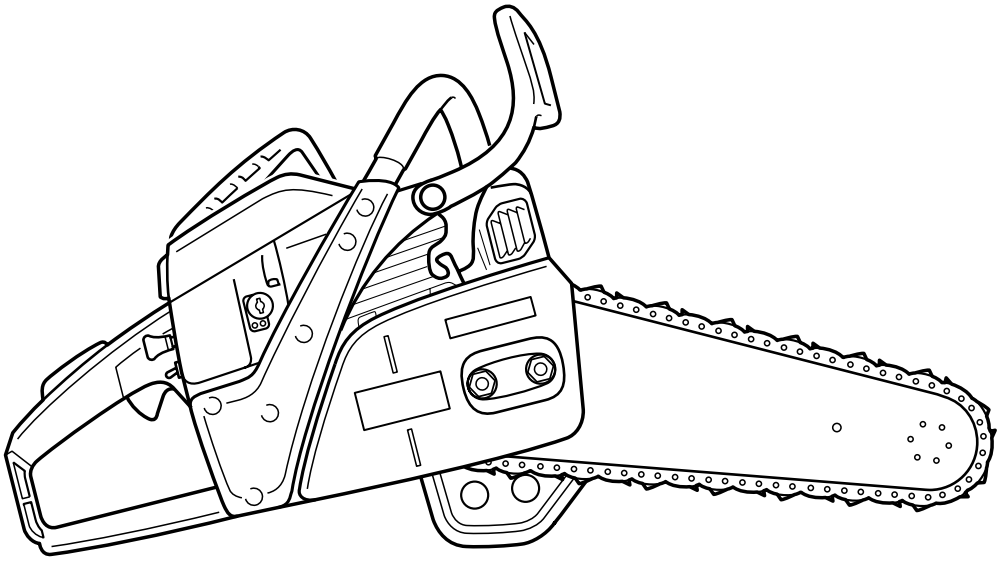


INSTRUCTION MANUAL
QUIKVENT™ SYSTEM

QV-8000
TYPE 1-E

⚠ WARNING

Read the instructions carefully and follow the rules for safe operation.
Failure to do so could result in serious injury.

ECHO, INCORPORATED
400 Oakwood Road, Lake Zurich, Illinois 60047-1564
Phone : 847-540-8400

898 640-596 32
X750 315-130 3
Printed in Japan 0711m 0748 ES

⚠ WARNING ⚠

Some dust created by power sanding, sawing, grinding, drilling, and other construction activities contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:

- **Lead from lead-based paints,**
- **Crystalline silica from bricks and cement and other masonry products, and**
- **Arsenic and chromium from chemically treated lumber.**

Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: work in a well ventilated area, and work with approved safety equipment, such as those dust masks that are specially designed to filter out microscopic particles.

⚠ WARNING ⚠

The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

INTRODUCTION

⚠ DANGER

- **This system is designed for use with a special bar and chain for fire department application. This system should not be used for conventional wood cutting applications.**
- **Review ECHO Safety Chain Saw Manual and note exceptions as listed below.**
- **If the unit is modified for conventional wood cutting operations, read rules for safe operation and instructions carefully in the corresponding CS-8000 TYPE1-E ECHO Chain Saw Instruction Manual and the ECHO Chain Saw Safety Manual. Use only the guide bar and chain combinations listed in the instruction manual with a Kick Guard installed on the guide bar. A free copy of the Chain Saw Safety Manual can be obtained from your ECHO dealer or by writing ECHO, INCORPORATED, 400 Oakwood Road, Lake Zurich, IL 60047-1564.**

The ECHO QuikVent™ System is a chain saw specially designed for use by trained fire fighters to ventilate, trench and breach burning structures. This manual provides the information necessary for operation and maintenance of the saw.

CONTENTS

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.

SYMBOLS AND SIGNS

⚠ 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.

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

⚠ 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.

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

⚠ 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.

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

SAFETY

Read and understand the ECHO chain saw safety manual before using this saw

The Safety Manual available for your QuikVent™ system and this Instruction Manual, covers terminology, safety features, practices and forces at work during cutting.

Follow fire department regulations

1. This manual covers operation and maintenance of the system only.

2. Follow Fire Department regulations on moving the system from the ground to the cutting site, ventilation techniques, etc.

SAFETY

Follow IFSTA practices

Follow safe and effective practices developed by The International Fire Service Training Association (IFSTA) for transport, venting and all other fire fighting techniques.

Follow safety decals

Locate the safety decals on your QuikVent™ system. Make sure the decals are legible and that you understand them and follow them.

Part Number 890191-32632

W A R N I N G ! ! !

This system is capable of severe kickback that could result in serious injury. Read and follow all safety precautions in the instruction and safety manuals. Failure to follow instructions could result in serious personal injury.

For Quickvent System: This system is designed for use with a special bar and chain for fire department applications. The QV bar and chain should not be used for conventional wood cutting applications. Do not operate the system unless you have specialized training in its use for dangerous and hazardous operations. Full fire department turnouts are required when using this system.

For Chain Saw (Woodcutting): Do not operate this chain saw unless you have extra ordinary cutting needs and experience and specialized training for dealing with kickback. ECHO chain saw with significantly reduced kickback potential are available.

TO AVOID KICKBACK

1) Hold the chain saw firmly with both hands,
2) Tip contact is required (for QuickVent applications only) to complete boring operations. Be aware that kockback could occur.

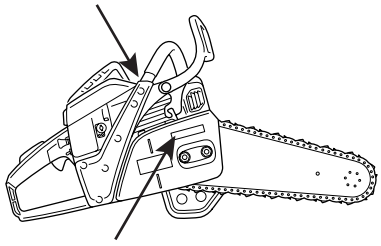
Part Number X505-002040

⚠ WARNING

Chain brake must be unlocked before removing or installing clutch cover. Improper cover installation can result in serious injury and cause severe damage to saw.

El freno de la cadena debe ser bloqueado antes de remover o de instalar la cubierta del embrague. La instalación incorrecta de la cubierta puede dar lugar a lesión seria y causar daño severo a la sierra.

