

# shindaiwa®

ENGLISH

## T302 GRASS TRIMMER / BRUSH CUTTER

### *Operator's Manual*

#### **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.*

This product complies with CAN ICES-2/NMB-2

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.

X7502350700

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## INTRODUCTION

This product was designed and manufactured to provide long life and on-the-job dependability. Read and understand all provided literature. Keep manuals in a safe place for future reference. Literature contains specifications and information for safety, operation, maintenance, storage and assembly specific to this product. Scan QR codes for more information.

For questions regarding terms used in this manual, visit:

<https://www.echo-usa.com/Support-Help/Technical-Documents>

OR

<https://www.shindaiwa-usa.com/Tech-Support/Technical-Documents>



## SERVICING INFORMATION

### Parts/Serial Number

Genuine SHINDAIWA Parts and Assemblies for your SHINDAIWA products are available only from an Authorized SHINDAIWA Dealer. When you do need to buy parts **always** have the Model Number and Serial Number of the unit with you. You can find these numbers on the engine housing. 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 SHINDAIWA Service Dealer. For the name and address of the Authorized SHINDAIWA Service Dealer nearest you, ask your retailer or call: 1-877-986-7783. Dealer information is also available on [WWW.SHINDAIWA-USA.COM](http://WWW.SHINDAIWA-USA.COM). When presenting your unit for Warranty service/repairs, proof of purchase is required.

## Consumer Product Support

If you require assistance or have questions concerning the application, operation or maintenance of this product you may call the SHINDAIWA Consumer Product Support Department at 1-877-986-7783 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

To ensure trouble free warranty coverage it is important that you register your SHINDAIWA equipment on-line at WWW.SHINDAIWA-USA.COM or by filling out the product registration sheet included in this manual. Registering your product confirms your warranty coverage and provides a direct link between you and ECHO if we find it necessary to contact you.

## Additional or Replacement Manuals

**Replacement Manuals and Parts Catalogs** are available from your SHINDAIWA dealer or at WWW.SHINDAIWA-USA.COM or by contacting the Consumer Product Support Department (1-877-986-7783). Always check WWW.SHINDAIWA-USA.COM for updated information.

# 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.

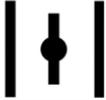


### CIRCLE AND SLASH SYMBOL

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    | <b>H</b> | Carburetor Adjustment - High Speed Mixture |
|        | Wear Eye, Ear and Head Protection | <b>T</b> | Carburetor Adjustment - Idle Speed         |
|        | Wear Hand and Foot Protection     | <b>L</b> | Carburetor Adjustment - Low Speed Mixture  |
|        | Safety/Alert                      |          | Emergency Stop                             |
|        | Hot Surface                       |          | Fuel and Oil Mixture                       |

| Symbol  | Description                                     | Symbol  | Description  |
|---|---|---|--|
|  | DO NOT Allow Flames or Sparks Near Fuel         |  | Ignition ON / OFF                                  |
|  | DO NOT Smoke Near Fuel                          |  | Primer Bulb  |
|  | Choke Control "RUN" Position (Choke Open)       |  | Choke Control "COLD START" Position (Choke Closed) |
|  | Keep Bystanders and Helpers Away 15 m (50 ft.). |  | Do not use blades. String line only.               |
|  | Beware Thrown Objects                           |  | Do not use blades. String line only.               |



**LOOK BEFORE YOU PUMP!**  
Ethanol Percentage

|          |                       |
|----------|-----------------------|
| 0% - 10% | 15% - 30% - 50% - 85% |
|----------|-----------------------|

**USE E10 OR LESS FUEL**

Do not use any fuel containing greater than 10 percent ethanol (E10) in this equipment. It may cause damage or failure and is prohibited by Federal Law.

For Details, see the "Fuel" Section of your Operators Manual

## Personal Condition and Safety Equipment

### WARNING

*Cancer and Reproductive Harm*  
[www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

### WARNING



*The muffler or catalytic muffler and surrounding cover may become extremely hot. Always keep clear of exhaust and muffler area, otherwise serious personal injury may 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 may 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/Ear Protection

ECHO recommends wearing hearing protection 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 BAREFOOTED.

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 may 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 / Extreme Conditions****! CAUTION**

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

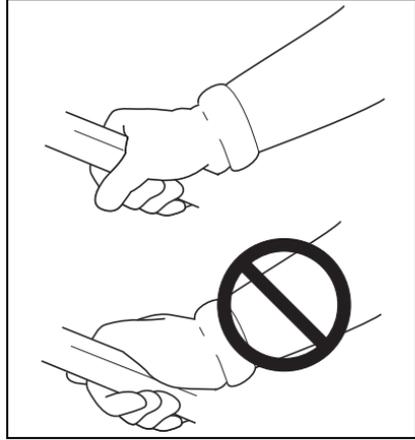
It is believed that a condition called Raynaud's Phenomenon, which affects the fingers of certain individuals, may be brought about by exposure to vibration and cold. Exposure to vibration and cold may cause tingling and burning sensations, followed by loss of color and numbness in the fingers. The following 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 may result.***

## **!** DANGER

***Do not operate this product 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 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

- Keep Exhaust Area Clear Of Flammable Debris. Avoid Contact During And Immediately After Operation.



