



Operator's Manual LM-3022SP Mower

WARNING

This product contains chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm. Cancer and Reproductive Harm www.P65Warnings.ca.gov

WARNING

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

Note: This product complies with CAN ICES-002/NMB-002

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TABLE OF CONTENTS

Introduction	3
Servicing Information	3
Parts / Serial Number	3
Service	4
ECHO Consumer Product Support	4
Product Registration	4
Additional Literature	4
Safety Instructions	5
Manual Safety Symbols and Important Information	5
International Symbols	6
Lawn Mower Safety Warnings	7
Description	11
Contents	12
Assembly	13
Install the Handle	13
Mower Functions	14
Install the Grass Catcher	15
Install the Mulching Plug	16
Install the Side Discharge Chute	17
Setting the Cutting Height	18
Prepare the Engine Before Starting	18
Check and Add Engine Oil	18
Gasoline	19
Operation	20
Starting and Stopping the Engine	20
Engaging and Disengaging the Blades	21
SPEED ADAPT™ Self-Propel	21
Operating Tips	22
Maintenance	24
Maintenance Schedule	25
Adjusting Cable Tension	26
Cleaning the Air Filter	26
Cleaning the Deck and Blades	27
Replacing and Sharpening the Blades	28
Servicing the Engine	30
Check Blade Timing Belt Tension (Every 50 Hours)	31
Troubleshooting	32
Storage Instructions	34
General Storage Instructions	34
Short-Term Storage (Less than 30 days)	35
Long-Term Storage (Over 30 Days)	35
Removing Mower from Storage	36

Transport36

Disposal37

Specifications.....37

Product Registration38

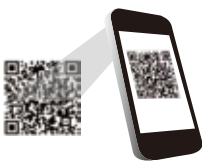
Warranty40

INTRODUCTION

Specifications, descriptions and illustrative material in this literature are as accurate as known at the time of publication, but are subject to change without notice. Illustrations may include optional equipment and accessories, and may not include all standard 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 code for more information.



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

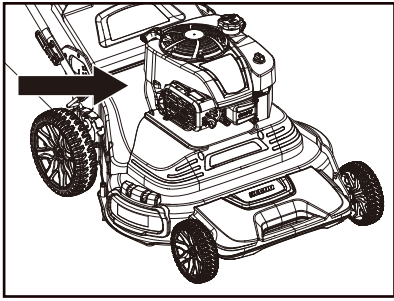
<https://www.echo-usa.com/manuals>



SERVICING INFORMATION

Parts / 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 am to 5:00 pm (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).

Engine Service

See separate engine manual for information on engine service, parts, and warranty.

SAFETY INSTRUCTIONS

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 might 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.

International Symbols

Some of the following symbols may be used on this product. Please study them and learn their meaning.

Symbol	Description
	Safety alert symbol.
	Read operator's manual.
	Maintain safety devices. Do not open or remove safety shields while engine is running.
	Keep bystanders away.
	Look behind while backing.
	Avoid steep slopes. Use extra caution on slopes.
	Beware of thrown objects. Remove objects that can be thrown by the blade in any direction. Wear safety glasses.
	Keep hands and feet away from blade.
	Wear eye protection.
	Disconnect the spark plug before performing any service on the machine.
	Tortoise: Slow self-propel drive speed.
	Hare: Fast self-propel drive speed.

Lawn Mower Safety Warnings

WARNING

Read all safety warnings, instructions, illustrations, and specifications provided with this lawnmower. Failure to follow all instructions listed below may result in electric shock, fire, and/or serious injury.

Save all warnings and instructions for future reference.

General Safety

- Operators must read, understand, and follow all instructions and warnings in this manual and on the mower, engine, and attachments.
- For more information about engine preparation and operation refer to engine manual.
- Only allow operators who are responsible, trained, and physically capable to operate the machine.
- Do not operate under the influence of alcohol or drugs.
- Do not use the lawn mower as a drive unit for other work tools or toolkits of any kind.
- Do not use the lawnmower in bad weather conditions, especially when there is a risk of lightning.
- **Avoid mowing wet grass.** *Poor footing could cause a slip and fall accident.*
- Do not operate under any condition where traction, turning or stability is in question. *Tires could slide even if stopped.*
- Do not carry passengers and keep bystanders away.
- Follow the manufacturer's recommendation for wheel weights or counterweights.

To Reduce the Risk of Bodily Injury, Do Not Use the Lawn Mower to:

- Trim bushes, hedges or shrubs.
- Cut scaling vegetation, planted roofs, or balcony grown grass.
- Clean dirt and debris from walkways.
- Chop up tree or hedge clippings.
- Level out high areas such as molehills.

Fuel and Fire Hazards

- **Use extra care handling gasoline and other fuels.**
They are flammable and the vapors are explosive.
- **Always extinguish all cigarettes, cigars, pipes, and other sources of ignition.**
- **Use only an approved fuel container.**
- **Do not remove fuel cap or add fuel with the engine running or while hot.**
- **Do not refuel indoors or in enclosed spaces.**
- **Allow machine to cool before storing.**

WARNING

Do not refuel or store the mower or fuel container near an open flame, pilot light, or sparks; or near any possible sources which may cause these, such as power tools, a water heater, space heater, furnace, clothes dryer, etc.

- **If fuel is spilled, avoid creating any source of ignition.** *Do not attempt to start the engine until fuel vapors have dissipated.*
- **To reduce risk of fire, keep machine free of grass, leaves or other debris buildup; clean up oil or fuel spillage and remove any fuel soaked debris.**

Before Operating

- **Wear appropriate personal protective equipment such as safety glasses, hearing protection, and slip-resistant foot protection.**
- **Clear the area of any objects (e.g., stones, sticks, toys) which could be thrown by the mower or interfere with operation.**
- **Keep the area clear of all bystanders, including children and pets.**
Stop the machine if anyone enters the area.
- **Ensure the entire grass catcher, discharge chute, or other safety devices are in place and functioning properly before operating the mower.** *Check these parts frequently for signs of wear or deterioration and replace as needed.*

During Operation

- **Only operate in well ventilated areas.** *Exhaust gases contain carbon monoxide, a deadly poison.*
- **Only operate in daylight or with other adequate lighting.**
- **Avoid holes, ruts, bumps, rocks, or other hidden hazards.** *Uneven terrain could overturn the machine, or cause operator to lose balance or footing.*