Part Number 890191-32632



Part Number X505-002040

* If a decal cannot be read, a new one can be ordered from your ECHO dealer.

SAFETY

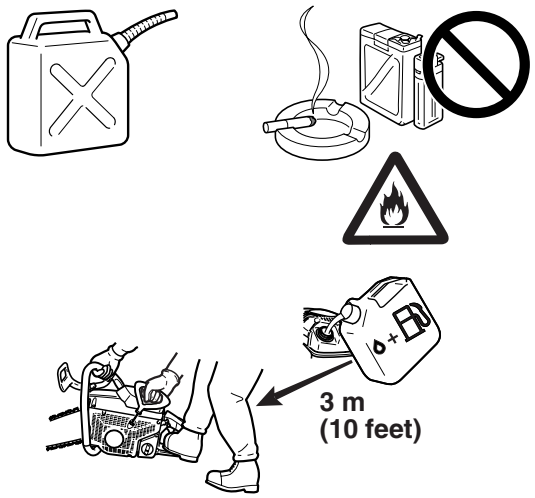
Follow all maintenance procedures

Follow all maintenance procedures outlined in the maintenance section of this manual to ensure that the saw will operate safely and will start and operate when needed.

Handle fuel safely

⚠ DANGER

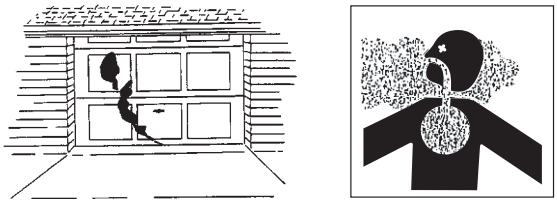
ALWAYS store gasoline in an approved container.
DO NOT smoke while handling gasoline.
ALWAYS stop the engine before refueling.
DO NOT refuel a hot engine. Wait until it cools.
ALWAYS remove the fuel cap slowly in order to relieve any pressure build-up in tank.
DO NOT overfill the tank and always clean up spilled fuel.
After refueling tighten fuel cap firmly and check for leakage. In case of fuel leakage repair before starting operation since there is a danger of fire.
ALWAYS restart the engine at least 3 m (10 feet) away from refueling point.



Avoid carbon monoxide

⚠ CAUTION

DO NOT operate system in a confined area.



Wear protective clothing and equipment

Wear full turn-out gear in accordance with your fire department's regulations.

SAFETY

Keep a safe distance from co-workers

Make sure there is another person nearby when operating the system, but also make sure they are at a safe distance.

Clear work area

Make sure that hazardous debris such as glass or wire is cleared from the area to be ventilated.

Operate safely

AVOID operating the system when you are fatigued.
ALWAYS remains alert when operating the system to avoid possible injury to yourself and others.
DO NOT operate the system while under the influence of alcohol or drugs.

Avoid kickback

⚠ DANGER

KICKBACK may occur when the nose or tip of the guide bar touches an object, or when the material being cut closes in and pinches the saw chain in the cut.
Tip contact in some cases may cause a lightning-fast reverse REACTION, kicking the guide bar up and back towards the operator. Pinching the saw chain along the top of the guide bar may push the guide bar rapidly back towards the operator. Either of these reactions could result in serious personal injury by causing you to lose control of the system. Do not rely exclusively upon the safety devices built into your saw. As a chain saw user, you should take several steps to keep your cutting jobs free from accident or injury.

IMPORTANT

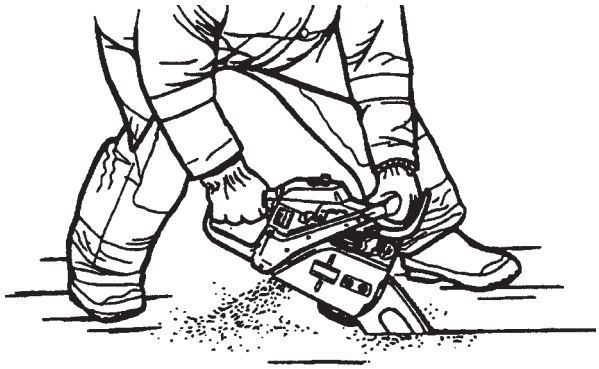
For free copies of the ECHO Chainsaw Safety Manual, contact ECHO Inc., 400 Oakwood Rd., Lake Zurich, Ill. 60047-1564

Use correct technique

⚠ DANGER

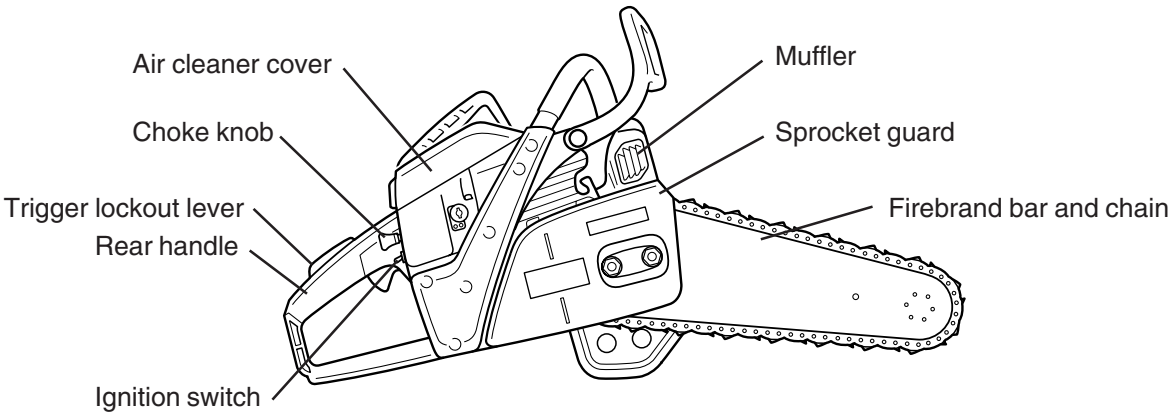
Grasp both handles firmly and bring the saw to full throttle. Using a steady pressure, rock the tip of the saw into the roof surface, using the skid plate as a pivot point between the system and the roof. Keeping the weight of the system against the roof with a firm grip will increase operator comfort and control during this dangerous operation.

