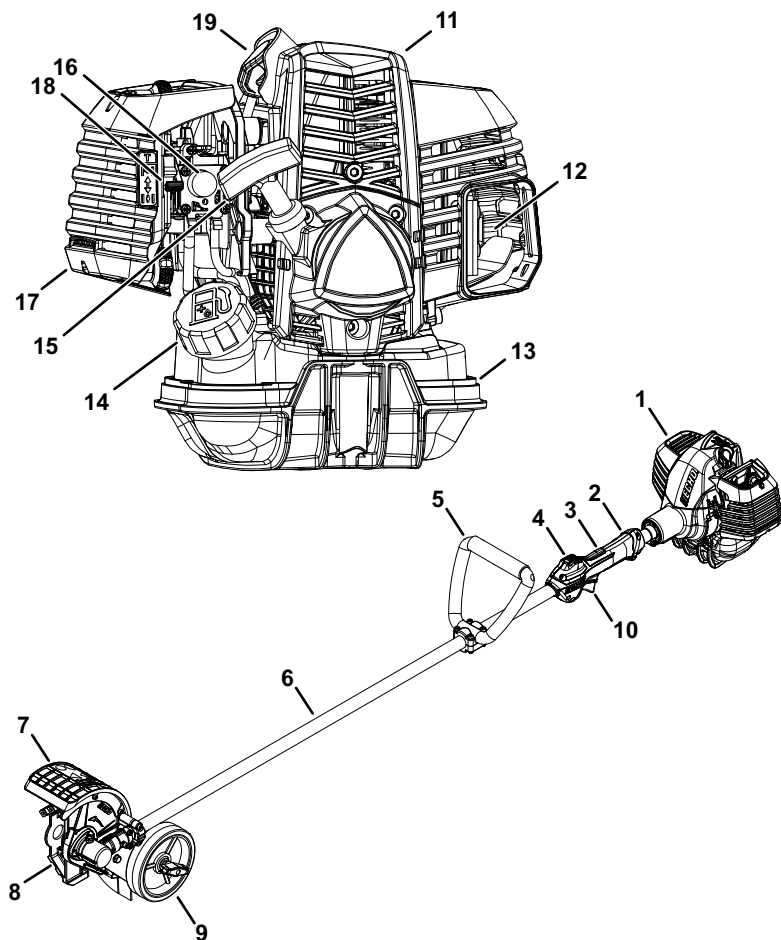
An Emission Control Label is located on the engine. (This is an EXAMPLE ONLY, information on label varies by engine FAMILY).

Product Emission Durability (Emission Compliance Period)

The 50 or 300 hour emission compliance period is the time span selected by the manufacturer certifying the engine emissions output meets applicable emissions regulations, provided that approved maintenance procedures are followed as listed in the Maintenance Section of this manual.

DESCRIPTION

Locate the safety decal(s) or etching(s) on your unit. Make sure they are legible, and that you understand and follow the instructions. If any cannot be read, replacements can be ordered from your ECHO dealer. Images shown below are for example only. Those on your unit might appear slightly different.



1. Power head
2. Throttle handle - for right hand
3. Throttle trigger lockout
4. Stop switch
5. Support handle - for left hand
6. Drive shaft assembly
7. Debris shield / flap
8. Blade
9. Wheel
10. Throttle trigger
11. Top guard
12. Spark arrester muffler or spark arrester muffler with catalyst
13. Fuel tank
14. Fuel tank cap
15. Recoil starter / handle
16. Purge bulb
17. Air filter
18. Choke
19. Spark plug

CONTENTS

The ECHO product you purchased has been factory pre-assembled for your convenience. Due to packaging restrictions, some assembly may be necessary.

After opening the carton, check for damage. Immediately notify your retailer or ECHO Dealer of damaged or missing parts. Use the contents list to check for missing parts.

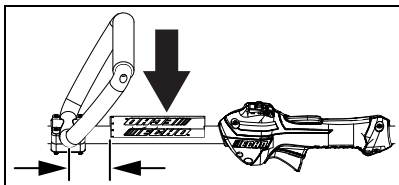
- 1 Power head / drive shaft assembly
- 1 Operator's manual
- 1 Warranty statement
- 2 Split pins
- 1 Edger blade

ASSEMBLY

Support Handle

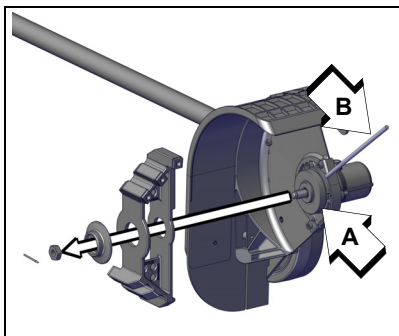
1. If necessary, position support handle for comfortable operation and securely tighten screws.

Note: Label shows minimum spacing for support handle location.

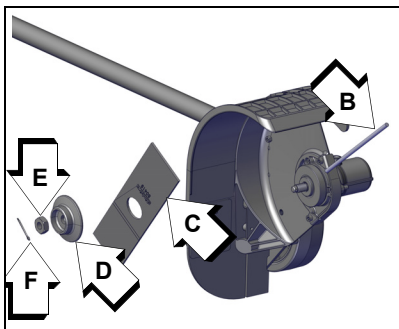


Edger Blade Installation

1. Remove bed redefining blade as shown in "Blade Replacement" Section. Discard used split pin.
2. Do not remove inner blade adapter (A) or locking tool (B).



3. Install and center edger blade (C) on inner adapter.
4. Install outer adapter (D) and nut (E).
5. Tighten nut (E) firmly, counterclockwise.
6. Remove locking tool (B).
7. Install new split pin (F) to secure nut (E).



OPERATION

WARNING

Moving parts can amputate fingers or cause severe injuries. Keep hands, clothing and loose objects away from all openings. Always stop engine, disconnect spark plug, and make sure all moving parts have come to a complete stop before removing obstructions, clearing debris, or servicing unit.