- **Do not put hands or feet near rotating parts or under the machine.** *Keep clear of discharge opening at all times.*
- **Do not direct discharge material toward anyone.** *Avoid discharging material against a wall or obstruction. Material may ricochet back toward the operator or others.*
- **Stop the blade when crossing gravel surfaces.**
- **Do not leave a running machine unattended.** *Always stop the mower on level ground and turn off engine.*
- **Do not mow in reverse unless absolutely necessary.** *In this case, always look down and behind you – both before and while moving backwards – for small children, pets, or obstacles.*
- **If you strike a foreign object, stop and inspect the machine.** *Repair, if necessary, before restarting.*
- **Operation of this equipment may create sparks that can start fires around dry vegetation. A spark arrestor may be required.** **The operator should contact local fire agencies for laws or regulations relating to fire prevention requirements.** *If required, contact engine manufacturer to obtain optional spark arrestor.*
- **This machine is capable of amputating hands and feet and throwing objects.** *Failure to observe all safety instructions could result in serious injury or death.*

Operating on Slopes

- **Slopes are a major factor related to accidents.** *Operation on slopes requires extra caution.*
- **Mow across the face of slopes: NEVER up and down.** *Exercise extreme caution when changing direction on slopes.*
- **Use extreme caution while operating near drop-offs.**
- **Do not operate machine under any condition where traction, turning, or stability is in question.** *Tires could slide even if stopped.*
- **Always keep the machine in gear when going down slopes.** *Do not coast downhill.*
- **Avoid starting and stopping on slopes.** *Avoid making sudden changes in speed or direction. Make turns slowly and gradually.*
- **Use extra care while operating machine with a grass catcher or other attachment(s).** *They can affect the stability of the machine.*

Children

- Children are often attracted to the machine and the mowing activity. *Tragic accidents can occur if the operator is not alert to the presence of children.*
- Never assume that children will remain where you last saw them.
- Keep children out of the area and under the watchful care of a responsible adult other than the operator.

Hauling

- Use full-width ramps for loading and unloading lawn mower for transport.

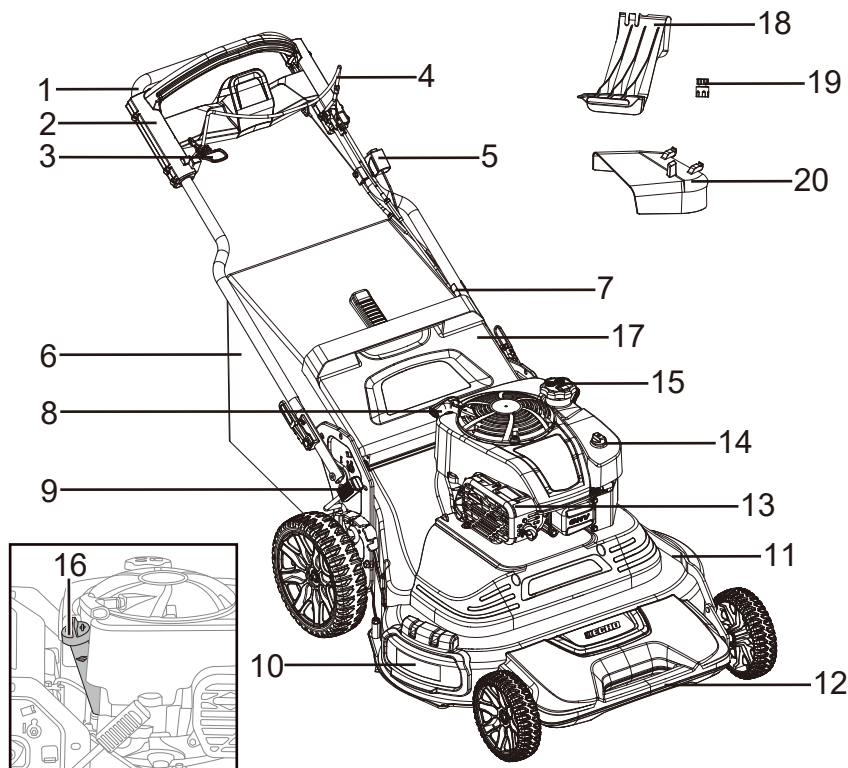
Service

- Disconnect the spark plug wire before making any repairs.
- Keep machine in good working order. Replace worn or damaged parts.
- Check grass catcher components and the discharge chute frequently and replace with manufacturer's recommended parts, when necessary.
- Use caution when servicing the blade. *Wrap blades or wear appropriate gloves. Replace damaged blade. Do not repair or alter blades.*
- Keep all nuts and bolts tight to ensure the equipment is in safe working condition.
- NEVER remove or tamper with any safety devices. *Check their proper operation regularly. NEVER do anything to interfere with the function of a safety device or to reduce the protection offered by the safety device.*
- NEVER attempt to make any adjustments or repairs while the engine is running. *Disconnect the spark plug wire to prevent unintended starting.*



DESCRIPTION

Compare the illustrations with your lawn mower to familiarize yourself with the locations of various controls and adjustments.



- | | |
|-------------------------------|----------------------------------|
| 1. Handlebar | 11. Housing |
| 2. Self-propel control handle | 12. Carrying handle |
| 3. Blade control arm lock | 13. Muffler |
| 4. Blade control handle | 14. Air filter |
| 5. Stop switch | 15. Fuel tank cap |
| 6. Grass catcher bag | 16. Engine oil cap with dipstick |
| 7. Cable clamp | 17. Rear cover |
| 8. Starter handle | 18. Mulching plug |
| 9. Height adjustment lever | 19. Water pipe connector |
| 10. Side discharge deflector | 20. Side discharge chute |

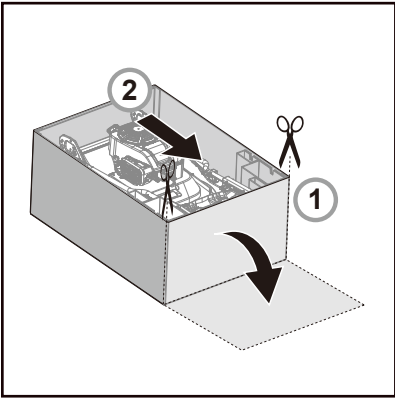
CONTENTS

This lawn mower is shipped without gas or oil in the engine. The ECHO product you purchased has been factory pre-assembled for your convenience. Due to packaging restrictions, some assembly may be necessary. To ensure safe and proper operation, all parts and hardware must be assembled as instructed using appropriate tools to ensure proper tightness. 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.

