



Operator's Manual 99944200513 Cultivator Attachment

FOR MODELS: SRM-2100SB, 2400SB, 210SB, 211SB, 225SB, 260SB,
261SB

PAS-2100, 2400, 2601, 210, 211, 225, 225VP, 225VPB, 230, 231, 260, 261,
265, 266, 280, 2620

DPAS-2100/SB, 2600/SB

WARNING



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

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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

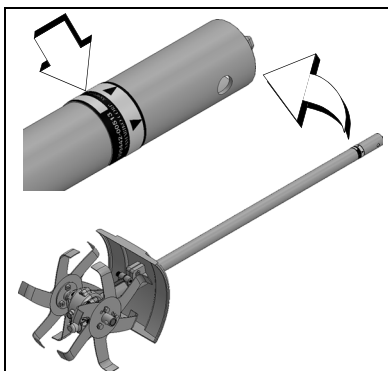
<https://www.shindaiwa-usa.com/manuals>



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 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.









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.		Safety / Alert
	Wear eye, ear and head protection.	 	Finger severing.
	Wear hand and foot protection.		Rotating cutting attachment.
	Wear face shield.		Wear slip-resistant footwear.
	Keep feet away from blade.		Do not operate closer than 15 m (50 ft.) from electrical hazards. Keep bystanders at least 15 m (50 ft.) away.
	DO NOT USE BLADES - line head only.	 	Beware of thrown objects.
	Hot surface		Plan retreat path from falling objects.

Symbol	Description	Symbol	Description
	DO NOT USE LINE HEAD - blades only.		Do not cut branches overhead.
		Keep bystanders and helpers away 15 m (50 ft.).	
		Beware thrown objects. Wear eye protection.	
		Keep bystanders and helpers away 15 m (50 ft.).	
			

Personal Condition and Safety Equipment



Cancer and Reproductive Harm
www.P65Warnings.ca.gov



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.

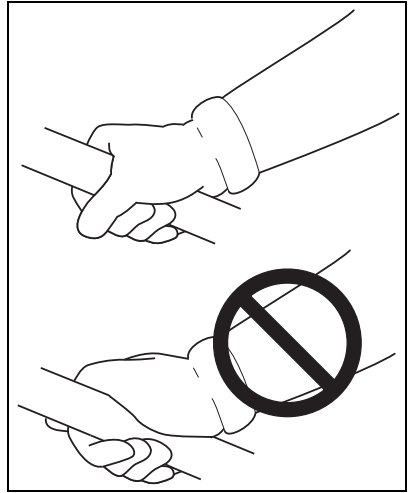
- Keep your body warm, especially the head, neck, feet, ankles, hands, and wrists.
- Maintain good blood circulation by performing vigorous arm exercises during frequent work breaks, and also by not smoking.
- Limit the hours of operation. Try to fill each day with jobs where operating the unit or other 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 over head 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.

Read the Manuals

- Provide all users of this equipment with the Operator's Manual for instructions on Safe Operation.

Clear the Work Area

- Spectators and fellow workers must be warned, and children and animals prevented from coming nearer than 15 m (50 ft.) 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

- During operation, the drive shaft housing and attachment bearing housing may become very hot, too hot to touch. Avoid contact during and immediately after operation.



Equipment

WARNING

Use this attachment with ECHO approved models only. Serious injury may result from the use of this attachment combined with a non approved ECHO product.

- ◆ **Check unit for loose/missing nuts, bolts, and screws. Tighten and/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.**
- ◆ **The cultivator gear housing is designed for ECHO recommended tines. Do not modify the gear housing for any other purpose or replace tines with other type or size.**

Note: ECHO, Incorporated, will not be responsible for the failure of cutting devices, attachments or accessories which have not been tested and approved by ECHO.