WARNING

Engine exhaust IS HOT, and contains Carbon Monoxide (CO), a poison gas. Breathing CO can cause unconsciousness, serious injury, or death. Exhaust can cause serious burns. ALWAYS position unit so that exhaust is directed away from your face and body.

WARNING

Operation of this equipment may create sparks that can start fires around dry vegetation. This unit is equipped with a spark arrester to prevent discharge of hot particles from the engine. Metal cutters can also create sparks if the cutter strikes rocks, metal, or other hard objects. Contact local fire authorities for laws or regulations regarding fire prevention requirements.

Fuel

WARNING

Diesel fuels and alternative fuels, such as E-15 (15% ethanol), E-85 (85% ethanol) or any fuels not meeting ECHO requirements are NOT approved for use in ECHO two-stroke gasoline engines. Use of diesel or alternative fuels can cause performance problems, loss of power, overheating, fuel vapor lock, and unintended machine operation, including, but not limited to, improper clutch engagement. Diesel or alternative fuels can also cause premature deterioration of fuel lines, gaskets, carburetors and other engine components.

Fuel Requirements

Gasoline - Use fresh (purchased within the last 30 days from the pump) 89 Octane [R+M/2] (mid grade or higher) gasoline known to be good quality. Gasoline may contain up to 10% Ethanol (grain alcohol) or 15% MTBE (methyl tertiary-butyl ether). Gasoline containing methanol (wood alcohol) is **NOT** approved. Use of ECHO branded fuel is recommended to extend engine life in all air-cooled two-stroke and two/four stroke hybrid engines.

Two-Stroke Oil - A two-stroke engine oil, such as ECHO branded two-stroke oils, meeting ISO-L-EGD (ISO/CD 13738) and J.A.S.O. FD Standards must be used. ECHO branded two-stroke oils meet these standards. Engine problems due to inadequate lubrication caused by failure to use an ISO-L-EGD (ISO/CD 13738) and J.A.S.O. M345-FD certified oil will void the two-stroke engine warranty.

WARNING

Two-stroke engine oil contains petroleum distillates and other additives that may be harmful if swallowed. Heated oil can release vapors that can cause flash fire, or ignite with explosive force. Read and follow the oil manufacturer's instructions, and observe all safety warnings and precautions for handling flammable liquids. For more detailed safety and first aid information, visit www.echo-usa.com for a copy of the Material Safety Data Sheet.

- ◆ **KEEP OUT OF REACH OF CHILDREN.**
- ◆ **If swallowed, do not induce vomiting. CALL PHYSICIAN OR A POISON CONTROL CENTER IMMEDIATELY.**
- ◆ **WEAR SAFETY GLASSES** when mixing or handling.
- ◆ **AVOID** repeated or prolonged skin contact.
- ◆ **AVOID** inhaling oil mists or vapors.

NOTICE

ECHO branded two-stroke oils may be mixed at 50:1 ratio for application in all ECHO engines sold in the past regardless of ratio specified in those manuals.

Handling Fuel

 DANGER

Fuel is flammable. Use extreme care when mixing, storing or handling, or serious personal injury will result.

- ◆ ***Use an approved fuel container. Mark fuel containers as containing two-stroke mixture fuel.***
- ◆ ***DO NOT smoke near fuel.***
- ◆ ***DO NOT allow flames or sparks near fuel.***
- ◆ ***Fuel tanks/cans may be under pressure. Always loosen fuel caps slowly allowing pressure to equalize.***
- ◆ ***NEVER refuel a unit when the engine is HOT or RUNNING!***
- ◆ ***DO NOT fill fuel tanks indoors. ALWAYS fill fuel tanks outdoors over bare ground.***
- ◆ ***DO NOT overfill fuel tank. Wipe up spills immediately.***
- ◆ ***Securely tighten fuel tank cap and close fuel container after refueling.***
- ◆ ***Inspect for fuel leakage. If fuel leakage is found, do not start or operate unit until leakage is repaired.***
- ◆ ***Use caution when handling fuel. Mix and pour fuel outdoors where there are no sparks and flames. Slowly remove the fuel cap only after stopping the engine and allowing the unit to cool. Do not smoke while fueling or mixing fuel. Move the unit at least 3 m (10 ft.) from the fueling point before starting the engine.***

 DANGER

Gasoline vapor is heavier than air, and can travel along the ground to nearby sources of ignition such as electrical motors, pilot lights, and hot or running engines. Vapors ignited by an ignition source can flash back to the fuel container, resulting in an explosion, fire, serious or fatal injuries, and extensive property damage.

Mixing Instructions

NOTICE

Stored fuel ages. Do not mix more fuel than you expect to use in 30 days or 90 days when a fuel stabilizer is added.

1. Fill an approved fuel container with half of the required amount of gasoline.
2. Add the proper amount of two-stroke oil to gasoline.
3. Close container and shake to mix oil with gasoline.
4. Add remaining gasoline, close fuel container, and remix.

Fuel to Oil Mix – 50:1 Ratio			
US		Metric	
Gas	Oil	Gas	Oil
gal.	fl.oz.	L	cc
1	2.6	5	100
2	5.2	10	200
5	13	25	500

NOTICE

Spilled fuel is a leading cause of hydrocarbon emissions. Some locations may require the use of automatic fuel shut-off containers to reduce fuel spillage.

Storage - Fuel storage laws vary by locality. Contact your local government for the laws affecting your area. As a precaution, store fuel in an approved, airtight container. Store in a well-ventilated, unoccupied building, away from sparks and flames.

- Empty the fuel tank prior to storing the unit. Return unused fuel to an approved fuel storage container.

NOTICE

Stored two-stroke fuel can separate. ALWAYS shake fuel container thoroughly before each use.

NOTICE

Used oil and gasoline, and soiled towels are hazardous waste materials. Disposal laws vary by locality.