## Equipment

### **WARNING**

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

- ◆ Check unit for loose or missing nuts, bolts, and screws. Tighten or replace as needed.
- ◆ Inspect shield for damage and ensure that shield is properly installed, and that the cut-off knife is securely in place. Replace if either is damaged or missing.
- ◆ Check that the cutting attachment is firmly attached and in safe operating condition.

- ◆ Assure that throttle trigger, throttle trigger lockout, and stop switch all work properly.
- ◆ Check that handle and harness (if included) are 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 assembling unit, removing obstructions, clearing debris, or servicing unit.
- ◆ Do not connect spark plug lead to spark plug unit until unit is ready for use.
- ◆ 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.
- ◆ Position wiring safely to prevent snagging, separation of connectors, or breakage during operation. Gather excess wire, and secure with wiring clamp if provided on equipment, or tuck behind the air filter area. Do not place wiring directly against hot engine components.
- ◆ Check wiring and connectors for nicks, cuts, exposed wire, or other damage, and repair or replace as needed. Exposed wire or connectors can cause shocks, sparks, and risk of fire or explosion, resulting in serious injury.
- ◆ Checkwire terminals for secure connections.

## 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)

### CARB And 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 (sample below) 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). Evaporative emissions for California models are only applicable to fuel tanks.



**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)

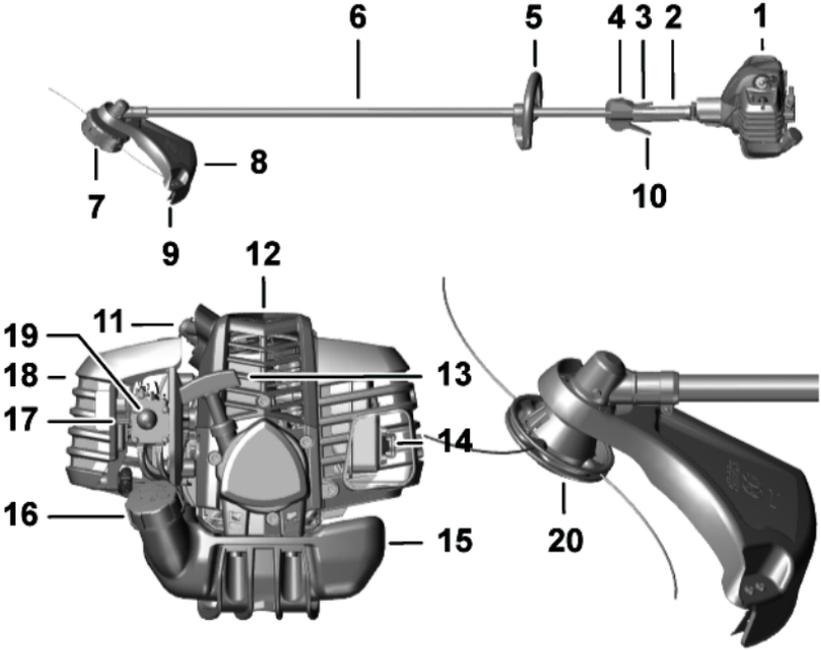


The 50 or 300 hour emission compliance period is the time span selected by the manufacturer certifying the engine emissions output meets applicable emissions regulations, provided that approved maintenance procedures are followed as listed in the Maintenance Section of this manual.

# DESCRIPTION

Locate the safety decal(s) on your unit. Make sure the decal(s) is legible and that you understand and follow the instructions on it. If a decal cannot be read, a new one can be ordered from your SHINDAIWA dealer.

ENGLISH



- 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. Nylon Cutter Head
8. Debris Shield With Cut-off Knife
9. Cut-off Knife
10. Throttle Trigger
11. Spark Plug
12. Arm Rest
13. Recoil Starter Handle
14. Spark Arrestor Muffler Or Spark Arrestor Muffler With Catalyst
15. Fuel Tank
16. Fuel Tank Cap
17. Choke
18. Air Cleaner
19. Purge Bulb
20. Heavy Duty Fixed Line Head (HDFH) - On HDFH Models Only

## **CONTENTS**

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The SHINDAIWA 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 SHINDAIWA Dealer of damaged or missing parts. Use the contents list to check for missing parts.