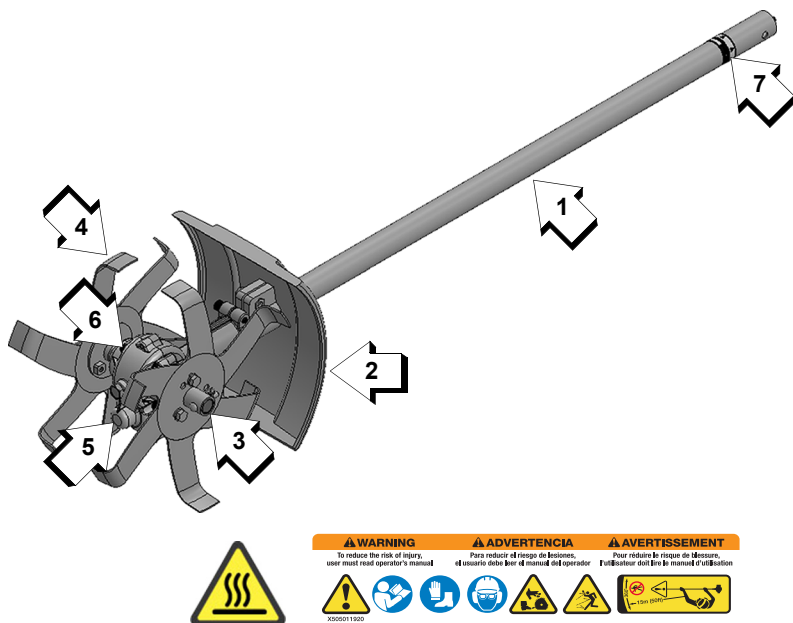
 **WARNING**

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, or remove battery 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 unit is running. Moving parts may not be visible through openings.*

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. Drive shaft assembly
2. Shield
3. Hub
4. Tines
5. Grease access bolt
6. Gear housing
7. Serial number label

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 PAS Cultivator Attachment
- 1 Operator's Manual
- 1 Warranty Sheet
- 1 Storage Hook Assembly

ASSEMBLY

Power Head Shaft to Lower Shaft Assembly

WARNING

Do not perform maintenance or assembly procedures with unit running.

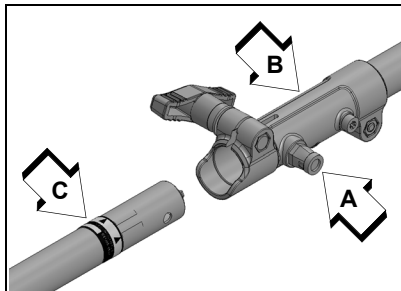
1. Set Power Head/Shaft Assembly on a level surface.
2. Pull locator pin (A) out, and turn counterclockwise one-quarter turn to lock-out position.
3. Remove storage hook and cap from attachment drive shaft.

Note: Your coupler may appear different than coupler shown. Earlier model power heads may have shorter couplers.

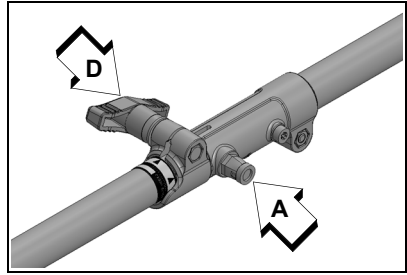
4. Carefully fit attachment drive shaft assembly into coupler (B). Rotate the shaft (C) to make sure the inner lower drive shaft engages the square upper drive shaft socket.

Note: Lower bearing housing and head assembly must be in line with the engine.

Note: Some models have an assembly line decal to assist in assembly.



5. Rotate locator pin (A) one-quarter turn clockwise to engage lower shaft hole. Make sure locator pin is fully engaged by rotating the lower drive shaft. Locator pin should snap flush in coupler. Full engagement will prevent further shaft rotation.
6. Secure lower shaft assembly to coupler by tightening clamping knob (D).



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.

Note: Refer to your PAS power source Operator's Manuals for correct engine fueling, starting and stopping instructions.