Starting Cold Engine

WARNING

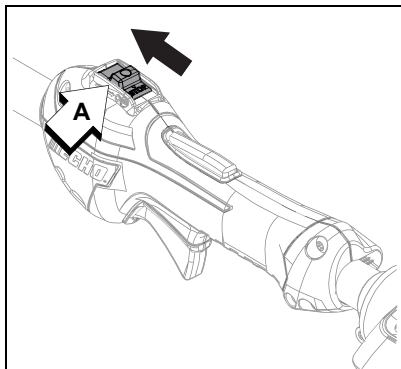
The attachment will operate immediately when the engine starts, and could result in possible serious injury. Keep movable parts of the attachment away from objects that could become entangled or thrown, and surfaces that could cause loss of control.

NOTICE

If a protective blade cover is used, ALWAYS remove blade cover before starting equipment.

1. **Stop Switch**

Move stop switch button (A) forward, away from the STOP position.

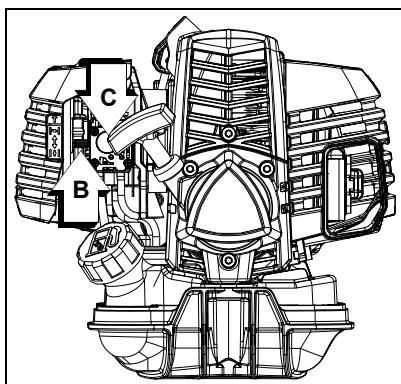


2. **Choke**

Move choke lever (B) to COLD START position.

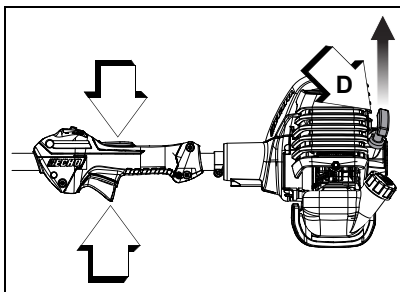
3. **Purge Bulb**

Pump purge bulb (C) until fuel is visible and flows freely in the clear fuel tank return line. Pump bulb an additional four or five times.



4. Recoil Starter

Lay the unit on a flat area and keep movable attachment parts clear of all obstacles. Firmly grasp throttle handle and throttle trigger lockout with left hand and fully depress throttle trigger to wide open position. Rapidly pull recoil starter handle/rope (D) until engine fires (or maximum five pulls).



5. Choke

After engine fires (or five pulls), move choke to the RUN (open) position. Firmly grasp throttle handle and throttle trigger lockout with left hand and fully depress throttle trigger to wide open position. Pull starter handle/rope (D) until engine starts and runs. Release throttle trigger and allow unit to warm up at idle for several minutes.

Note: If engine does not start with choke in RUN position after five pulls, repeat instructions 2 - 5.

6. Throttle Trigger

After engine warm-up, grip throttle handle and support handle. Depress the throttle trigger lockout, and gradually depress throttle trigger to increase engine RPM to operating speed.

Starting Warm Engine

The starting procedure is the same as Cold Start except DO NOT close the choke, and do not hold throttle trigger fully depressed.

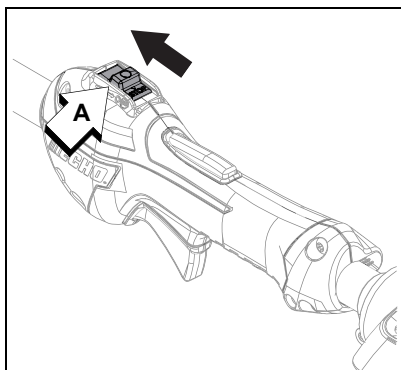
WARNING

The attachment should not move at idle, otherwise serious personal injury may result.

Note: If attachment moves, readjust carburetor according to “Carburetor Adjustment” instructions in this manual or see your ECHO Dealer.

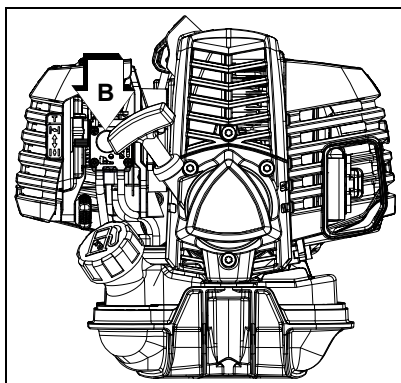
1. Stop Switch

Move stop switch button (A) forward away from the STOP position.



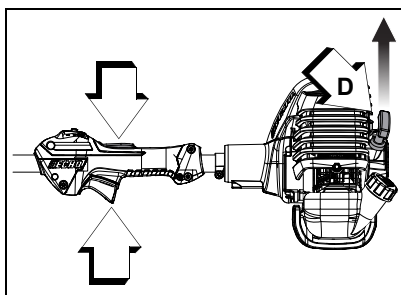
2. Purge Bulb

Pump purge bulb (B) until fuel is visible in the clear fuel return line. Pump bulb an additional four or five times.



3. Recoil Starter

Lay the unit on a flat area and keep movable attachment parts clear of all obstacles. Firmly grip throttle handle and throttle trigger lockout with left hand. Rapidly pull recoil starter handle/rope (D) until engine fires.



Note: If engine does not start after five pulls, use Cold Start Procedure.

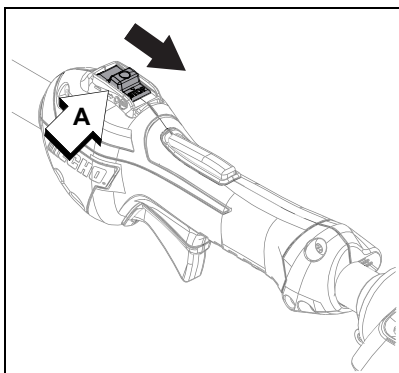
Stopping Engine

1. *Throttle*

Release throttle trigger and allow engine to return to idle before shutting off engine.

2. *Stop Switch*

Move stop switch button (A) backward to STOP position.



WARNING

If engine does not stop when stop switch is moved to STOP position, close choke - COLD START position - to stall engine. Have your ECHO dealer repair stop switch before using unit again.