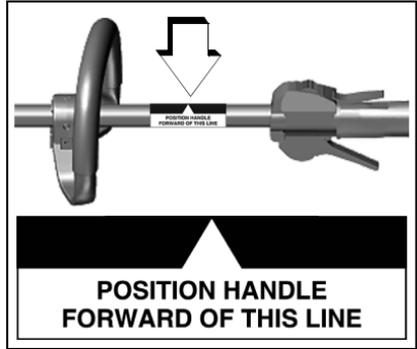
- 1 Power Head / Drive Shaft Assembly
- 1 Operator's Manual
- 1 Warranty Statement
- 1 Safety Glasses
- 2 Pre-cut nylon line - HDFH models only

# ASSEMBLY

## Support Handle

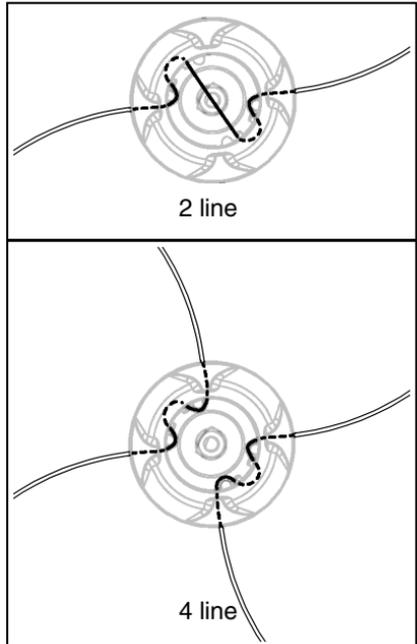
Note: Label shows minimum spacing for support handle location.

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



## Line Installation HDFH Models

1. Install trimmer line as shown:



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**OPERATION**

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** 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 arrestor 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.*

** WARNING**

- ◆ Always maintain a direct, clear line of site to the unit and the work being performed.
- ◆ Always be alert for changes in operation of unit.
- ◆ Always shut engine off before transporting unit to new location.

## Fuel

 **WARNING**

***Diesel fuels and alternative fuels, such as E15 (15% ethanol), E85 (85% ethanol) or any fuels not meeting Shindaiwa requirements are NOT approved for use in Shindaiwa 2-stroke or Hybrid 4-stroke gasoline engines. Use of diesel or alternative fuels may 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 may also cause premature deterioration of fuel lines, gaskets, carburetors and other engine components.***

**Fuel Requirements**

**Gasoline** - Use 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. ECHO Red Armor Fuel™ (Power Fuel™) is 93 octane, ethanol-free fuel premixed with ECHO Red Armor® engine oil at 50:1 ratio. Use of ECHO Red Armor Fuel™ (Power Fuel™) is recommended to extend engine life in all air-cooled 2-stroke and 2/4-stroke hybrid engines.

**Two Stroke Oil** - A two-stroke engine oil meeting ISO-L-EGD (ISO/CD 13738) and J.A.S.O. FD Standards must be used. Shindaiwa brand 2-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, such as Shindaiwa brand 2-stroke oils, will void the two-stroke engine warranty.

 **WARNING**

***2-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](http://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

*Shindaiwa brand 2-stroke oils may be mixed at 50:1 ratio for application in all Shindaiwa engines sold in the past, regardless of ratio specified in those manuals.*

### Handling Fuel

## DANGER

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

- ◆ **Use an approved fuel container.**
- ◆ **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.**
- ◆ **Move at least 3 m (10 ft.) from refueling location 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**

1. Fill an approved fuel container with half of the required amount of gasoline.
2. Add the proper amount of engine 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 |

ENGLISH

**NOTICE**

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

**After use**

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

**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.

**NOTICE**

*Stored fuel ages. Do not mix more fuel than you expect to use in thirty (30) days, ninety (90) days when a fuel stabilizer is added.*

**NOTICE**

*Stored two-stroke fuel may 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.*

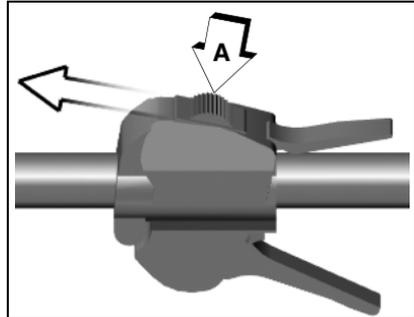
## Starting Cold Engine


**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.**

1. *Stop Switch*

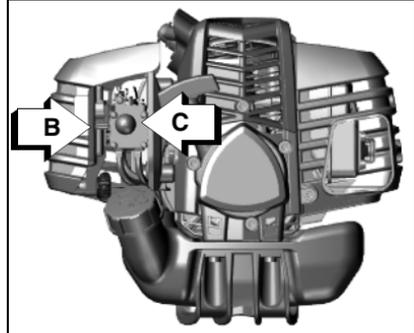
Move stop switch (A) away from the STOP position.