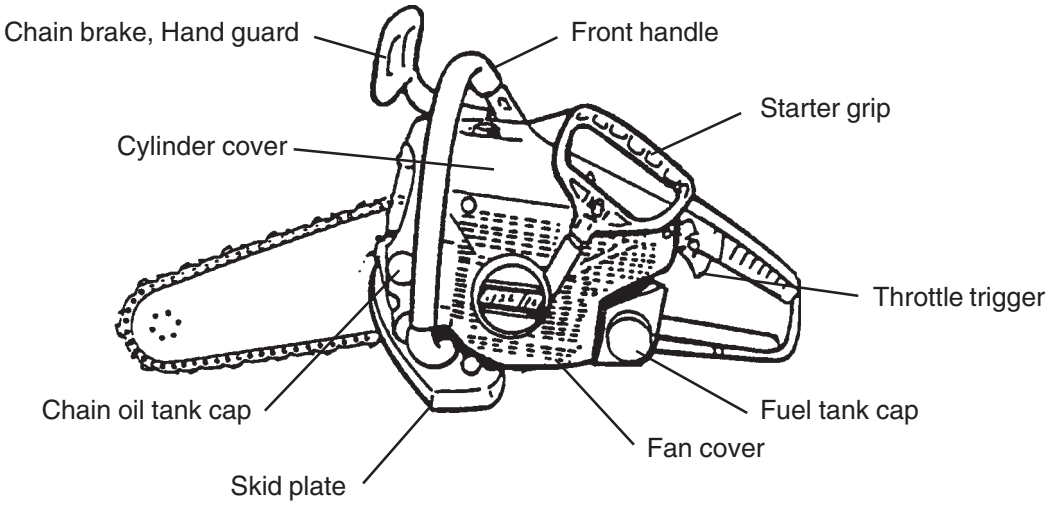
1. With a basic understanding of kickback, you can reduce or eliminate the element of surprise. Sudden surprise contributes to accidents.
2. Keep a good firm grip of the saw with both hands, the right hand on the rear handle, and the left hand on the front handle. When the engine is running, use a firm grip with thumbs and fingers encircling the chain saw handles. A firm grip will help you reduce kickback and maintain control of the saw. Do not let go.
3. Always work upwind.
4. Cut at high engine speeds.
5. Ventilation and breaching use “plunge cutting” which entails boring into a structure. There is always a chance of kickback even when the plunge cut is expertly done.
6. Keep the skid plate touching the cutting surface.
7. Avoid cutting joists.
8. Do not overreach or cut above shoulder height.
9. Follow manufacturer’s sharpening and maintenance instructions for the saw chain.
10. Use only replacement bars and chains specified by ECHO, Inc.



DESCRIPTION

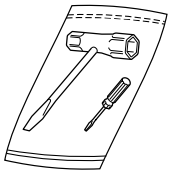
Controls





Packing list

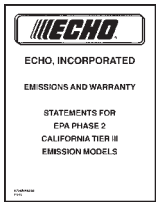
13 x 19 mm T-wrench, Small screwdriver



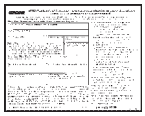
ECHO Power Blend X™ 2-stroke oil sample

Instruction manual

Limited warranty statement



Warranty registration card



OPERATION (Pre-Ventilation Procedures)

Safe starting techniques

⚠ CAUTION

Do not wrap starter rope around your hand or wrist (in case of engine backfire). Pull the handle to crank engine.

1. KNOW HOW TO STOP: Keep hold of the rear handle, but release trigger and flick the switch to "STOP."
2. Hold the saw down securely on a flat surface with bar and chain in the clear. After setting the controls, hold the top of the front handle with your left hand. Slide the toe of your right boot through the rear handle to hold down the rear of the system. Grasp the starter handle with your right hand.

NOTE

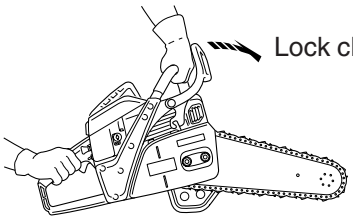
- Use short pulls, 1/2 to 2/3 rope length, when pulling starting rope.
- Do not allow the starter handle to snap back against the housing.
- Always hold the unit firmly.

OPERATION (Pre-Ventilation Procedures)

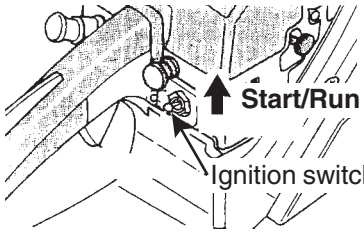
When the engine is cold

⚠ CAUTION
Make sure the bar and chain are free from any obstruction when starting the chain saw.

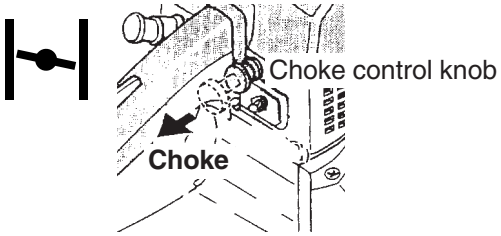
- Move chain brake lever fully forward to lock chain brake before starting.



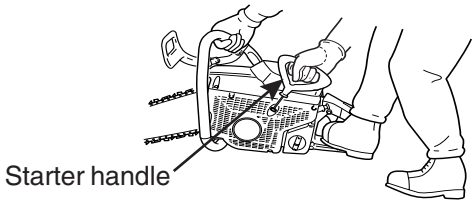
- Fill the fuel tank with fuel mixture.
  It is not permitted to fill fuel above the shoulder level of fuel tank.
- Fill the chain oil tank with lubricant.
  Do not over fill.
- Move ignition switch to “RUN” position.