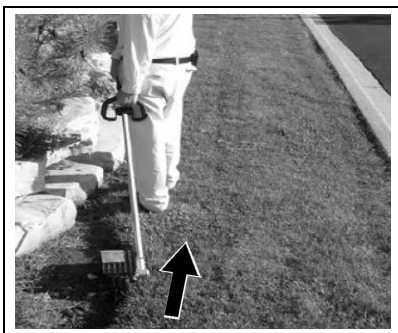
Operation Techniques

WARNING

Before operating unit, be sure to read and understand the entire Operator's Manual to avoid the chance of serious personal injury.

Note: For best results, use BRD redefining blade (provided with unit) ONLY for redefining existing bed edges. For edging next to curbs, sidewalks, or other hard surfaces, remove redefining blade and install ECHO Approved Premium Power Edger blade. Use of redefining blade next to hard surfaces, can lead to premature blade wear.

1. Always grip throttle handle with right hand, and support handle with left hand.
2. Before using Redefiner, check the area and remove objects that could be thrown.
3. Carefully plan your direction of travel. Walk outside of bed. Be aware of curbs or other obstacles.
4. Work with body turned toward engine as shown. Travel in direction of arrow, pulling rather than pushing unit. Carefully watch bed edge and direction of travel. Do NOT walk backward.



NOTICE

Do not walk towards gear case while operating unit with redefining blade installed, otherwise poor performance or damage to unit could occur.

5. When starting to work, run the engine at full throttle, and lower the blade gently into the ground. Travel around perimeter of bed, allowing the Redefiner to improve bed's edge.
6. Do not force the blade. Move only as quickly as conditions will allow. If performance suffers or engine RPM drops, reduce walking speed or decrease blade depth and allow engine RPM to return to normal before continuing.

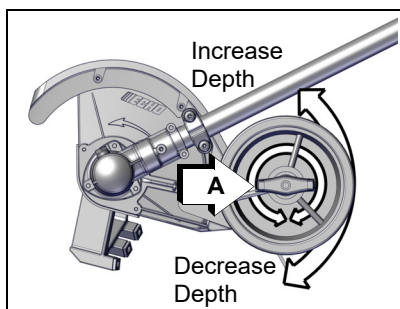


Note: Blade height may need to be adjusted due to differences in height between the bed and the top of the grass.

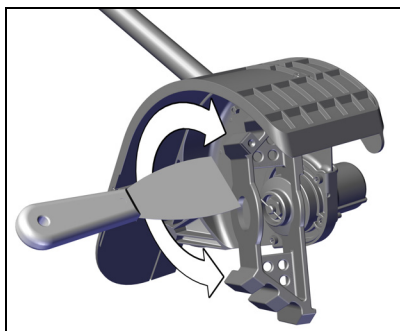
WARNING

Never adjust blade height while unit is running, otherwise serious personal injury may result.

7. Loosen adjustment knob (A) and adjust the blade's depth of cut. Tighten adjustment knob (A) when desired blade height is achieved.



8. If shield clogs with mud or debris, do not hit unit against hard surfaces to clean, or damage to unit may occur. Stop engine and unclog shield with a suitable tool.



NOTICE

Be sure blade has completely stopped spinning before setting unit on concrete or other hard surface. Never allow spinning blade to contact hard surfaces. Carbide teeth on blade can break, or damage to surface can occur.

WARNING

The complete unit, specifically the drive shaft assembly and muffler exhaust area, if equipped may become very hot during use. Avoid contact during and immediately after operation, otherwise serious personal injury may result.



Edging Operation

WARNING

Before edging, be sure to read and understand the entire Operator's Manual to avoid the chance of serious personal injury.

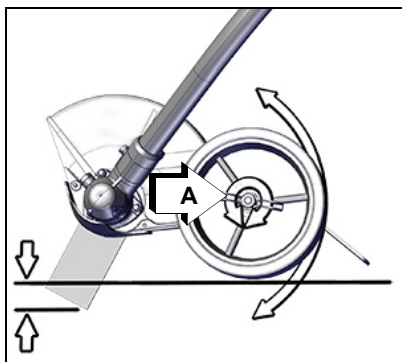
1. Before edging, water the area to soften the ground to make edging easier.
2. Before edging, check the area and remove all obstacles and objects that could be thrown.
3. Plan to edge regularly to make it easier to keep a neat edge and to avoid having to make more than one pass.

WARNING

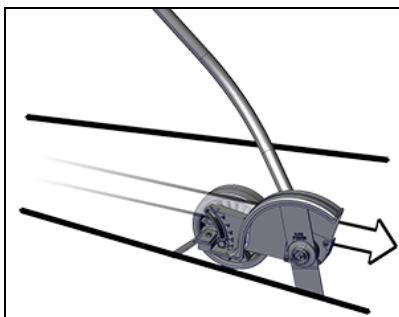
Never adjust blade height or clear debris from shield with unit running, otherwise serious personal injury may result.

Note: Blade depth may have to be adjusted due to differences in height between the hard surface and the top of the grass.

4. Move wheel up to increase depth of cut. Move wheel down to decrease depth of cut. Use a minimum blade depth of 13 mm (0.5 in.). Tighten adjustment knob (A).



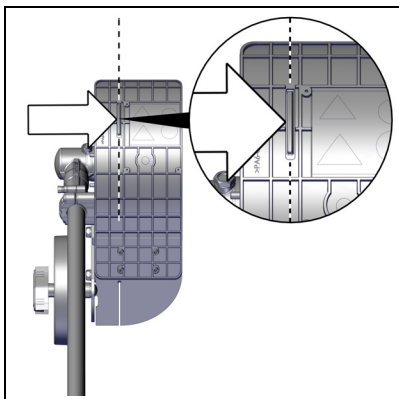
5. Before edging, plan your direction of travel so that the unit will always be on your right side and so that you walk on a hard surface whenever possible.
6. Position edger as shown.
7. When starting to edge, run the engine at full throttle, and lower the blade gently into the ground, being careful not to hit the concrete with the blade.



NOTICE

Use the blade location slot in the top of the debris shield as a guide to align the blade with the cut during edging.