Operating Techniques

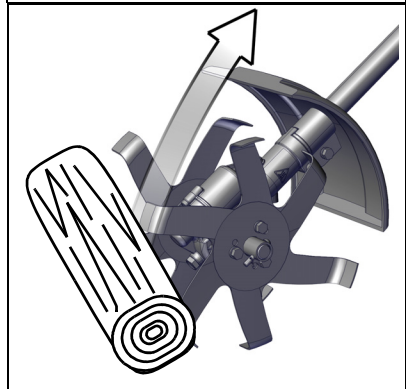
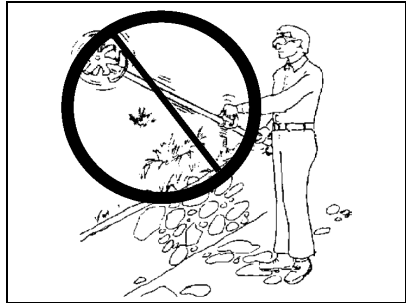
! WARNING

- ◆ ***When unit starts tines may rotate. Warn fellow workers and keep children and pets from coming nearer than 4.5 m (15 ft.).***
- ◆ ***Always grip throttle handle with right hand and support handle with left hand.***

- ◆ *Always stop unit when transporting unit to or between work areas..*
- ◆ *Do not perform maintenance procedures, unclog or clean cultivator tines while unit is running.*

- ◆ *Do not operate the cultivator above ground level or near feet.*

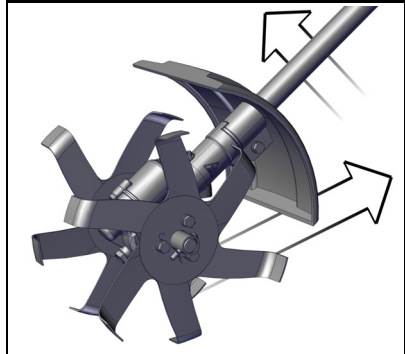
- ◆ *Do not allow the tines to contact large obstructions which may cause kickback and loss of control.*
- ◆ *Failure to follow these warnings may result in serious injury.*



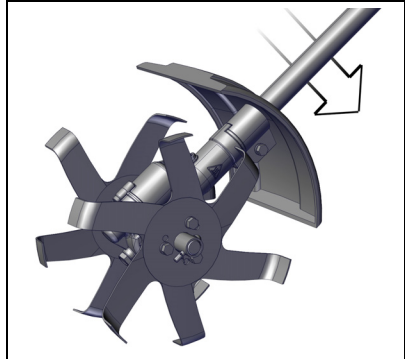
1. The tilling width of the cultivator is approximately 165 mm (6.5 in.). Place cultivator in area to be tilled, hold unit firmly with left hand on front grip and right hand on rear grip and gradually engage throttle trigger. Guide the cultivator allowing the tines to pull forward. The soil hardness will control tilling speed.



2. The cultivator attachment is capable of tilling in the forward or reverse direction. For deep soil tilling, till forward then lightly pull unit rearward allowing the tines to make a deeper cut into the soil. Deep soil cultivating can also be enhanced by repositioning the tines.



3. To raise or aerate the soil, tilt engine closer to the ground which will raise cultivator tines higher relative to the soil surface.



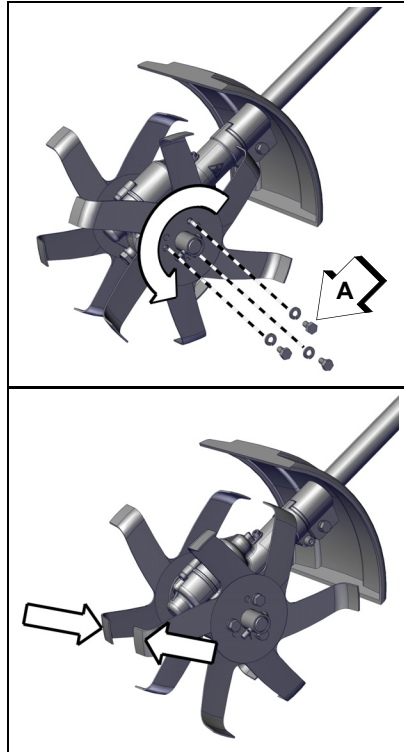
NOTICE

Do not operate cultivator underwater. The gear housing is not sealed and water will wash away lubrication, damaging gears, bearings, and seals.