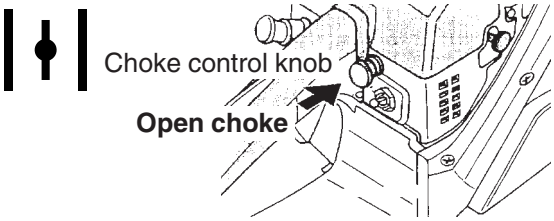
- Pull choke control knob all the way out. (Choke position)



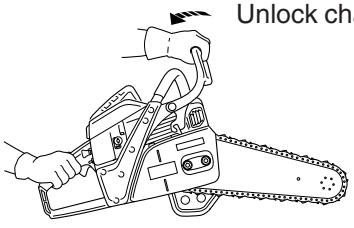
- Securely hold the chain saw as shown and pull starter handle several times until first firing sound.



- Push choke control knob all the way in.
- Pull starter handle to start the engine.



- After starting the engine, pull front hand guard towards the operator immediately. (Chain brake unlocked position)

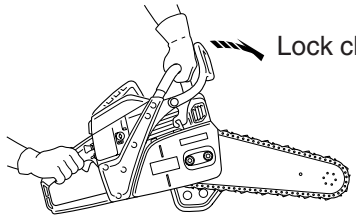


OPERATION (Pre-Ventilation Procedures)

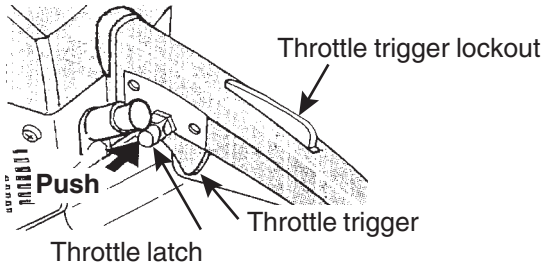
When the engine is hard to start

⚠ CAUTION
Make sure the bar and chain are free from any obstruction when starting the chain saw.

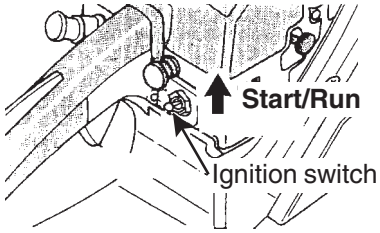
⚠ CAUTION
1. **When using throttle latch for starting, keep the brake in lock position.**
2. **After starting the engine, squeeze throttle trigger slightly to release throttle latch and pull front hand guard towards the operator immediately. (Chain brake unlocked position)**
3. **Do not increase engine speed while chain brake is locked.**
4. **Use the chain brake only in starting or in emergencies.**
5. **Never use throttle latch for cutting. Use it only when starting the engine.**



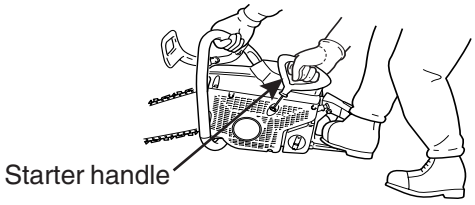
- Move chain brake lever fully forward to lock chain brake before starting.



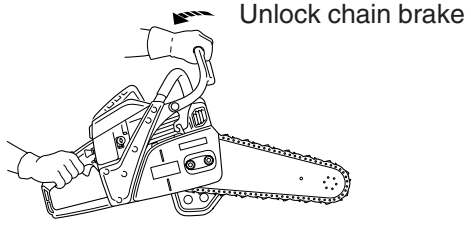
- Press throttle trigger lockout down while grasping throttle trigger and push in throttle latch.



- Move ignition switch to “RUN” position.



- Securely hold the chain saw as shown and pull starter handle.



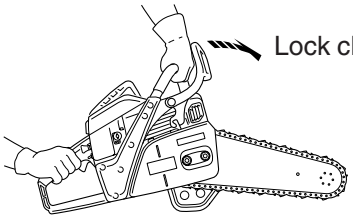
- When engine starts, immediately squeeze throttle trigger, to release throttle latch, and pull front hand guard towards the operator immediately. (Chain brake unlocked position)

OPERATION (Pre-Ventilation Procedures)

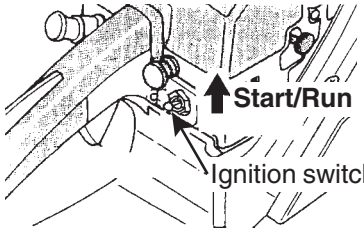
When the engine is warm

⚠ CAUTION
Make sure the bar and chain are free from any obstruction when starting the chain saw.

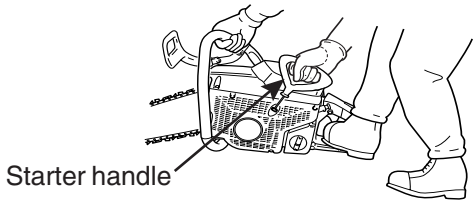
- Move chain brake lever fully forward to lock chain brake before starting.
- Confirm there is fuel and chain oil in the tanks.



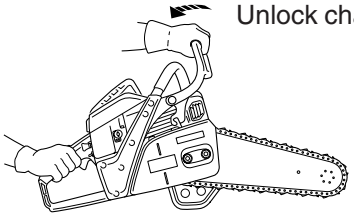
- Move ignition switch to “RUN” position.



- Securely hold the chain saw as shown and pull starter handle.
- Choke may be used if necessary, but be sure to push it back on first firing sound.

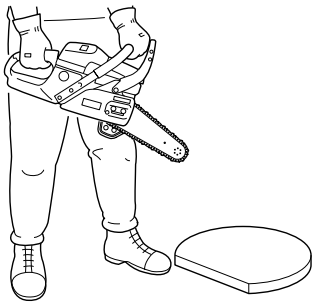


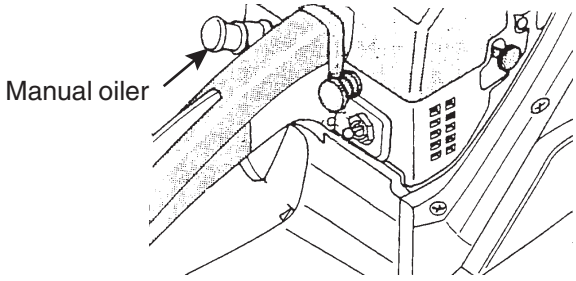
- After starting the engine, pull front hand guard towards the operator immediately. (Chain brake unlocked position)



Running

- When engine starts, keep idling for a few minutes.
- Set the brake lever in the unlocked position before starting to cut.
- Pull throttle trigger gradually and increase revolution of the engine.
- The chain starts running when the engine reaches 3800 r/min approximately.
- Confirm proper acceleration and lubrication of chain and bar.
- Give several strokes to manual oiler button to confirm extra lubrication.
- Do not run the engine at high speed unnecessarily.
- Be sure that saw chain stops moving when throttle trigger is released.