8. Do not force the blade. Move only as quickly as the blade will allow.



MAINTENANCE

WARNING

Moving parts can amputate fingers or cause severe injuries. Keep hands, clothing and loose objects away from all openings. Always stop unit, disconnect spark plug or remove battery, and make sure all moving parts have come to a complete stop before removing obstructions, clearing debris, or servicing unit. Allow the unit to cool before performing maintenance or adjustments. Wear gloves to protect hands from sharp edges and hot surfaces.

WARNING

Operating a poorly maintained unit can result in serious injuries to operator or bystanders. Always follow all maintenance instructions as written, otherwise serious personal injury can result.

Your unit is designed to provide many hours of trouble free service. Regular scheduled maintenance will help your unit achieve that goal. If you are unsure or are not equipped with the necessary tools, we recommend that you take your unit to a Servicing Dealer for maintenance. To help you decide whether you want to do it yourself or have the dealer do it, each maintenance task has been graded. If the task is not listed, see your Dealer for repairs.

NOTICE

The use of emission control components other than those specifically designed for this unit is a violation of federal law.

Skill Levels

Level 1 = Easy to do. Common tools may be required.

Level 2 = Moderate difficulty. Some specialized tools may be required.

Level 3 = See your dealer.

Click [HERE](#) or go to <http://www.echo-usa.com/products/maintenance-kit>

or

<https://www.shindaiwa-usa.com/you-can.aspx>

Maintenance Intervals

COMPONENT/SYSTEM	MAINTENANCE PROCEDURE	REQUIRED SKILL LEVEL
Daily or Before Use		
Air Filter	Inspect/Clean *	1
Choke Shutter	Inspect/Clean *	1
Fuel System	Inspect ²	1
Cooling System	Inspect/Clean	2
Recoil Starter Rope	Inspect/Clean *	1
Screws/Nuts/Bolts	Inspect/Tighten/Replace *	1
Blade	Inspect	1
Every Refuel		
Fuel System	Inspect ²	1
Blade	Inspect	1
3 Months		
Air Filter	Replace *	1
Fuel Filter	Inspect *	1
Fuel Cap Gasket	Inspect *	1
Spark Plug	Inspect/Clean/Replace *	1
Muffler Spark Arrester	Inspect/Clean/Replace *	2

COMPONENT/SYSTEM	MAINTENANCE PROCEDURE	REQUIRED SKILL LEVEL
Cylinder Exhaust Port	Inspect/Clean/De-carbon	2
Drive Shaft (flex cable models)	Grease ¹	2
Gear Housing	Grease ¹	2
Blade	Inspect *	1
Yearly		
Fuel Filter	Inspect/Replace *	1
Fuel Cap Gasket	Replace *	1

Note: Time intervals shown are maximum. Actual use and your experience will determine the frequency of required maintenance.

Maintenance Procedure Notes:

¹Apply lithium-based grease every 25 hours of use.

² Low evaporative fuel tanks do not require regular maintenance to maintain emission integrity.

* Replacement is recommended based on the finding of damage or wear during inspection.

Air Filter

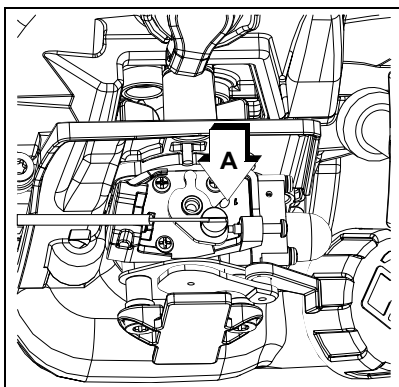
Level 1

Parts required: Tune-up kit.

1. Close choke (COLD START position). This prevents dirt from entering the carburetor throat when the air filter is removed. Brush accumulated dirt from air filter area.

NOTICE

Ensure throttle wire retaining clip (A) remains in place as shown when removing or installing air filter cover.

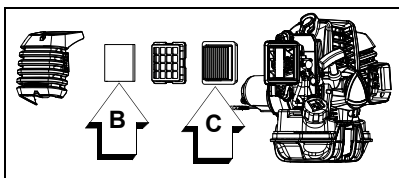


2. Remove air filter cover. Brush dirt from inside cover.

3. Remove foam pre-filter (B) and air filter (C) and clean as indicated below:

4. Foam pre-filter.

- Clean foam filter in water/detergent solution and rinse with clean water.
- Wrap the filter in a clean, dry cloth and squeeze (do not wring) dry. Allow to dry completely before reuse. Do not oil.

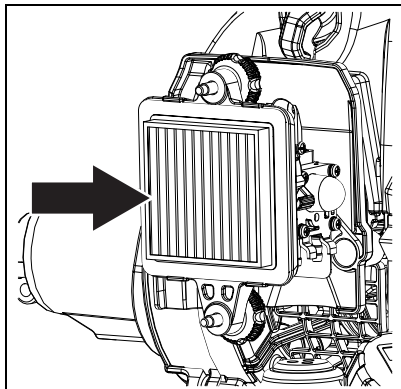


Air Filter:

- Lightly brush debris from filter. Replace filter if it is damaged, fuel soaked, very dirty, or the rubber sealing edges are deformed.
5. Assemble components in reverse order.

NOTICE

Ensure air filter is assembled with pleats oriented vertically.



Fuel Filter

Level 1.

Parts required: Tune-up kit.

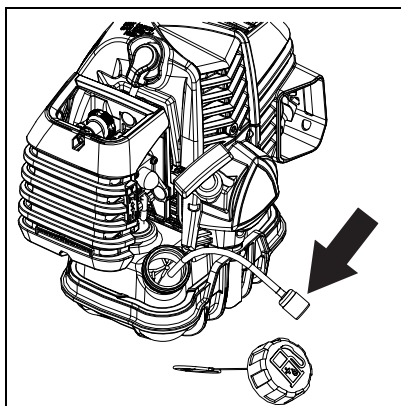
DANGER

Fuel is flammable. Use extreme care when mixing, storing or handling, or serious personal injury may result.