Packing list:	QTY
Lawn mower	1
Side discharge chute	1
Grass catcher bag	1
Bottle of engine oil	1
Mower Operator's Manual	1
Engine Operator's Manual	1
Water pipe connector	1
Mulching plug	1

Remove Lawn Mower from Box

- 1. Cut down two end corners of box and lay end panel down flat.
- 2. Carefully remove all packing materials.
- 3. Roll lawn mower out of box and check box for additional loose parts.



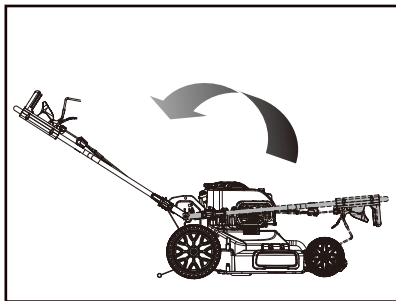
ASSEMBLY

Install the Handle

NOTICE

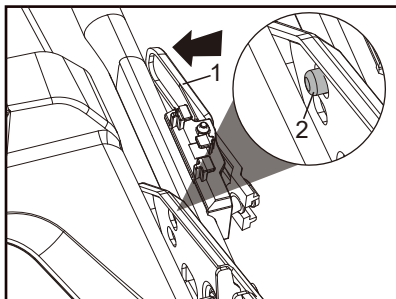
Unfold handle carefully to avoid pinching or damaging the control cables.

1. Raise handles from folded position to working position.

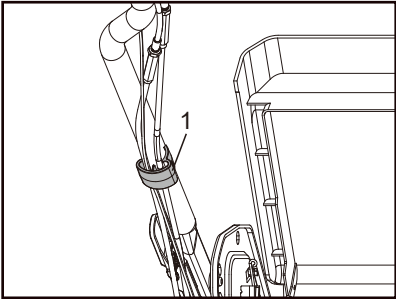


2. Hold down the side bars (1) on both sides of the handle, align with the holes on the sides of machine and release the side bars so that the cylinder latches (2) on the side bars are fixed through the two holes in brackets.
3. Ensure handle is locked in place.

NOTE: The two holes on the brackets correspond to two height settings of the handle bar.



- 4. Install the cable into the cable clamp (1), then attach cable clamp to handle bar.



Mower Functions

This lawn mower functions three ways: rear bagging, mulching, and side discharging. Each function requires different accessories. See table for accessory usage by function.

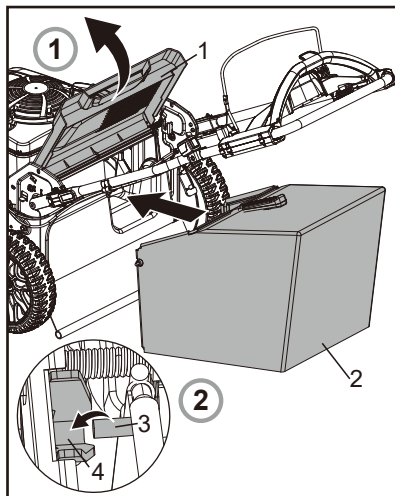
To Convert Mower	Mulching plug	Grass Bag	Side Discharge Chute
For rear bagging	x	√	x
For mulching	√	x	x
For side discharging	√	x	√

Install the Grass Catcher

NOTICE

Ensure both the side discharge chute and mulching plug are removed from the mower when installing the grass catcher.

1. Raise the rear cover (1).
2. Install the grass catcher (2) on rear of mower.
3. Ensure the pegs (3) on both sides of the grass catcher engage the grooves in the mower frame (4).
4. Lower the rear cover.



Install the Mulching Plug

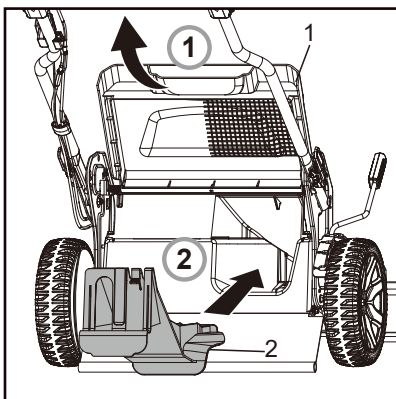
WARNING

Objects can be thrown toward user or bystanders, or blade contact can occur causing serious personal injury. Install mulching plug to recycle grass clippings, and avoid thrown objects or blade contact.

NOTICE

Ensure both side discharge chute and grass catcher are removed from the mower before installing the mulching plug.

1. Raise the rear cover (1).
2. Install the mulching plug (2) into the rear discharge chute until the latch locks into place.
3. Lower the rear cover.

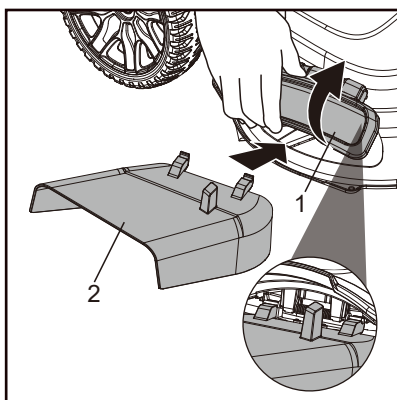
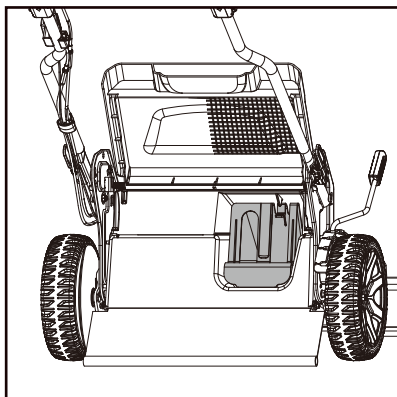


Install the Side Discharge Chute

NOTICE

Ensure that the grass catcher is removed from the mower, and the mulching plug is installed in the mower to use the side discharge chute.