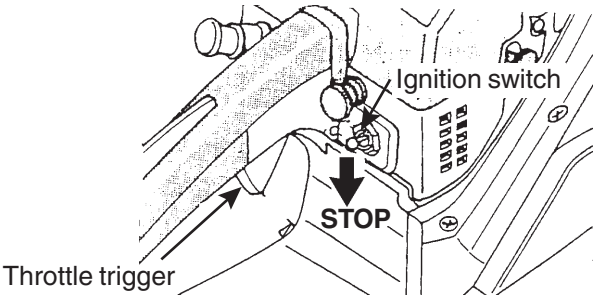


OPERATION (Pre-Ventilation Procedures)

Stopping

• Release throttle trigger and move ignition switch down to “STOP” position.

NOTE
If engine does not stop, pull choke control knob out fully to stop engine.
Return the unit to your authorized ECHO dealer to check and repair stop switch before starting the engine again.



Transporting system

⚠ CAUTION
Follow fire department procedures for transporting power equipment.

Transport system to cutting area with blade to rear.

OPERATION (Pre-Ventilation Procedures)

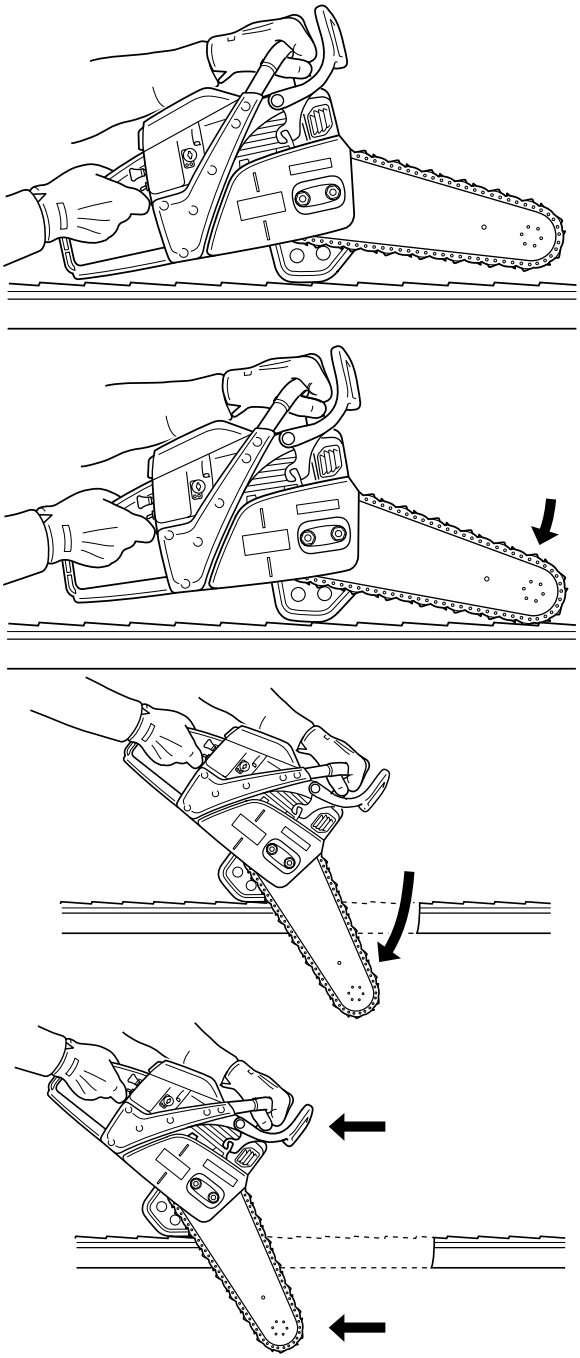
Safe operation tips (Ventilation Procedures)

⚠ DANGER

BORING -Ventilation and breaching uses "plunge cutting" which entails boring into a structure. There is always a chance of kickback even when the plunge cut is expertly done. Keep the skid plate touching the surface. Grasp both handles firmly and bring the saw to full throttle. Using a steady pressure, rock the tip of the saw into the surface using the skid plate as a pivot point between the system and the surface. Keeping the weight of the system against the surface with a firm grip will increase operator comfort and control during this dangerous operation.

CUTTING - After penetration, follow the contour of the skid plate until the bar has reached the approximate angle illustrated at the right. Position the skid plate on the flat surface, maintaining full throttle and steady pressure while keeping the saw on the surface. Pull the saw back, ripping through the surface. Avoid cutting through joists and rafters.

1. Follow all fire department procedures on safe ventilation techniques and on avoidance of cutting near gas and electric services.
2. Keep both hands on handles when engine is running.
3. Always operate the saw at full throttle when making a cut.
4. Always bury the tip of the cutting bar in the cutting surface.
5. Make sure the skid plate is in contact with cutting surface.
6. Avoid cutting above shoulder height and overreaching.