NOTICE

Do not damage fuel line while removing fuel filter from tank.

1. Use a clean cloth to remove loose dirt from around fuel cap and then empty fuel tank.
2. Pull fuel filter out through gas port, and inspect fuel filter.
3. Replace fuel filter if dirty.
4. Do not remove the wire coil clamp to remove the fuel filter. Pinch the fuel filter with the fingers on one hand and the fuel line with the other hand. Pull and twist slightly to separate.
5. Install the new fuel filter. Insert the fuel filter assembly back into the fuel tank.



- When the inside of the fuel tank is dirty, rinse the tank out with gasoline to clean it.

Note: Federal EPA regulations require all model year 2012 and later gasoline powered engines produced for sale in the United States to be equipped with a special low permeation fuel supply hose between the carburetor and fuel tank. When servicing model year 2012 and later equipment, only fuel supply hoses certified by EPA can be used to replace the original equipment supply hose. Fines up to \$37,500 may be enforced for using an un-certified replacement part.

Spark Plug

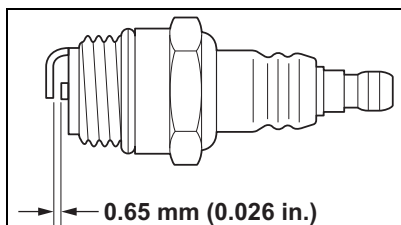
Level 2.

Parts required: Tune-up kit.

NOTICE

Use only NGK CMR7H spark plug otherwise severe engine damage may occur.

- Remove spark plug and check for fouling, worn and rounded center electrode.
- Clean the plug or replace with a new one. DO NOT sand blast to clean. Remaining sand will damage engine.
- Adjust spark plug gap by bending outer electrode.
- Tighten spark plug to 102-153 kgf•cm (89-133 lbf•in).



Cooling System

Level 2.

NOTICE

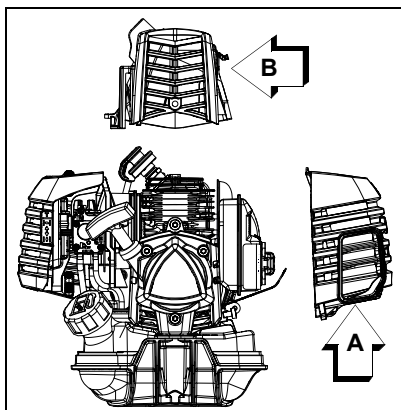
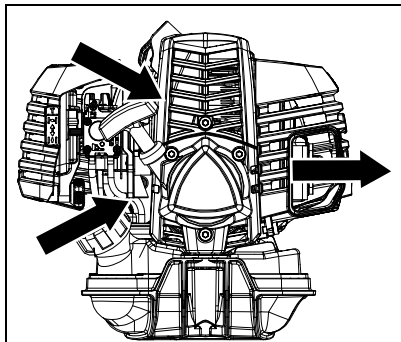
To maintain proper engine operating temperatures, cooling air must pass freely through the cylinder fin area. This flow of air carries combustion heat away from the engine.

Overheating and engine seizure can occur when:

- Air intakes are blocked, preventing cooling air from reaching the cylinder.
- Dust and grass build up on the outside of the cylinder. This build up insulates the engine and prevents the heat from leaving.

Removal of cooling passage blockages or cleaning of cooling fins is considered "Normal Maintenance". Any failure attributed to lack of maintenance is not covered by the warranty.

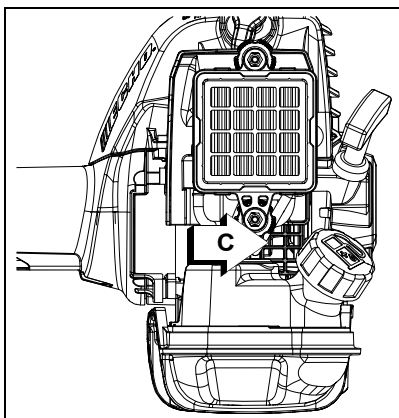
1. Remove spark plug lead.
2. Remove muffler cover (A).
3. Remove engine cover (B).



NOTICE

DO NOT use a metal scraper to remove dirt from the cylinder fins.

4. Use a brush with plastic or nylon bristles brush to remove dirt from the cylinder fins.
5. Remove the air filter cover. Remove grass and leaves from the grid (C) between the recoil starter and fuel tank.
6. Assemble components in reverse order.



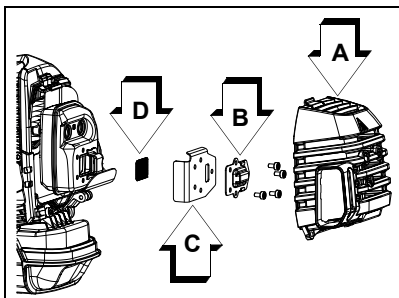
Exhaust System

Spark Arrester Screen

Level 2.

Parts required: Spark arrester screen, gasket.

1. Remove spark plug lead.
2. Remove muffler cover (A).
3. Place piston at Top Dead Center (TDC) to prevent carbon or dirt from entering cylinder.
4. Remove spark arrester screen cover (B), gasket (C), and screen (D) from muffler body.
5. Clean carbon deposits from muffler components.



Note: When cleaning carbon deposit, be careful not to damage the catalytic element inside muffler.

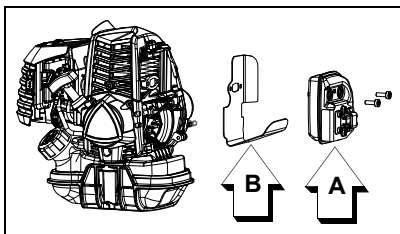
6. Replace screen if it is cracked, plugged, or has holes burned through.
7. Assemble components in reverse order.

Exhaust Port Cleaning

Level 2.

Parts required: Heat shield (as required).