1. Open the side discharge deflector (1).
2. Install the side discharge chute (2) under the deflector.



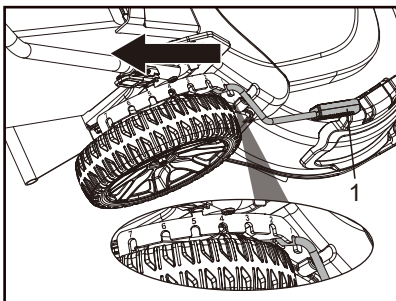
Setting the Cutting Height

WARNING

Blade contact can occur while adjusting cutting height causing serious personal injury. Ensure engine and blade have stopped before adjusting cutting height.

Adjust the cutting height as necessary. The middle position is suitable for most lawns. Raise the wheels to cut grass shorter, lower the wheels to leave grass longer.

1. The height of the blade can be adjusted to seven positions from 32mm to 108mm (1.25 in-4.25 in).
2. To change the cutting height, pull the height adjustment lever (1) toward the wheel.
3. Move the lever and wheel up or down to the desired position, release the lever to lock the wheel in position.



PREPARE THE ENGINE BEFORE STARTING

Check and Add Engine Oil

NOTICE

Running the engine without sufficient oil will cause damage to engine. Do not overfill engine with oil, or muffler will smoke heavily on startup.

1. Be sure lawnmower is level.
2. Remove oil dipstick from oil fill spout.
3. Slowly pour oil into the engine through the engine oil fill spout.
4. Pour oil slowly. Do not overfill. Wait one minute to allow oil to settle. Insert and tighten dipstick, then remove it to check oil level.

NOTICE

Check oil level before each use. Add oil if needed. Fill to full line on dipstick.

Gasoline



Fuel is flammable. Do not store, spill, or use gasoline near an open flame or serious personal injury will result.

NOTICE

DO NOT USE gasoline with an ethanol rating higher than E10 in your mower. Doing so could cause damage to your mower's engine. DO NOT mix oil with gasoline.

- Fill fuel tank to bottom of tank filler neck. Do not overfill. Use fresh, clean, regular unleaded gasoline with a minimum of 87 octane. Gasoline with up to 10% ethanol "E10 rating" is acceptable.
- Purchase fuel in quantities that can be used within 30 days to assure fuel freshness.
- Wipe off any spilled oil or fuel.

NOTICE

Alcohol blended fuels, called gasohol, ethanol or methanol, can attract moisture which leads to separation and formation of acids during storage. Acidic gas can damage the fuel system of an engine while in storage. To avoid engine problems, the fuel system should be emptied before storage of 30 days or longer. Empty the fuel tank, start the engine and let it run until the fuel lines and carburetor are empty. Use fresh fuel next season. NEVER use engine or carburetor cleaner products or permanent damage may occur.

OPERATION

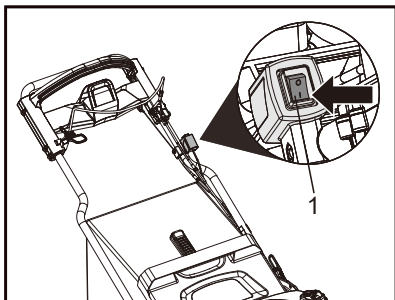
Starting and Stopping the Engine

WARNING

Blades and other rotating parts can cause serious personal injury. Start the engine according to instructions, on a level surface free of grass and obstacles. Keep hands and feet away from the blade and other rotating parts, and do not stand in front of discharge chute.

Starting the Engine

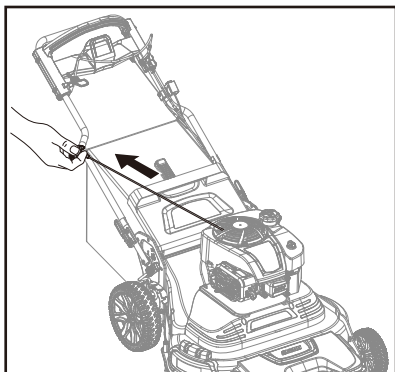
1. The unit is equipped with a rubber boot over the end of the spark plug. Ensure the metal loop on the end of the spark plug wire (inside the rubber boot) is fastened securely over the metal tip on the spark plug.
2. Move stop switch (1) forward to run "I" position.
3. Pull the starter handle slowly until you feel resistance, then pull it quickly.



Note: Do not push the self-propel control handle down and pull the blade control handle when starting the engine.

Stopping the Engine

1. Move stop switch (1) backward to stop "O" position.
2. Disconnect the spark plug wire as instructed in the separate engine manual to prevent accidental starting while unit is unattended.

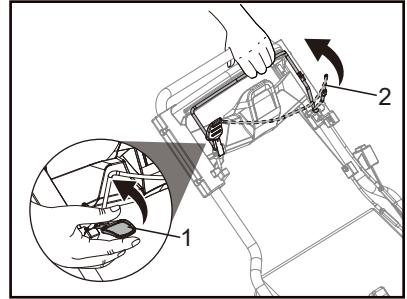


Engaging and Disengaging the Blades



The blade continues to rotate for a few seconds after the engine is shut off, and will cause serious personal injury if contacted. Keep all body parts away from rotating blade.

1. To engage the blade, pull the blade control arm lock (1) back to blade control handle (2).
2. Pull the blade control handle back slowly to the self-propel control handle.
3. To disengage the blade, release the blade control handle.



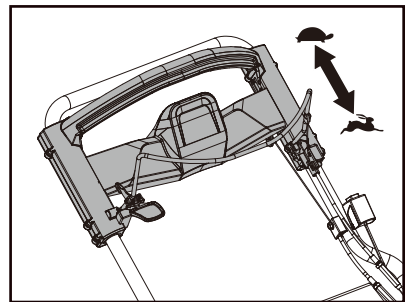
Note: Do not pull the blade control handle quickly, or the engine will stop.

SPEED ADAPT™ Self-Propel

Use the SPEED ADAPT™ Self-Propel function to assist operation. The rear wheels are automatically driven by the engine. Adjust speed of the self-propel by pushing self-propel control handle. The adjustable speed range is 0-5.6km/h (0-3.5 mph).

1. When the engine is running, push the self-propel control handle down to engage the wheels. Further pressure on the control handle will increase the mower travel speed. Reduced pressure on the control handle will decrease mower travel speed.
2. Release the self-propel control handle to disengage the wheels.

Note: Self-propel functions with the blades engaged or disengaged.