TROUBLESHOOTING

Trouble	Cause	What to do
1. Engine fails to start.	• No fuel in tank. • Fuel filter clogged. • Fuel line clogged. • Spark plug shorted or fouled. • Spark plug broken (cracked porcelain or electrodes broken). • Ignition lead wire shorted, broken or disconnected from spark plug. • Ignition inoperative (no spark from lead wire).	• Fill tank. • Replace filter. • Clean fuel line. • Install new spark plug. • Replace spark plug. • Replace lead wire or attach to spark plug. • Contact your nearest authorized dealer.
2. Engine hard start.	• Water in gasoline or stale fuel mixture. • Too much oil in fuel mixture. • Engine over or under choked. • Carburetor out of adjustment. • Gasket leaks (carburetor or cylinder base gasket). • Weak spark at spark plug.	• Drain entire system and refill with fresh fuel. • Drain and refill with correct mixture. • If flooded by over choking, proceed according to instructions in previous section. If under choked, move choke knob to closed position and crank two or three times. • See “Carburetor adjustment”. • Contact your nearest authorized dealer. • Contact your nearest authorized dealer.
3. Engine misses.	• Dirt in fuel line or carburetor. • Carburetor improperly adjusted. • Spark plug fouled, broken or incorrect gap setting. • Weak or intermittent spark at spark plug.	• Remove and clean. • See “Carburetor adjustment” in maintenance section. • Clean or replace spark plug - set gap to 0.6 - 0.7 mm (0.024 to 0.028 in.). • Contact your nearest authorized dealer.

TROUBLESHOOTING

Trouble	Cause	What to do
4. Engine lacks power.	• Air cleaner clogged. • Carburetor out of adjustment. • Muffler clogged. • Clogged exhaust ports. • Poor compression.	• Clean air cleaner. • See “Carburetor Adjustment”. • Clean carbon from muffler. • Remove muffler, rotate engine until the piston is at bottom of cylinder. With a wooden scraper or blunt tool, remove all carbon from exhaust ports. Be careful not to scratch or damage piston or cylinder walls. Blow out loose carbon with compressed air. Start engine and run briefly to remove all carbon, then install muffler and gasket. • Contact your nearest authorized dealer.
5. Engine overheats.	• Insufficient oil in fuel mixture. • Airflow obstructed.	• Mix fuel as shown in starting instructions. • Clean flywheel and cylinder fins.
6. Engine noisy or knocking.	• Spark plug incorrect heat range. • Worn bearings, piston rings or cylinder walls.	• Replace with plug specified for engine. • Contact your nearest authorized dealer.
7. Engine “stalls” under load.	• Carburetor main adjustment too “lean”. • Engine overheats.	• See “Carburetor adjustment”. • See “Cleaning cylinder fins” in maintenance section.
8. No oil on chain.	• Empty oil tank. • Oil filter clogged. • Automatic oiler output set too low.	• Fill tank. • Replace filter. • Adjust oiler output.
9. Chain brake fails to work.	• Chain brake adjustment.	• Adjust chain brake.
10. Chain binds.	• Chain tension too tight.	• Adjust chain tension.
11. Chain is loose on bar.	• Chain tension is too loose.	• Adjust chain tension.

MAINTENANCE

Maintenance schedule

Required care	After each use	As needed	Weekly	Every 30 days	Page No.
Clean Entire System	*				17
Tighten Nuts and Bolts	*				17
Clean Air Filter	*				17
Inspect Chain	*				—
Sharpen Chain		*			18
Adjust Chain Tension	*				18
Adjust Chain Brake	*				19
Mix Fuel		*			20
Refill Fuel Tank	*				20
Refill Chain Oil Tank	*				21
Adjust Automatic Oiler	*				21
Test Saw	*		*		22
Drain and Replace Fuel				*	22
Replace Fuel Filter		*			22
Replace Oil Filter		*			22
Check Spark Plug		*			23
Inspect Muffler Assembly		*			23
Clean Cylinder Fins		*			23
Guide Bar	*				24
Sprocket	*				24
Rewind Starter		*			24
Carburetor Adjustment		*			25

MAINTENANCE

Clean entire system (After Each Use)

1. Clean bar and chain with a 50 - 50 mixture of kerosene and machine oil.
2. Remove the guide bar and clean the clutch and brake mechanism with a 50 - 50 mixture of kerosene and machine oil.
3. Clean the exterior of the saw with a non-flammable solvent.

Tighten nuts and bolts (After Each Use)

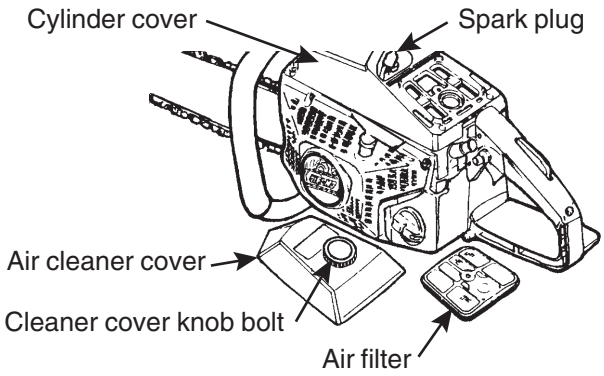
1. Make sure all fasteners on the saw are tight.
2. Replace those found to be faulty.

Clean air filter (After Each Use)

1. Close choke.
2. Loosen thumb bolt and remove air cleaner cover.
3. Remove any loose particles from area.
4. Remove air filter.
5. Carefully brush dirt from filter or clean with a non-flammable solvent if necessary.
6. Install air filter.
7. Install air cleaner cover and tighten thumb bolt.

NOTE

- If air filter is excessively dirty, or no longer fits properly, replace it.
- Allow all parts to air dry.



MAINTENANCE

Sharpen chain (As Needed)

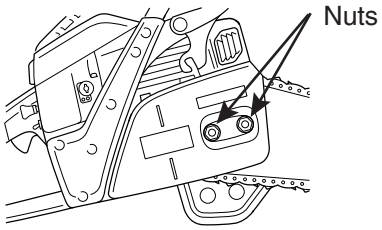
1. Follow instructions included with sharpening kit.
2. Refer to page 26 for ECHO part number.

NOTE
Do not sharpen carbide chain with standard file.