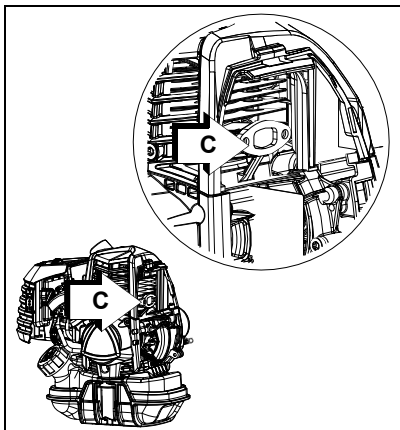
1. Remove spark plug lead from spark plug, and remove muffler cover.
2. Place piston at top dead center. Remove muffler (A) and heat shield (B).



NOTICE

Never use a metal tool to scrape carbon from the exhaust port. Do not scratch the cylinder or piston when cleaning the exhaust port. Do not allow carbon particles to enter the cylinder.

3. Use a wood or plastic scraping tool to clean deposits from cylinder exhaust port (C).
4. Inspect heat shield, and replace if damaged.
5. Install heat shield and muffler.
6. Tighten muffler mounting bolts (or nuts) to 90-110 kgf•cm (80-95 lbf•in).
7. Install muffler cover and attach spark plug lead.
8. Start engine and warm to operating temperature.
9. Stop engine and tighten mounting bolts (or nuts) to specifications.



Carburetor Adjustment

Level 2.

WARNING

When carburetor adjustment is completed, the cutting attachment should not move at idle, otherwise serious personal injury may result.

Engine Break-In

New engines must be operated a minimum duration of two tanks of fuel break-in before carburetor adjustments can be made. During the break-in period your engine performance will increase and exhaust emissions will stabilize. Idle speed can be adjusted as required.

High Altitude Operation

This engine has been factory adjusted to maintain satisfactory starting and durability performance up to 330 m (1,100 ft.) above sea level (ASL). To maintain proper engine operation above 330 m (1,100 ft.) ASL the carburetor may need to be adjusted by an authorized service dealer.

NOTICE

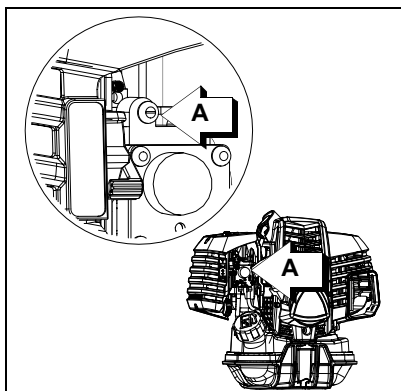
If the engine is adjusted for operation above 330 m (1,100 ft.) ASL, the carburetor must be re-adjusted when operating the engine below 330 m (1,100 ft.) ASL, otherwise severe engine damage may result.

Note: Every unit is run at the factory and the carburetor is set in compliance with emission regulations. Carburetor adjustments, other than idle speed, must be performed by an authorized dealer.

WARNING

- ◆ The cutting attachment may be moving during carburetor adjustments.
- ◆ Wear your protective equipment and observe all safety instructions.
- ◆ For units equipped with a clutch, be sure the cutting attachment stops moving when the engine idles.
- ◆ When the unit is turned off, make sure the cutting attachment has stopped before the unit is set down.

1. Check idle speed and reset if necessary. If a tachometer is available, idle speed screw (A) should be set to the specifications found on "Specifications" page of this manual. Turn idle screw (A) clockwise to increase idle speed; counterclockwise to decrease idle speed.



TROUBLESHOOTING

DANGER

Fuel vapors are flammable and can cause fire and/or explosion. Never test for ignition spark by grounding spark plug near cylinder plug hole, otherwise serious personal injury can result.

ENGINE PROBLEM TROUBLESHOOTING CHART

Problem	Check	Status	Cause	Remedy
Engine starts hard or Engine does not start	Fuel at carburetor	No fuel at carburetor	Fuel strainer or fuel line obstructed	Clean or replace See your dealer
	Fuel at cylinder	No fuel at cylinder	Carburetor	See your dealer
		Muffler wet with fuel	Fuel mixture too rich	Open choke Clean or replace air filter Adjust carburetor See your dealer

ENGINE PROBLEM TROUBLESHOOTING CHART				
Problem	Check	Status	Cause	Remedy
Engine starts hard or Engine does not start	Spark at end of plug wire	No spark	STOP switch OFF - Electrical problem - Interlock switch	Turn switch to ON See your dealer
	Spark at plug		Incorrect gap - Covered with carbon - Fouled with fuel - Plug defective	Adjust to 0.65 mm (0.026 in.) Clean or replace plug
Engine runs, but dies or Engine does not accelerate properly	Air filter	Air filter dirty	Normal wear	Clean or replace
	Fuel filter	Fuel filter dirty	Contaminants or residue in fuel	Replace filter or replace fuel
	Fuel vent	Fuel vent plugged	Contaminated fuel	Clean or replace
	Spark plug	Plug dirty or worn	Normal wear	Clean and adjust or replace
	Carburetor	Improper adjustment	Vibration	Adjust
	Cooling system	Cooling system dirty or plugged	Extended operation in dirty or dusty locations	Clean
	Spark arrester screen	Spark arrester screen plugged	Normal wear	Replace
Engine does not crank	N/A		Internal engine problem	See your dealer

STORAGE

WARNING

During operation the muffler or catalytic muffler and surrounding cover become hot. Always keep exhaust area clear of flammable debris during transportation or when storing, otherwise serious property damage or personal injury may result.

Long-Term Storage (Over 30 Days)

Do not store your unit for a prolonged period of time (30 days or longer) without performing protective storage maintenance which includes the following:

DANGER

Do not store in enclosure where fuel fumes may accumulate or reach an open flame or spark.