NOTICE

Your mower is designed to cut normal residential grass of a height no more than 9.8 in (250mm). Do not attempt to mow through unusually tall dry or wet grass (e.g., pasture) or piles of dry leaves. Debris may build up on the mower deck or contact the engine exhaust presenting a potential fire hazard.

Operating Tips

General Tips

- Inspect the area where you will use the machine and remove all objects that the machine could throw.
- Avoid striking solid objects with the blades. Never deliberately mow over any object.
- If the machine strikes an object or starts to vibrate, immediately shut off the engine, wait for all moving parts to stop, disconnect spark plug wire from the spark plug, and examine the machine for damage.
- For best performance, install new blades before the cutting season begins or when necessary.

Operate on Slopes

WARNING

Mowing on slopes can cause falls leading to serious personal injury. Do not mow on slopes with an incline of more than 15 degrees. Use low self-propel speed when mowing on a slope. If you are not comfortable, do not mow on a slope.

- Do not mow up and down a slope, mow across the face of the slope. Be careful when changing direction on a slope.
- Be aware of holes, ruts, rocks, and other hidden objects that can cause you to fall. Remove all obstacles such as rocks and tree limbs.
- Ensure that your footing is stable. If you are out of balance, release the blade control handle immediately.
- Do not mow near drop-offs, ditches, or embankments.

Empty the Grass Catcher

1. Stop the machine, and wait until blade stops.
2. Open the rear cover.
3. Unhook grass catcher from mower by pulling upward on handle.
4. Close the rear cover.
5. Empty the grass catcher.

Mowing Tips

Under certain conditions, such as very tall grass, it may be necessary to raise the height of cut to reduce pushing effort and to keep from overloading the engine and leaving clumps of grass clippings. It may also be necessary to reduce ground speed and/or run the lawn mower over the area a second time.

- For extremely heavy cutting, reduce the width of cut by overlapping previously cut path and mow slowly.
- Alternate the mowing direction. This helps disperse the grass clippings over the lawn for even fertilization.

Mulching Tips

NOTICE

Keep mower housing free of built-up grass.

See "Cleaning the Deck and Cutting Blades" in the Maintenance section of the Operator's Manual.

Keep top of engine around starter clear and clean of grass clippings and chaff.

- In mulching mode, the blade will re-cut the grass clippings many times, reducing them in size so they are dispersed into the lawn and will be less noticeable than full length clippings. Mulched grass will biodegrade quickly to provide nutrients for the lawn.
- Avoid cutting wet grass, which can interfere with the mulching action.
- For best results, adjust cutting height so that the blade cuts off only the top one-third of the grass blades.
- If the lawn is overgrown, raise the cutting height to reduce pushing effort and to keep from overloading the engine and leaving clumps of mulched grass. For extremely heavy mulching, reduce your width of cut by overlapping previously cut path and mow slowly.

- Certain types of grass and grass conditions may require that an area be mulched a second time to completely hide the clippings. When doing a second cut, mow across to the first cut path.
- Change your cutting pattern from week to week. Mow north to south one week, then east to west the next week. This will help prevent matting and graining of the lawn.

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, 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.

WARNING

Use only approved replacement components. Serious injury may result from the use of a non-approved replacement components.

NOTICE

Refer to engine operator's manual for detailed engine maintenance schedule

Follow the inspection and maintenance recommendations and schedules in this manual.

Maintenance Schedule

	Before each use	After each use	Every 25 hours or season	Every 50 hours	Every 100 hours	Before storage
Check for loose fasteners	X					X
Check wheels	X					
Clean lawn mower		X				X
Check/sharpen/replace blade			X ¹			
Lubrication			X			
Check engine oil level	X					
Change engine oil			X ^{2,3}			
Clean air filter			X ³			
Inspect muffler			X			
Replace spark plug					X	
Empty fuel system						X
Adjust the self-propel control handle			X		X	
Check the synchronous belt					X	
Check the transmission belt			X			
Check belt tightening				X		

X¹. Replace blades more often when mowing in sandy soil.

X². Change more often when operating under a heavy load or in high ambient temperatures.

X³. Service more often when operating in dirty or dusty conditions.

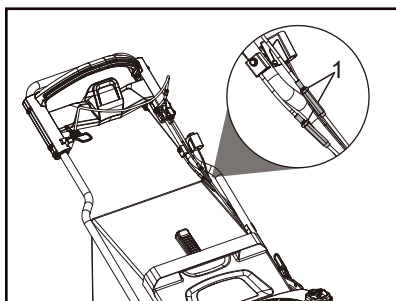
Adjusting Cable Tension

NOTICE

Proper tension is important for the Speed Adapt™ self-propel and blade control systems to function as intended. Check tension and adjust accordingly.

If self-propel control handle and the blade control handle do not return to original positions when released, adjust cables.

1. To increase cable tension or remove the cable slack, turn the adjustment bolt (1) down to shorten the cable.
2. To decrease cable tension or add cable slack, turn the adjustment bolt (1) up to extend the cable.

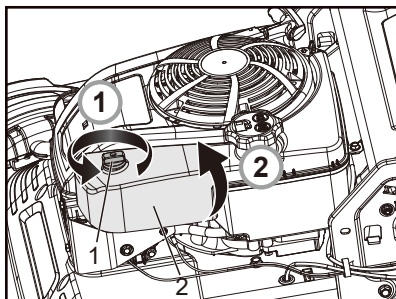


Cleaning the Air Filter

NOTICE

Do not use garden hose or pressure washing equipment to clean engine. Water can damage engine or engine components, or contaminate fuel system.

1. Rotate tab (1) on the cover and remove the air filter cover (2).
2. Remove the filter element.
3. To loosen debris, gently tap the filter on a hard surface. If the filter is excessively dirty, replace with a new filter.
4. Install the filter element into the air filter case.
5. Close the air filter cover.
6. Rotate tab to lock air filter cover.



Cleaning the Deck and Blades

DANGER

The blade continues to rotate for a few seconds after the engine is shut off, and will cause serious personal injury if contacted. Keep all body parts away from rotating blade.

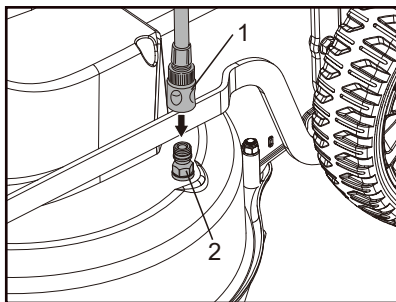
WARNING

Blades and other rotating parts can cause serious personal injury. Start the engine according to instructions, on a level surface free of grass and obstacles. Keep hands and feet away from the blade and other rotating parts, and do not stand in front of discharge chute.