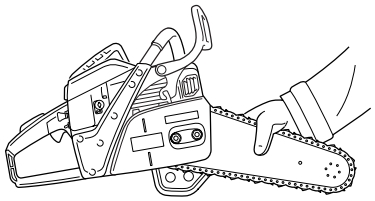
Adjust chain tension (After Each Use)

1. Loosen nuts just enough to allow guide bar to slide when tension screw is turned.

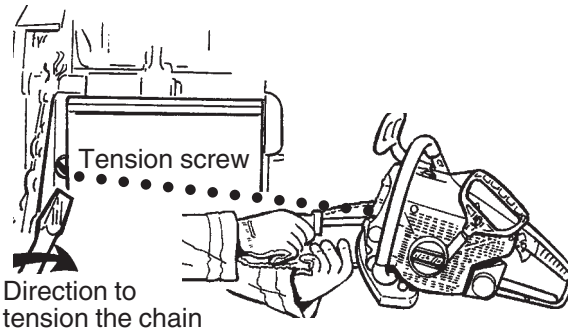
IMPORTANT
Always loosen sprocket guard nuts before turning the chain tension adjuster, otherwise the sprocket guard and tensioner will be damaged.



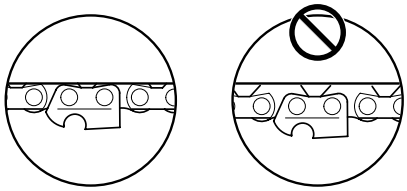
2. Turn tension screw clockwise to take up chain slack.



3. Hold the nose of the bar up with your gloved hand.



4. Gradually turn tension screw clockwise until the drive links are drawn up into the bar.
5. Pull chain along bar with your gloved hand to check for binding.
6. Back off tension screw if necessary.
7. Tighten nuts while holding bar in position.



Proper tension Improper tension

MAINTENANCE

Inspect and adjust chain brake (After Each Use)

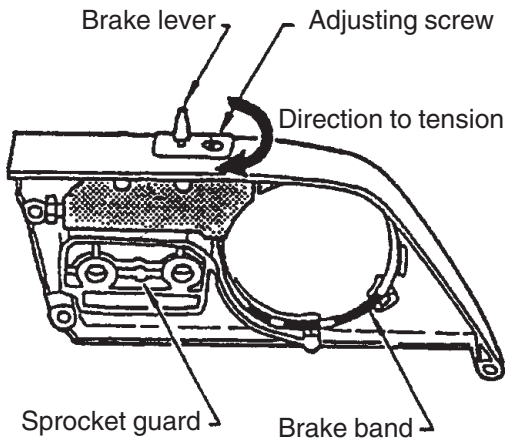
⚠ CAUTION

If proper brake adjustment cannot be obtained, take your unit to your authorized ECHO servicing dealer before further use of system.

NOTE

- Move the chain brake lever (Front hand guard) fully rearward to remove or install the clutch cover to chain saw.
- Clean parts as you remove them.

1. Remove the sprocket guard.
2. Remove the bar and chain.
3. Remove the guide bar plate and cartridge from the sprocket guard.
4. Inspect clutch drum and brake band for wear and replace if necessary.
5. Turn the tension screw clockwise to increase tension or counterclockwise to decrease tension.
6. Reinstall the cartridge and guide bar plate in the sprocket guard.
7. Reinstall bar and chain.
8. Install sprocket guard.
9. Set chain tension. See “Adjust chain tension” in this section.



10. Activate the chain brake with the guard and with a gloved hand try to pull the chain along the top of the guide bar.

WHAT HAPPENED?	WHAT DO YOU DO?
Chain Moves.	Increase Tension.
Chain Does Not Move.	Go to Next Step.

11. Move chain with hand guard in unbraked position.

WHAT HAPPENED?	WHAT DO YOU DO?
Brake Spring Rubs on Drum.	Decrease Tension and Go to next Step.
Chain Rotates Smoothly without Drag.	Go to next Step.

12. Start the engine.
13. Depress throttle fully and activate the brake.

WHAT HAPPENED?	WHAT DO YOU DO?
Chain Slows to a Stop.	Increase Tension.
Brake Spring Rubs on Drum.	Decrease Tension.
Chain Stops Immediately.	Brake is Adjusted Properly.

MAINTENANCE

Mix fuel (As Needed)

⚠ CAUTION
Follow all safety rules in safety section.

- **50 : 1 Mixture**
  Mix one part, "Specially blended ECHO branded 50 : 1 two-stroke engine oil," with 50 parts unleaded gasoline. (minimum octane-89)

Fuel statement

Gasoline - Use 89 Octane [(R+M)/2] gasoline or gasohol known to be good quality. Gasohol may contain maximum 10 % ethyl (grain) alcohol or 15 % MTBE (methyl tertiary-butyl either). Gasohol containing methyl (wood) alcohol is not approved.

Two-stroke oil - ECHO brand premium two-stroke 50 : 1 oil is preferred. Mix oil and gasoline/gasohol according to Instructions on the oil container label.

Mixing instructions

1. Fill an approved fuel container with half of the required amount of gasoline.
2. Add the proper amount of two-stroke oil to gasoline.
3. Close container and shake to mix oil with gasoline.
4. Add remaining gasoline, close fuel container, and remix.
5. Install container cap and wipe up any spilled fuel from container and area.

⚠ WARNING
Alternative fuels, such as E-20 (20 % ethanol), E-85 (85 % ethanol) or any fuels not meeting above requirements are NOT approved for use in ECHO 2-stroke gasoline engines.
Use of 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.
Alternative fuels may also cause premature deterioration of fuel lines, gaskets, carburetor and other engine components.

NOTE
- Use of non-recommended oils or failure to follow mixing instructions voids the warranty.
- Do not mix fuel in engine fuel tank.