2. *Choke*

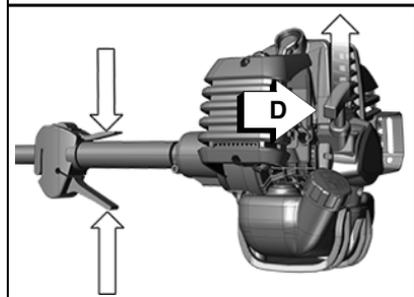
Move choke (B) to COLD START (↔) (CLOSED) position.

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 4 or 5 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 [5] pulls).

5. *Choke*

After engine fires (or 5 pulls), move choke (B) 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 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 5 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.

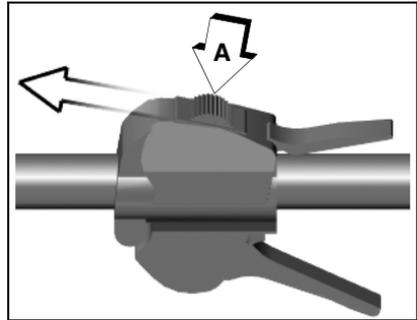
### WARNING

***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 Dealer.

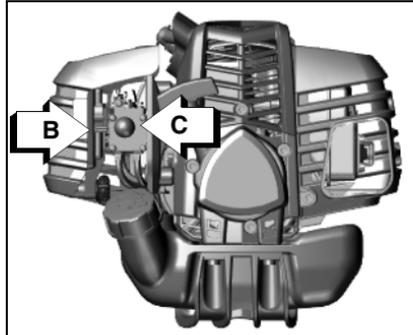
1. *Stop Switch*

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

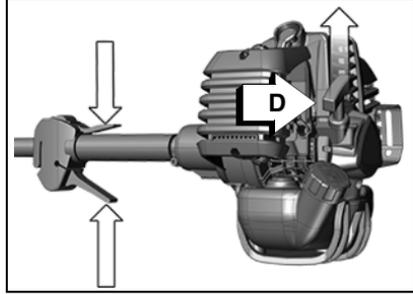


2. *Purge Bulb*

Pump purge bulb (C) until fuel is visible and flows freely in the clear fuel tank return line. Pump bulb an additional 4 or 5 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.



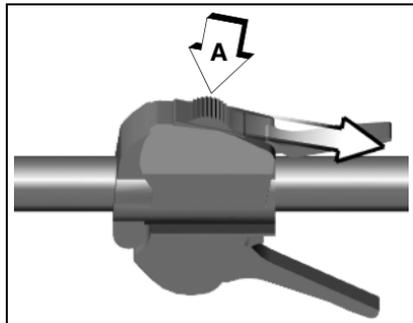
Note: If engine does not start after 5 pulls, use Cold Start Procedure.

**Stopping Engine**1. *Throttle*

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

2. *Stop Switch*

Move stop switch (A) 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 dealer repair stop switch before using unit again.***

## Applications

Nylon line heads may be used for trimming, scything, edging, and scalping of grass and light weeds

### Trimming

Feed the spinning line into the material to be cut. Tilt the line head to one side to direct cutting debris away from you:

- Model T (Straight shaft, counter-clockwise line head rotation) - Tilt the cutting head down on the right side (muffler side) while cutting to direct cutting debris away from operator. Feed the line gradually into the material you wish to cut, avoiding contact with fences or other barriers

### Scything

Scything - Swing the cutting head in a level arc, gradually feeding the line into the material being cut. Move forward with each arc to cut a swath. Width of cutting swath depends on arc. Use a larger arc for a wider swath, or a smaller arc for a narrow swath. Keep line head tilted to direct cutting debris forward or away from you.

## Operating Techniques

- Debris flows in direction of line head rotation. Change line head position to assure debris flow is directed away from operator.
- Keep cutting line away from wire fences to avoid entanglement.
- Operate trimmer only with cutting head below knee height.

## MAINTENANCE

### 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. Allow unit to cool before performing service. 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 may 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.

**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)

For information about maintenance kits.