NOTICE

When cleaning, do not perform other actions, such as mowing, mulching etc.

1. Shut off the engine, disconnect spark plug wire, and wait for all moving parts to stop.
2. Remove the grass catcher and discharge chute, and install the mulching plug.
3. Move the machine to a level surface.
4. Lower the machine to its lowest cutting-height setting.
5. Firmly attach the hose connector (1) into the cleaning hole-connector (2) on the deck.
6. Attach other end of hose to water supply and turn on water.
7. Connect the spark plug wire, start the engine, engage the blade control handle, and let the machine run for 3 to 5 minutes.
8. Release the blade control handle, stop the engine, and shut off water. Check the deck and cutters. Repeat as necessary.
9. After cleaning, remove the hose and store in a clean and safe place.
10. Remove the water on the deck and cutter surface, and then lightly grease the cutter to avoid corrosion and rust.



Replacing and Sharpening the Blades

WARNING

Blades are very sharp. Touching them may lead to severe personal injury. Avoid touching blades whenever possible, and always wear gloves to protect hands.

WARNING

A blade that is bent or damaged could break apart and could cause injury or death. Inspect the blades periodically for wear or damage. Replace if needed.

WARNING

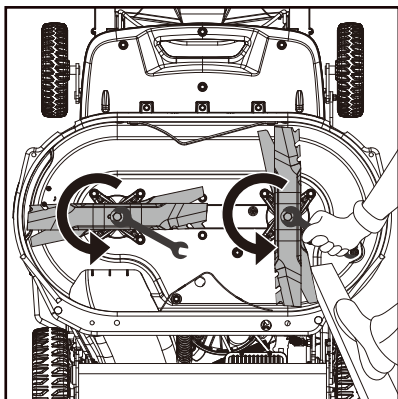
Operating a poorly maintained unit can result in serious injuries to operator or bystanders. Periodically inspect the blade adapter for cracks, especially if you strike a foreign object.

NOTICE

Blade assembly must be reinstalled in the same orientation they are originally installed. Note blade orientation before removing.

Removing Blades

1. Lift mower until the machine stands vertically and use a wood block to prevent the blade from rotating.
2. Use a 17mm wrench to remove hex bolt (4) and washer (3). Then remove blade and blade adapter (5) from crankshaft.



Sharpening Blades

- For best performance blade should be sharp.
- To sharpen blade, remove according to these instructions and grind or file edges, keeping as close to original bevel as possible.
- Always sharpen cutting edges equally to prevent blade imbalance.

Replacement Blades

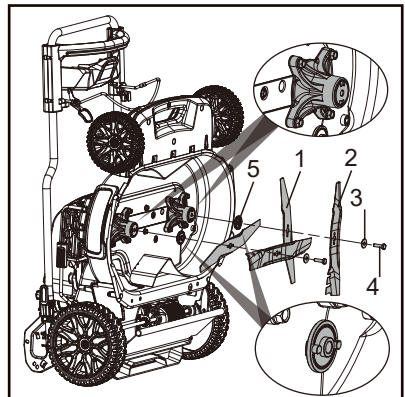
- After prolonged use, especially in sandy soil conditions, the blade will become worn. Replace with an approved factory replacement blade only.
- For best results, replace the blade with the recommended blades: 99988806002. If not, it will affect the health and safety of the operator.
- If you need any further assistance with replacing or sharpening blades, please contact our customer service at 1-800-432-ECHO (3246) or visit <https://www.echo-usa.com/manuals>.

Installing Blades

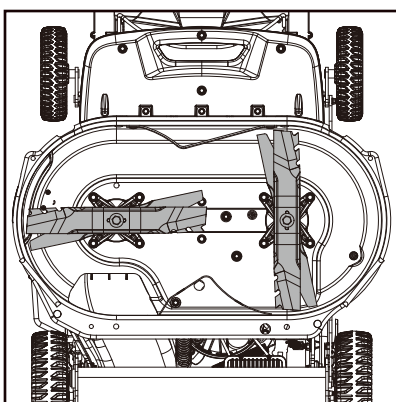
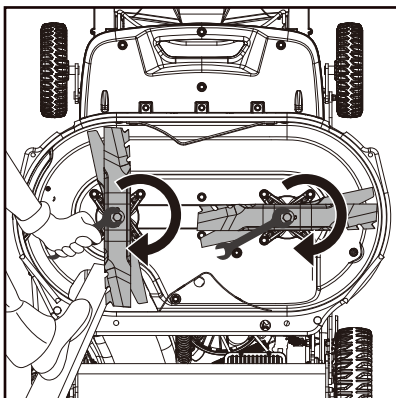
WARNING

***Incorrect blade installation can cause serious personal injury.
Ensure that blades are installed correctly before using unit.***

1. Replace blade adapter if damaged or broken.
2. Before reassembling the blade and the blade adapter to the unit, lubricate the engine crankshaft and the inner surface of the blade adapter with light oil.
3. Install the blade adapter (5) on the crankshaft and clamp the blades (1 and 2) completely on the blade adapter to prevent imbalance.
4. Align the washer (3) over the blade and install the hex bolt (4). Tighten to 48 Nm-52 Nm (35lb.ft-38lb.ft).



5. Install first blade assembly perpendicular to cutting width of deck and the second blade perpendicular to the first, forming a "T".
6. Rotate blades by hand to ensure they do not contact one another. If blades contact one another they are mounted improperly. Repeat mounting instructions until they no longer contact one another.



Servicing the Engine

Refer to the separate engine manual for engine maintenance instructions.

Check Blade Timing Belt Tension (Every 50 Hours)

NOTICE

Incorrect belt tension can cause improper blade timing and allow blades to impact each other during operation. To maintain correct belt tension, always adjust belt to MAX setting and never allow setting to fall below MIN.