1. Store unit in a dry, dust free place, out of the reach of children.
2. Place the stop switch in the OFF position.
3. Remove accumulation of grease, oil, dirt and debris from exterior of unit.
4. Perform all periodic lubrication and services that are required.
5. Tighten all the screws and nuts.
6. Drain fuel tank completely. Press purge bulb six to seven times to remove remaining fuel from carburetor then drain the tank again. Close choke, start and run the engine until it stops due to lack of fuel.
7. Allow engine to cool. Remove the spark plug lead from the spark plug. Remove the spark plug. Pour 7 cc (0.25 oz.) of fresh, clean, two-stroke engine oil into the cylinder through the spark plug hole.
8. Pull the recoil starter handle two to three times to distribute the oil inside the engine.
9. Observe the piston location through the spark plug hole. Pull the recoil handle slowly until the piston reaches the top of its travel and leave it there.
10. Install the spark plug. Connect the spark plug lead to the spark plug.

SPECIFICATIONS

MODEL	BRD-2620
Length (without cutting attachment)	1,784 mm (70.2 in.)
Width	301 mm (11.9 in.)
Height	328 mm (12.9 in.)
Weight - dry (without cutting attachment)	5.5 kg (12.1 lb.)
Engine Type	Air-cooled, two-stroke, single cylinder gasoline engine
Bore	34.0 mm (1.34 in.)
Stroke	28 mm (1.1 in.)
Displacement	25.4 cc (1.55 in. ³)
Exhaust	Spark arrester muffler or spark arrester muffler with catalyst
Carburetor	Diaphragm with purge pump
Ignition System	Flywheel magneto, capacitor discharge ignition type
Spark Plug	NGK CMR7H Gap 0.6 - 0.7 mm (0.024 - 0.026 in.)
Fuel	Mixed (gasoline and two-stroke oil)
Fuel/Oil Ratio	50:1
Gasoline	Use 89 Octane unleaded. Do not use fuel containing methyl alcohol, more than 10% ethyl alcohol or 15% MTBE. Do not use alternative fuels such as E-15 or E-85.
Oil	ISO-L-EGD (ISO/CD 13738) and J.A.S.O. M345- FD, two-stroke, air-cooled engine oil.
Fuel Tank Capacity	0.56 L (18.9 US fl. oz.)
Starter System	Automatic rewind starter
Clutch	Centrifugal type
Drive Shaft	6.35 mm (0.25 in.) flexible shaft
Gear Case Ratio	2.07:1
Rotating Direction	Counterclockwise; viewed from right side

MODEL	BRD-2620
Standard Cutter Head	Claw-style cutter (six carbide tips)
Optional Cutter Head	2-tooth edger blade
Handle	Front - D-Loop type with foam grip Rear - Rubber anti-vibration grip
Vibration Reduction	Rubber cushion on engine mount
Idle Speed	3,000 RPM
Clutch Engagement Speed	3,800 RPM
Wide Open Throttle Speed	11,200 RPM

PRODUCT REGISTRATION

Thank you for choosing ECHO Power Equipment

Please go to <http://www.echo-usa.com/Warranty/Register-Your-ECHO> to register your new product on-line. It's **FAST** and **EASY!** NOTE: Your information will never be sold or misused by ECHO Incorporated.

Registering your purchase enables us to contact you in the unlikely event of a service update or product recall, and verifies your ownership for warranty consideration.

If you do not have access to the Internet, you can complete the form below and mail to:

**ECHO Incorporated, Product Registration, PO Box 1139,
Lake Zurich, IL 60047.**

PRODUCT REGISTRATION CARD : TARJETA DE REGISTRO : CARTE D'ENREGISTREMENT DU PRODUIT

ONLINE OPTION: Register online and save a stamp! You will be alerted of product updates and/or be sent new ECHO product information and special offers. Simply go to: www.echo-usa.com

www.echo-usa.com

OPCIÓN POR INTERNET: ¡Regístrese en la página web y ahorre una estampilla! Le alertarán sobre actualizaciones del producto y/o se le enviará información sobre los nuevos productos ECHO y las ofertas especiales. Simplemente visite:

ofertas especiales. Si

OPTION EN LIGNE : Enregistrer en ligne et épargner un timbre! Vous serez informé sur les nouveaux produits ECHO et les mises à jour de produit ainsi que les offres spéciales. Simplement visitez le : www.echo-usa.com

Simplement visitez le: www.echo-usa.com

Please Print : Por Favor Escriba Con Letra De Molde : En Lettre Carré S.V.P.:

Confidential: Information provided will not be shared or sold

Purchaser's Name : <i>Nombre del Comprador</i> : <i>Nom de l'acheteur</i>	
Address : <i>Dirección</i> : <i>Adresse</i>	
City : <i>Ciudad</i> : <i>Ville</i>	State : <i>Estado</i> : <i>Province</i>
Zip Code : <i>Código Postal</i> : <i>Code Postal</i>	
E-Mail Address : <i>Dirección De Correo Electrónico</i> : <i>Courrier Électronique</i>	
Phone Number : <i>Número De Teléfono</i> : <i>Téléphone</i>	Date of Purchase : <i>Fecha de la Compra</i> : <i>Date de l'achat</i>
Where Purchased : <i>Nombre del Almacén donde fue Comprado</i> : <i>Lieu d'achat</i>	
Model Number : <i>Número del Modelo</i> : <i>No. de modèle</i>	Serial Number : <i>Número de Serie</i> : <i>No. de série</i>

Registering your purchase enables us to contact you in the unlikely event of a service update or product recall and verifies your ownership in the event of loss. • El registrar su compra nos permite estar en contacto con usted en caso de cualquier evento de actualización de servicio o actualización de producto y verifica su propiedad en caso de robo o pérdida. • L'enregistrement de votre achat nous permettra de vous contacter dans le cas improbable de modifications des instructions d'entretien ou de rappel du produit et vérifier que vous êtes le propriétaire en cas de vol ou de perte.

ECHO Incorporated 400 Oakwood Rd., Lake Zurich, IL 60047
1.800.432.ECHO WWW.ECHO-USA.COM

X7572270206 02-2012

NOTES



U88612001001 - U88612999999
U88513001001 - U88513999999



ECHO INCORPORATED

400 Oakwood Road
Lake Zurich, IL 60047
www.echo-usa.com