**Maintenance Intervals**

| COMPONENT/SYSTEM           | MAINTENANCE PROCEDURE     | REQ'D SKILL LEVEL |
|----------------------------|---------------------------|-------------------|
| <b>Daily or Before Use</b> |                           |                   |
| Air Filter                 | Inspect/Clean *           | 1                 |
| Choke Shutter              | Inspect/Clean *           | 1                 |
| Fuel System                | Inspect <sup>3</sup>      | 1                 |
| Cooling System             | Inspect/Clean             | 2                 |
| Recoil Starter Rope        | Inspect/Clean *           | 1                 |
| Screws/Nuts/Bolts          | Inspect/Tighten/Replace * | 1                 |
| <b>Every Refuel</b>        |                           |                   |

| COMPONENT/SYSTEM                | MAINTENANCE PROCEDURE   | REQ'D SKILL LEVEL |
|---------------------------------|-------------------------|-------------------|
| Fuel System                     | Inspect <sup>3</sup>    | 1                 |
| <b>3 Months</b>                 |                         |                   |
| Air Filter                      | Replace *               | 1                 |
| Fuel Filter                     | Inspect *               | 1                 |
| Fuel Cap Gasket                 | Inspect *               | 1                 |
| Spark Plug                      | Inspect/Clean/Replace * | 1                 |
| Muffler Spark Arrestor          | Inspect/Clean/Replace * | 2                 |
| Cylinder Exhaust Port           | Inspect/Clean/Decarbon  | 2                 |
| Drive Shaft (Flex Cable Models) | Grease <sup>1</sup>     | 2                 |
| Gear Housing                    | Grease <sup>2</sup>     | 2                 |
| <b>Yearly</b>                   |                         |                   |
| Fuel Filter                     | Inspect/Replace *       | 1                 |
| Fuel Cap Gasket                 | Replace *               | 1                 |

**IMPORTANT NOTE** - Time intervals shown are maximum. Actual use and your experience will determine the frequency of required maintenance.

**MAINTENANCE PROCEDURE NOTES:**

1. Apply lithium based grease every 25 hours of use.
2. Apply lithium based grease every 50 hours of use.
3. 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

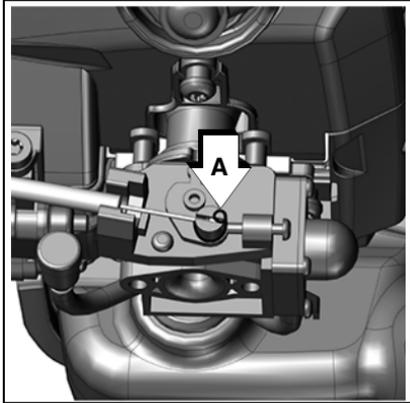
### Level 1

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

**NOTICE**

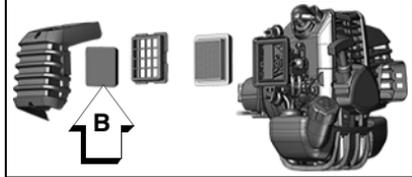
Assure throttle wire retaining clip (A) remains in place as shown when removing or installing air filter cover.



3. Remove foam pre-filter (B) and air filter 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.

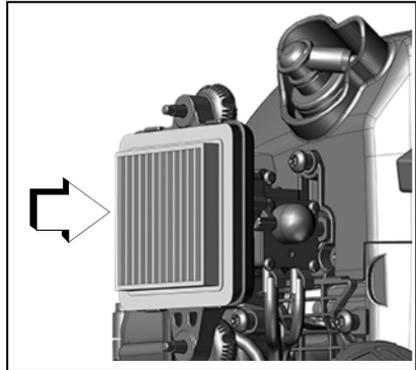


Air Filter

- 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

Assure air filter is assembled with pleats oriented vertically.



ENGLISH

## Fuel Filter

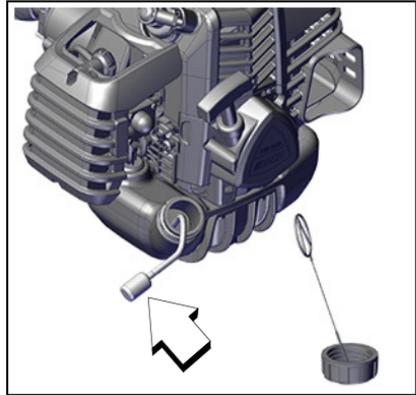
Level 1.

Parts Required: Tune Up Kit.

# DANGER

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

1. Use a clean rag to remove loose dirt from around fuel cap and empty fuel tank.
2. Pull the fuel filter from the fuel tank.



# NOTICE

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

3. Remove the filter from the line and install the new filter.

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**

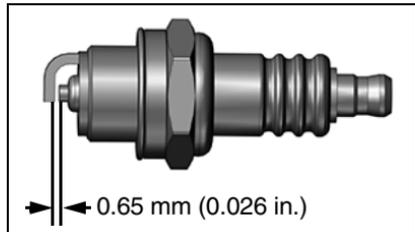
**Level 2.**

Parts Required: Tune Up Kit.

**NOTICE**

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

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



## Cooling System

Level 2.