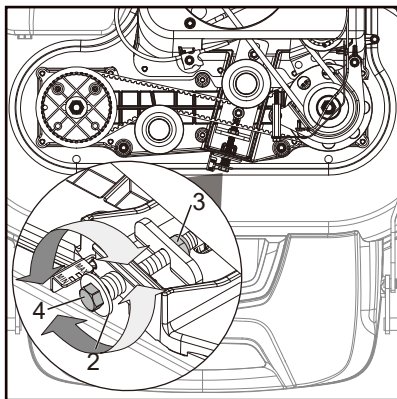
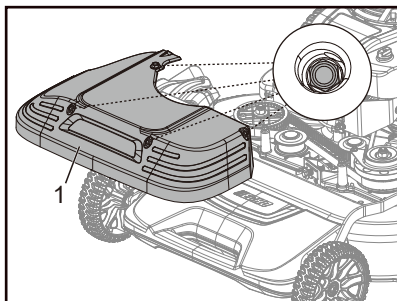
NOTICE

Do not overtighten tensioning bolt. Engine damage can occur if belt tension is too high.

NOTICE

If belt cannot be properly tensioned, see your authorized service dealer.

1. Shut off engine, disconnect spark plug wire, and wait for all moving parts to stop.
2. Remove blade belt cover (1).
3. Blow or brush off any debris under cover.
4. Examine belt condition. If damaged, contact your local ECHO dealer for service.
5. Visually inspect MAX / MIN location of tensioning bolt washer (2) on tension gauge.
6. If washer location is below MAX setting, hold tensioning bolt nut (3) in place with a 13 mm wrench. Tighten tensioning bolt (4) until washer indicates MAX tension.
7. Reinstall blade belt cover.



TROUBLESHOOTING

Problem	Cause	Solution
Engine does not start.	Fuel tank is empty.	Fill tank with fuel. Refer to engine owner's manual.
	Stop switch is in STOP ("O") position.	Move stop switch to Run ("I") position.
	Air filter element is dirty.	Clean air filter element. Refer to engine owner's manual.
	Spark plug loose.	Tighten spark plug. Refer to engine owner's manual.
	Spark plug wire loose or disconnected from plug.	Install spark plug wire on spark plug. Refer to engine owner's manual.
	Spark plug gap is incorrect.	Set gap between electrodes. Refer to engine owner's manual.
	Spark plug is defective.	Install new, correctly gapped plug. Refer to engine owner's manual.
	Carburetor is flooded with fuel.	Remove air filter element and pull starter handle continuously until carburetor clears itself and install air filter element.
Engine difficult to start or loses power.	Faulty ignition module.	Contact the engine manufacturer.
	Dirt, water, or stale fuel in tank.	Drain fuel and clean tank. Fill tank with clean, fresh fuel.
Engine operates erratically.	Vent hole in fuel tank cap is plugged.	Clean or replace fuel tank cap.
	Air filter element is dirty.	Clean air filter element. Refer to engine owner's manual.

Engine operates erratically.	Spark plug is defective.	Install new, correctly gapped plug. Refer to engine owner's manual.
	Spark plug gap is incorrect.	Set gap between electrodes. Refer to engine owner's manual.
	Air filter element is dirty.	Clean air filter element. Refer to engine owner's manual.
Engine idles poorly.	Air filter element is dirty.	Clean air filter element. Refer to engine owner's manual.
	Air slots in engine shroud are blocked.	Remove debris from slots.
	Cooling fins and air passages under engine blower housing are blocked.	Remove debris from cooling fins and air passages.
Engine skips at high speed.	Gap between electrodes of spark plug is too narrow.	Set gap between electrodes. Refer to engine owner's manual.
Engine overheats.	Cooling air flow is restricted.	Remove any debris from slots in shroud, blower housing, air passages, and cooling fins on engine.
	Incorrect spark plug.	Install correct spark plug.
Mower vibrates abnormally.	Cutting assembly is loose.	Tighten blade.
	Cutting assembly is unbalanced due to uneven sharpening.	Remove the blade and grind or file the cutting edge keeping as close to the original bevel as possible to balance blade.
SPEED ADAPT™ Self-Propel function does not work.	The self-propel control cable has too much slack.	Adjust the cable tension.

STORAGE INSTRUCTIONS

General Storage Instructions

DANGER

Fire hazard. Fuel is flammable. Accidental ignition can cause serious personal injury. Use extreme care when mixing, storing, draining or handling fuel. Do not drain gasoline in closed rooms or in proximity to open flames. Do not smoke around fuel.

DANGER

Fire hazard. Fuel fumes are flammable. Open flames or sparks can ignite fuel fumes causing serious personal injury. Do not store in enclosure where fuel fumes may accumulate or reach an open flame or spark.

CAUTION

Machine remains hot after use. Touching hot surfaces can cause personal injury. Allow hot engine to cool for at least 30 minutes before cleaning.

NOTICE

Stored fuel ages. Old fuel in the fuel tank is the leading cause of hard starting. Do not store fuel without fuel stabilizer more than 30 days. Add fuel stabilizer such as ECHO Red Armor® Fuel Treatment, as directed on the label, to fresh fuel only. Do not store stabilized fuel beyond the duration recommended by the fuel stabilizer manufacturer.

NOTICE

Do not use garden hose or pressure washing equipment to clean engine. These can force water into air filter or muffler and damage engine.

NOTICE

When storing the mower in an unventilated storage shed, coat the equipment, especially cables and all moving parts, with light oil or silicone.

NOTICE

Always store unit level on a flat surface.

- Store the machine in a dry, clean and frost-protected place, out of reach of unauthorized persons. Never store the mower near an open flame, pilot light or sparks, or near any possible source which may cause these, such as power tools, a water heater, furnace, etc.
- Carefully clean machine parts and accessories after each use and before storage.
- Lightly grease the cutting area to avoid corrosion.
- Do not kink or bend cables.

Short-Term Storage (Less than 30 days)

- Remove and empty the grass catcher.
- With the engine and exhaust system cool, cover the engine to keep out dust. A hot engine and exhaust system can ignite or melt some materials.
- Do not use plastic sheeting as a dust cover. A non-porous cover will trap moisture around the engine, promoting rust and corrosion.

Long-Term Storage (Over 30 Days)

Note: Dispose of any unused fuel properly. Recycle it according to local codes or use it in your automobile.

1. Remove and empty the grass catcher.
2. Run the mower until the engine shuts off from running out of fuel.
3. Start the engine again and allow it to run until it shuts off. When you can no longer start the engine, it is sufficiently dry.
4. Disconnect the wire from the spark plug and connect the wire to the retaining post (if equipped).
5. Remove the spark plug, add 30 ml (1 fl oz) of engine oil through the spark plug hole, and pull the starter rope slowly several times to distribute oil throughout the cylinder to prevent cylinder corrosion.
6. Loosely install the spark plug.
7. Check and tighten all fasteners.