Resetting Tines for Deep Cultivation

The tines are factory assembled with blade ends offset for standard cultivation. For deep cultivation, the left tine (viewed from the operator's position) must be repositioned on the hub aligning the left and right tine blade ends directly across from each other.

1. Remove three (3) bolts (A) mounting left tine to hub. The bolts will be mounted in hole labeled (1).
2. Rotate tine counter clockwise and position hole labeled (2) over hub mounting holes. The tine blade ends should be aligned directly opposite each other.
3. Install and tighten bolts.



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.

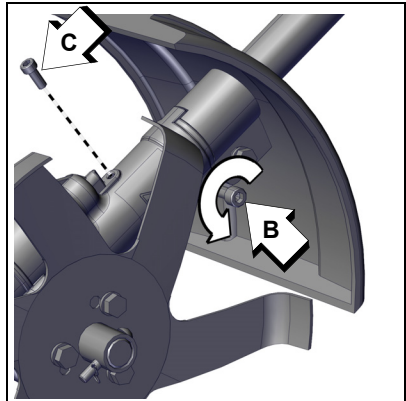
Click [HERE](#) or go to <http://www.echo-usa.com/products/maintenance-kit>

or

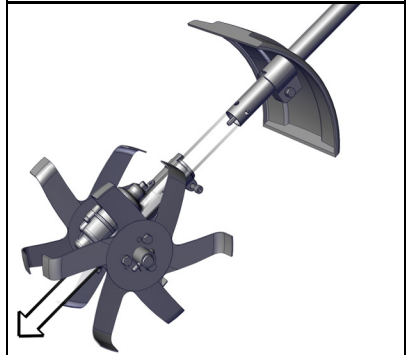
[HERE https://www.shindaiwa-usa.com/you-can.aspx](https://www.shindaiwa-usa.com/you-can.aspx)

Drive Shaft (Lower)

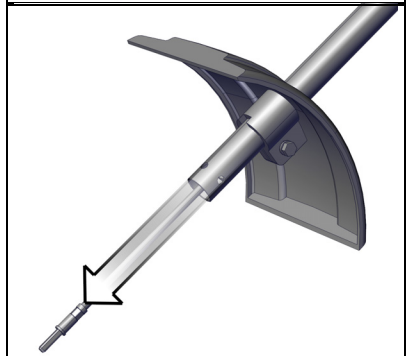
1. Loosen gear housing mounting bolt (B) and remove gear housing locator screw (C).



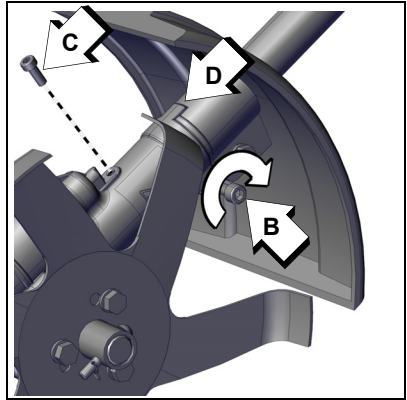
2. Pull gear box from drive shaft housing. Shield will remain on drive shaft.



3. Pull flexible cable from the drive shaft housing, wipe clean and apply 15 ml (0.5 oz.) of grease.
4. Slide the flexible cable back in the drive housing. DO NOT get dirt on the flex cable.



5. Assemble gear housing onto drive shaft correctly matching gear housing to shield cutout (D).
6. Install and tighten locater screw (C).
7. Tighten gear housing mounting bolt (B).