### NOTICE

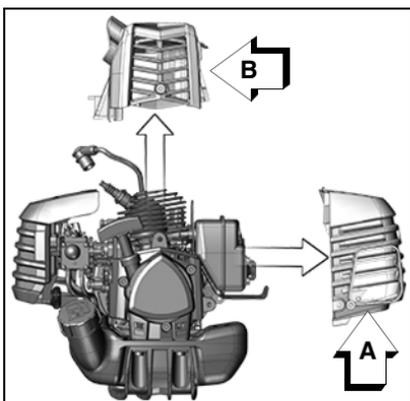
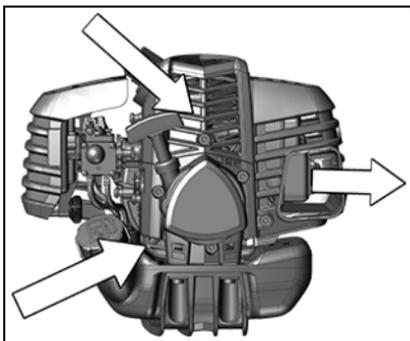
To maintain proper engine operating temperatures, cooling air must pass freely through the cylinder fin area. This flow of air carries combustion heat away from the engine.

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 warranted.

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

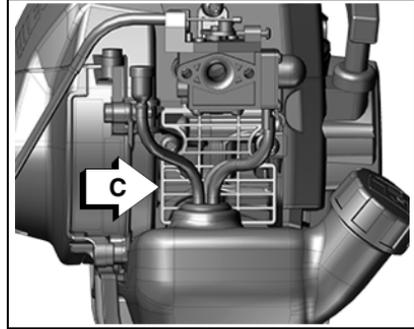


### NOTICE

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

4. Use brush to remove dirt from the cylinder fins.

5. Remove grass and leaves from the grid (C) between the recoil starter and fuel tank.
6. Assemble components in reverse order.



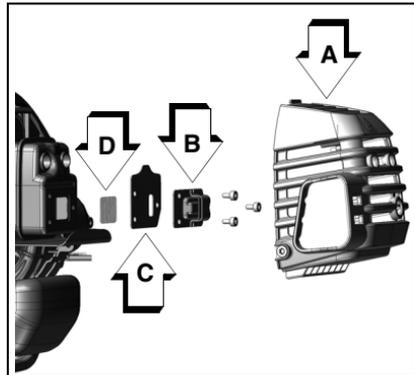
**Exhaust System**

**Spark Arrestor Screen**

**Level 2.**

Parts Required: Spark Arrestor 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 arrestor 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: As needed: Heat Shield

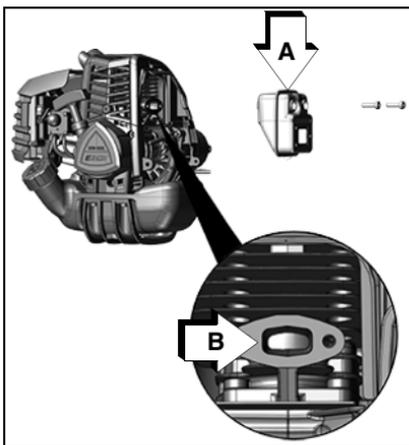
1. Remove spark plug lead from spark plug, and remove muffler cover.
2. Place piston at top dead center. Remove muffler (A).

- Use a wood or plastic scraping tool to clean deposits from cylinder exhaust port (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.*

- Inspect heat shield, and replace if damaged.
- Install heat shield and muffler.
- Tighten muffler mounting bolts (or nuts) to 90-110 kgf•cm (80-95 in•lbf).
- Install muffler cover and attach spark plug lead.
- Start engine, and warm to operating temperature.
- Stop engine, and re-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

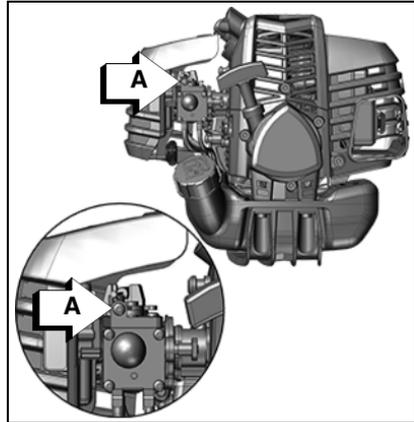
This engine has been factory adjusted to maintain satisfactory starting, and durability performance up to 330 m (1100 ft.) above sea level (ASL) (96.0 kPa). To maintain proper engine operation above 330 m (1100 ft.) ASL the carburetor may need to be adjusted by an authorized service dealer.

## NOTICE

*If the engine is adjusted for operation above 330 m (1100 ft.) ASL, the carburetor must be re-adjusted when operating the engine below 330 m (1100 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.