Removing Mower from Storage

- Check and tighten all fasteners.
- Remove spark plug and pull recoil starter handle to blow excess oil from cylinder.
- Install spark plug and connect spark plug cable.
- Fill fuel tank with fresh gasoline.

TRANSPORT

DANGER

Gasoline and gasoline fumes are flammable, and can ignite causing explosion or fire. Transport your unit with an empty fuel tank.

CAUTION

Hot engines can cause personal injury or property damage. Allow engine to cool before transporting.

NOTICE

When moving the machine, the blade must be disengaged and the cutting deck raised as high as possible. Disengage the blade before crossing surfaces other than grass.

1. Empty the fuel tank. Start the engine and let it run until it has used up all remaining gasoline.
2. Close the fuel cap firmly.
3. Let the engine cool down before transporting.
4. Take care not to drop or damage the machine when transporting.
5. Secure the machine in an upright position while transporting.

DISPOSAL

Check and follow local regulations for disposal or recycling of gasoline, oil, or other hazardous fluids.

SPECIFICATIONS

MODEL	LM-3022SP
Engine Type	Briggs & Stratton PXi1000
Engine Displacement	223 cc
Fuel capacity	1.5 L
Oil capacity	0.565L
Front wheel size	8 in× 6.3 in-6.3 in
Rear wheel size	11 in×8.9 in-8.9 in
Blade Width	30 in (757mm)
Rated Speed	3200 rpm
Bag Capacity	2.5 bushel (88L)
Net Weight	140 lb (64kg)
Height Adjustment	1.25in-4.25in (32mm-108mm) 7 height positions

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 online. 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

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: www.echo-usa.com

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

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 : Nombre del Comprador : Nom de l'acheteur

Primary use of tool: ☐ Professional ☐ Homeowner ☐ Rental Equip.
 Uso primario de la herramienta: ☐ Profesional ☐ Dueño de casa ☐ Alquiler
 Usage principal: ☐ Professionnel ☐ Residential ☐ Location

Address : Dirección : Adresse

Do you wish to receive periodic ECHO product information and special offers by e-mail? ☐ Yes ☐ No

City : Ciudad : Ville	State : Estado : Province
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State : Estado :
Province

Zip Code : Código Postal : Code Postal

E-Mail Address : Dirección De Correo Electrónico : Courrier Électronique

Visito usted la página web ECHO antes de comprar su producto?

Avez-vous visité le site d'ECHO avant de procurer votre produit?

Avez-vous visité le site d'ECHO avant de procurer votre produit?

Phone Number : Número De Teléfono : Téléphone

Date of Purchase : Fecha de la Compra :
Date de l'achat

What factor(s) most influenced your purchase?

☐ Performance ☐ Price ☐ Dealer

Where Purchased : Nombre del Almacén donde fue Comprado · Lieu d'achat

¿Qué factor(es) influyó más en su compra?

Model Number : Numero del Modelo : No. de modéle	Serial Number : Numero de Serie : No. de série
--	--

Quel facteur (facteurs) vous a influencé le plus?

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 de recordatorio de producto, y también nos permite verificar su propiedad en caso de robo o pérdida.

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

X7572270206 02-2012



Limited Warranty Statement

ECHO Incorporated warrants to the original retail purchaser that this ECHO® brand outdoor product is free from defects in material and workmanship and agrees to repair or replace at ECHO Incorporated's discretion, any defective product free of charge within these time periods from the date of purchase.

Mower Warranty:

- 5 Year Consumer/Homeowner
- 90 Days Commercial

Engine Warranty:

- See engine manufacturer's separate warranty.

This warranty extends to the original retail purchaser only and commences on the date of the original retail purchase. Any part of this product found, in the reasonable judgment of ECHO Incorporated, to be defective in material or workmanship will be repaired or replaced without charge for parts and labor by an authorized ECHO dealer. Repair parts and accessories replaced under this warranty are warranted only for the balance of the original warranty period.

The product, including any defective part, must be returned to an authorized ECHO dealer within the warranty period. The expense of delivering the product to the dealer for warranty work and the expense of returning it back to the owner after repair or replacement will be paid by the owner. ECHO Incorporated's responsibility in respect to claims is limited to making the required repairs or replacements and no claim of breach of warranty shall be cause for cancellation or rescission of the contract of sale of any ECHO brand outdoor product. Proof of purchase will be required by the dealer to substantiate any warranty claim. All warranty work must be performed by an authorized ECHO dealer.

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

but not limited to:

A. Tune-ups - Air filters, gas filters, carburetors, spark plugs, filters, oil changes

B. Wear items – Recoil starter rope, wheels, bearings, belts, pulleys, mower blades

C. **IMPORTANT:** Some components not covered under this warranty may still be covered by a separate warranty issued by the engine manufacturer. Please see the engine manufacturer's warranty supplied with this product for further details.

ECHO Incorporated reserves the right to change or improve the design of this product without assuming any obligation to modify any product previously manufactured.

All implied warranties are limited in duration to the stated warranty period. Accordingly, any such implied warranties including merchantability, fitness for a particular purpose, or otherwise, are disclaimed in their entirety after the expiration of the appropriate five-year, or 90 day warranty period. ECHO incorporated's obligation under this warranty is strictly and exclusively limited to the repair or replacement of defective parts and ECHO incorporated does not assume or authorize anyone to assume for them any other obligation. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you. ECHO incorporated assumes no responsibility for incidental, consequential, or other damages including, but not limited to, expense of returning the product to an authorized dealer for ECHO brand outdoor products and expense of delivering it back to the owner, mechanic's travel time, telephone or telegram charges, rental of a like product during the time warranty service is being performed, travel, loss or damage to personal property, loss of revenue, loss of use of the product, loss of time, or inconvenience. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

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

This warranty applies to ECHO brand lawnmowers manufactured by or for ECHO Incorporated and sold in the United States and Canada.

To locate your nearest authorized ECHO dealer, visit www.ECHO-usa.com or dial 1-800-432-ECHO (3246).

NOTES

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ECHO INCORPORATED

400 Oakwood Road

Lake Zurich, IL 60047

www.echo-usa.com