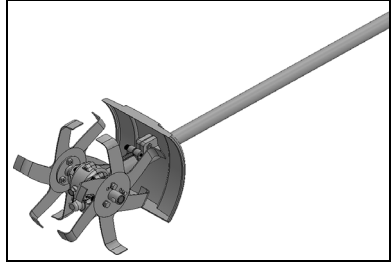
STORAGE

1. Clean cultivator attachment.

NOTICE

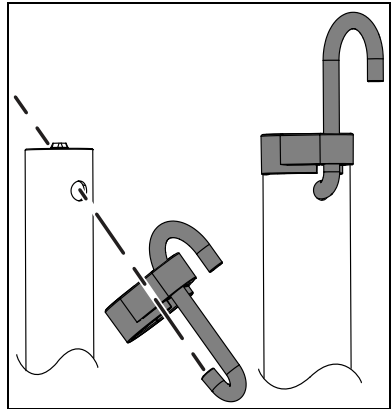
Do not immerse this attachment in water. Water will enter gear housing and damage gears, bearings and seals.

2. Apply thin coating of oil to metal parts to prevent rust.
3. Lubricate lower shaft assembly with lithium grease.
4. Store cultivator attachment in a dry, dust free place, out of the reach of children, using supplied storage hook.



Storage Hook Installation

1. Insert small end of hook into locating hole on attachment shaft.
2. Slide plastic cap onto end of attachment shaft.
- 3.



SPECIFICATIONS

MODEL	99944200513
Length (with tines)	907 mm (35.7 in.)
Width	160 mm (6.3 in.)
Height (with tines)	220 mm (8.7 in.)
Weight (with tines)	2.34 kg (5.2 lb.)
Drive Shaft	6.35 mm (0.25 in.)
Tines (diameter)	220 mm (8.7 in.)
Tines (working width)	160 mm (6.3 in.)
Gear Case Ratio	42.75:1
Lubrication	EP00 grease

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

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 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 Enscriba 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	
Address : Dirección : Adresse	
City : Ciudad : Ville	Zip Code - Código Postal : Code Postal
State : Estado : Province	
E-Mail Address : Dirección De Correo Electrónico : Courriel Electronique	
Phone Number : Número De Teléfono : Téléphone	Date of Purchase : Fecha de la Compra : Date de l'achat
Where Purchased : Nombre del Almacén donde fue Comprado : Lieu d'achat	
Model Number : Numero del Modelo : No. de modèle	
Serial Number : Numero de Serie : No. de série	

Registering your purchase enables us to contact you in the unlikely event of a service update or product recall and verifies your purchase. We will not share your information with anyone. We will contact you if we have a special offer for you. Como el aviso de tiempo de servicio o la revocación del producto y verificación de 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'emballage ou de rappel du produit et vérifier que vous êtes le propriétaire en cas de vol ou de perte.

Primary use of tool: Homeowner Rental Equip.
 Uso primario de la herramienta: Profesional Dueño de casa Alquiler
 Usage principal: Professionnel Residential Location
 Do you wish to receive periodic ECHO product information and special offers by e-mail? Yes No
 ¿Desea usted recibir información periódica y ofertas especiales por correo electrónico sobre el producto ECHO? Yes No
 Souhaitez-vous recevoir périodiquement de l'information sur les produits ECHO et les offres spéciales par courrier électronique? Oui Non
 Did you visit the ECHO website before purchasing your product? Yes No
 Visité usted la página web ECHO antes de comprar su producto? Si No
 Avez-vous visité le site d'ECHO avant de procurer votre produit? Oui Non

What factor(s) most influenced your purchase?
 Performance Price Dealer
 Reliability Prior Experience Quality
 Friend/Family Brand Warranty
 Functionality Precio Distribuidor
 Confiabilidad Experiencia Anterior Calidad
 Amigo/Familia Marca Garantía

¿Que factor(es) influenció más en su compra?
 Rendimiento Precio Distribuidor
 Confiabilidad Experiencia Anterior Calidad
 Amigo/Familia Marca Garantía

Quel facteur (facteurs) vous a influencé le plus?
 Performance Prix Marchand
 Fiabilité Expérience Garantie
 Ami/Famille Marque Qualité

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