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.



## Lubrication

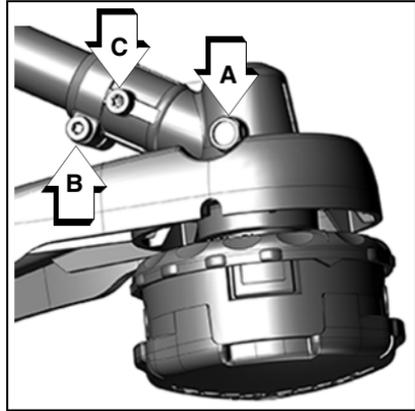
### Level 1.

Parts Required: Lithium Based Grease.

### Gear Housing

1. Clean all loose debris from gear case.

- Remove plug (A) and check level of grease.
- Add grease if necessary. DO NOT over-fill.



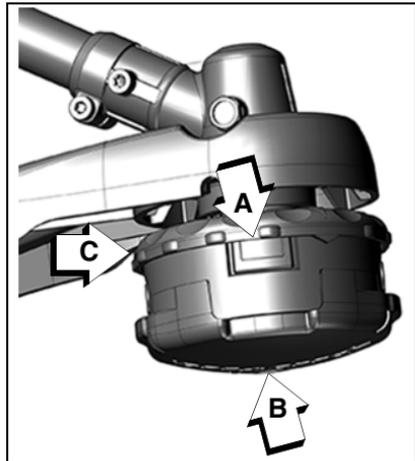
### Drive Shaft

- Loosen screw (B) and remove locating screw (C). Pull gear case and shield from drive shaft housing.
- Pull flexible cable from the drive shaft housing, wipe clean and re-coat with 15 ml (0.5 oz.) of grease.
- Slide the flexible cable back in the drive housing. DO NOT get dirt on the flex cable.
- Install the gear housing and shield assembly.

### Nylon Line Head Disassembly Instructions

Note: For normal use, Speed Feed<sup>®</sup> head disassembly is not necessary. However, if circumstances require disassembly, follow these instructions.

- Press top of locking tabs (A) on both sides of Speed Feed<sup>®</sup> head to release cover (B) from eyelet carrier (C).
- Remove cover from eyelet carrier.



### Nylon Line Replacement

## CAUTION

***Wear gloves or personal injury may result:***

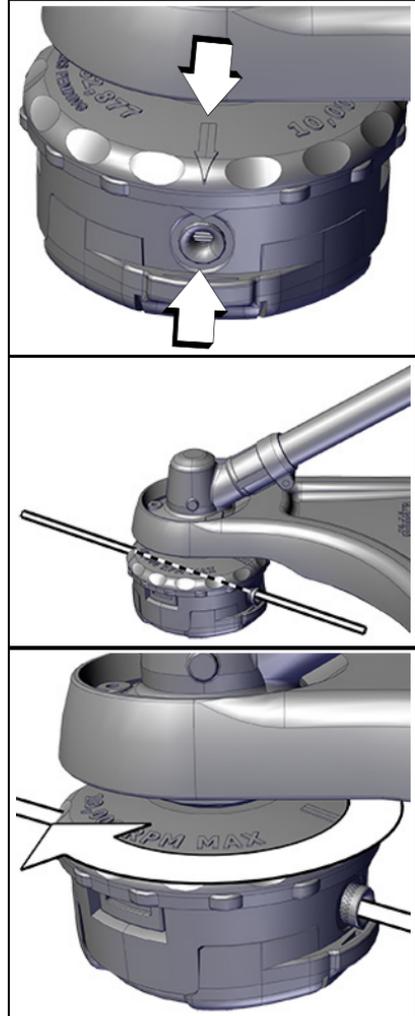
- ◆ ***Cutoff knife is sharp.***

◆ *Gearcase and surrounding area may be hot.*



1. Cut one piece of line to recommended length.  
 2.0 mm (0.080 in.) diameter  
 7.6 m (25 ft.).  
 2.4 mm (0.095 in.) diameter  
 7.6 m (25 ft.).
2. Align arrows on top of knob with openings in eyelets.
3. Insert one end of trimmer line into an eyelet, and push line equal distance through trimmer head.
4. Hold trimmer head while turning knob clockwise to wind line onto spool until about 13 cm (5 in.) of each line remains exposed.

**Trimmer head is now fully loaded and ready for operation.**



**NOTICE**

When the wear indicators located at the bottom of the Speed-Feed® head are worn smooth, or if holes appear, replacement of the cover or the entire Speed-Feed® head is required.



HDFH line head requires no maintenance.

ENGLISH

**TROUBLESHOOTING**

**! DANGER**

*Fuel vapors are extremely flammable and may cause fire and/or explosion. Never test for ignition spark by grounding spark plug near cylinder plug hole, otherwise serious personal injury may 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<br>See your ECHO dealer |

| ENGINE PROBLEM TROUBLESHOOTING CHART                               |                           |                                 |   |  |
|--|---------------------------|---------------------------------|---|--|
| Problem  | Check                     | Status                          | Cause   | Remedy   |
| Engine starts hard<br>or<br>Engine does not start                  | Fuel at cylinder          | No fuel at cylinder             | Carburetor  | See your ECHO dealer   |
|  |                           | Muffler wet with fuel           | Fuel mixture too rich   | OPEN choke<br>Clean or replace air filter<br>Adjust carburetor<br>See your ECHO dealer |
| Engine does not start  | Spark at end of plug wire | No spark                        | Stop switch OFF - Electrical problem - Interlock switch                 | Turn switch to ON<br>See your ECHO dealer  |
|  | Spark at plug             |                                 | Incorrect gap - Covered with carbon - Fouled with fuel - Plug defective | Adjust to 0.65mm (0.026 in.)<br>Clean or replace plug                                  |
| Engine runs, but dies<br>or<br>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 arrestor screen     | Spark arrestor screen plugged   | Normal wear   | Replace  |
| Engine does not crank  | N/A                       |                                 | Internal engine problem   | See your ECHO dealer   |

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## STORAGE

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### **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:

1. Store unit in a dry, dust free place, out of the reach of children.

### **DANGER**

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

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 6-7 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 2-3 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                        | T302   |
|------------------------------|--|
| Length w/o cutter head       | 1808 mm (71.2 in.)   |
| Width                        | 306mm (12.0 in.)   |
| Height                       | 344 mm (13.5 in.)  |
| Weight (dry) w/o cutter head | 5.5 kg (12.1lb.)   |
| Engine Type                  | Air cooled, two-stroke, single cylinder gasoline engine  |
| Bore                         | 36 mm (1.42in.)  |
| Stroke                       | 30 mm (1.18 in.)   |
| Displacement                 | 30.5 cc (1.86 cu. in.)   |
| Exhaust                      | Spark arrestor muffler or spark arrestor muffler with catalyist  |
| Carburetor                   | Diaphragm w/purge pump   |
| Ignition System              | Flywheel magneto, capacitor discharge ignition type  |
| Spark Plug                   | NGK CMR7H Gap 0.6 mm (0.026 in.)   |
| Fuel                         | Mixed (Gasoline and Two-stroke Oil)  |
| Fuel/Oil Ratio               | 50 : 1 SHINDAIWA Red Armor <sup>®</sup> ISO-L-EGD (ISO/CD 13738) and J.A.S.O. M345- <u>FD</u> , two-stroke, air-cooled engine oil.                           |
| 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 E15 or E85. |
| Oil                          | SHINDAIWA Red Armor <sup>®</sup> Premium Universal 2-Stroke Oil  |
| Fuel Tank Capacity           | .71L (24 US fl. oz.)   |
| Starter System               | Automatic Rewind Starter   |
| Clutch                       | Centrifugal Type   |
| Vibration Isolated System    | Rubber cushion on engine mount (heavy duty). Rubber grip on throttle handle.   |
| Operating Rod                | 25.0 mm aluminum Tube  |
| Drive Shaft                  | 6.15 mm flex shaft   |
| Gear Case Ratio              | 1.62   |
| Rotating Direction           | Counterclockwise; viewed from top  |
| Cutter Head                  | Speed Feed <sup>®</sup> 450 LH Nylon line head, Line capacity 6.0 m (20 ft.) or Heavy Duty Fixed Line Head   |

| <b>MODEL</b>                      | <b>T302</b>               |
|-----------------------------------|---------------------------|
| Handle                            | Front - loop, Rear handle |
| Shoulder Harness                  | Optional                  |
| Idle Speed                        | 2,900 RPM                 |
| Clutch Engagement Speed           | 3,700 RPM                 |
| Wide Open Throttle Speed (W.O.T.) | 9,100 RPM                 |

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**PRODUCT REGISTRATION**

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**Thank you for choosing Shindaiwa Power Equipment**

Please go to <http://www.shindaiwa-usa.com> to register your new product on-line. It's **FAST** and **EASY!** NOTE: your information will never be sold or misused by ECHO, Inc. 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 Inc., Product Registration, PO Box 1139, Lake Zurich IL 60047.***



U10015001001 - U10015999999

**shindaiwa<sup>®</sup>**

**ECHO, INCORPORATED**

400 Oakwood Road  
Lake Zurich, IL 60047

**[www.shindaiwa.com](http://www.shindaiwa.com)**