Fuel Mix Chart 50 : 1

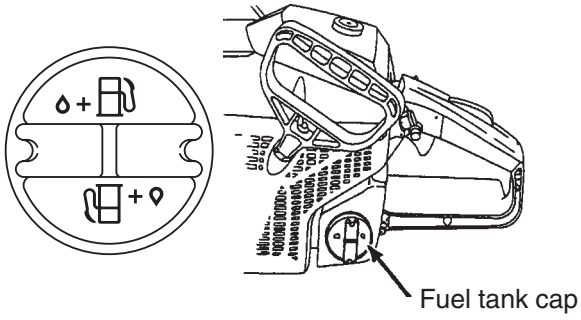
U.S.		METRIC	
Gasoline	Oil	Gasoline	Oil
Gallons	US. fl. oz.	L	mL
1	2.6	4	80
2	5.2	8	160
5	12.8	20	400

Refill fuel tank (After Each Use)

1. Remove fuel tank cap.
2. Pour fuel/oil mixture into fuel tank.
3. Install fuel cap and wipe up any spilled fuel.

Check fuel system
- After refueling, make sure fuel does not leak from around fuel pipe, fuel grommet or fuel tank cap.
- In case of fuel leakage there is a danger of fire. Stop using the machine immediately and request your dealer to inspect or replace.

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



MAINTENANCE

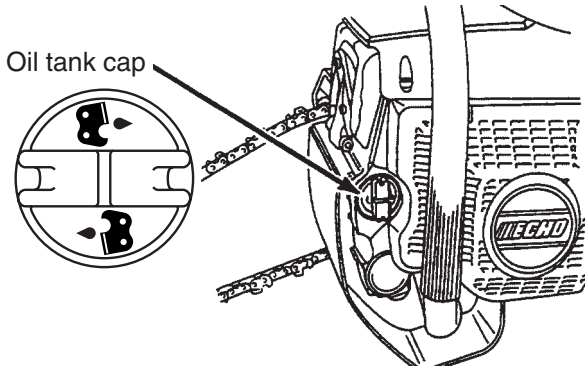
Chain lubricant

Proper lubrication of the chain while in operation reduces the friction to a minimum between the chain and the guide bar, and assures faster cutting and longer bar and chain life.

- The QuikVent™ system should be used only with special ECHO detergent bar and chain oil. Refer to page 26 for accessory part number.
- When refilling fuel mixture, fill up chain oil at the same time.

Refill chain oil tank (After Each Use)

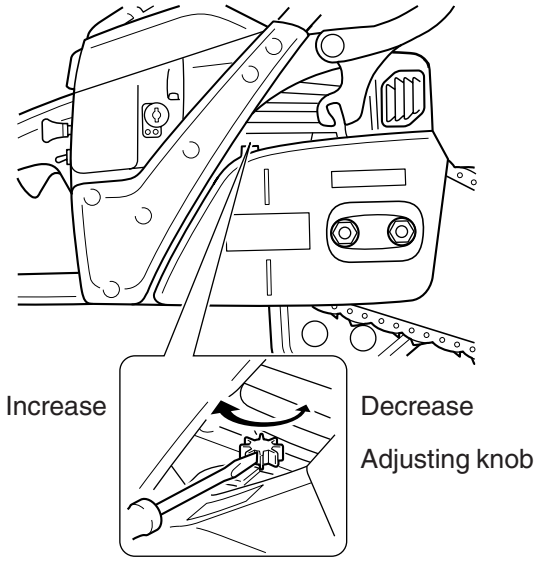
1. Remove oil tank cap.
2. Add oil : **ECHO high detergent oil.**
3. Install oil tank cap.



Adjust automatic oiler (As Needed)

Turn automatic oiler clockwise to increase oil output or counterclockwise to decrease output.

NOTE
If chain runs dry of oil during operation, it is most likely due to a misadjusted automatic oiler.



MAINTENANCE

Test saw (After Each Use/Weekly)

1. Start the engine and make practice cut in a piece of 20 cm (3/4 in.) thick plywood. Make cuts using the ventilating procedure outlined in this manual.
2. Replace faulty parts and make necessary adjustments.

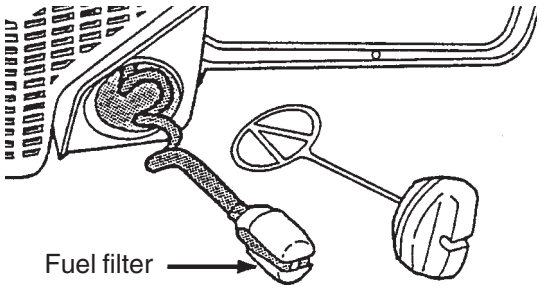
NOTE
For assistance in diagnosing problems, consult the troubleshooting section in this manual.

Drain and replace fuel (Every 30 Days)

NOTE
If the fuel/oil mixture in the fuel tank of the saw has been there for 30 days, it should be dumped and replaced with fresh mixture. See “Refill fuel tank” in this section.

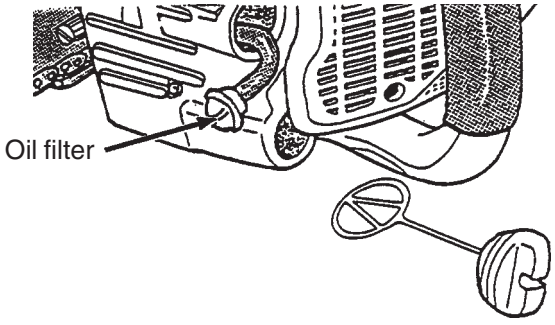
Replace fuel filter (As Needed)

1. Pick up fuel filter through fuel tank opening with a piece of steel wire.
2. Remove filter and install new filter.



Replace oil filter (As Needed)

1. Pick up oil filter through oil tank opening with a piece of steel wire.
2. Remove filter and install new filter.



MAINTENANCE

Check spark plug (As Needed)

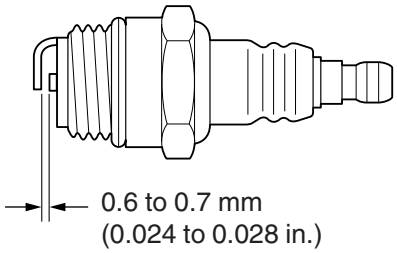
1. Check plug gap.
2. Inspect electrode for wear.
3. Inspect insulator for oil or other deposits.
4. Replace plug if needed and torque to 15 - 17 N•m (130 to 145 in. lb.).

⚠ 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.

NOTE

Proper gap is 0.6 to 0.7 mm (0.024 to 0.028 in.)

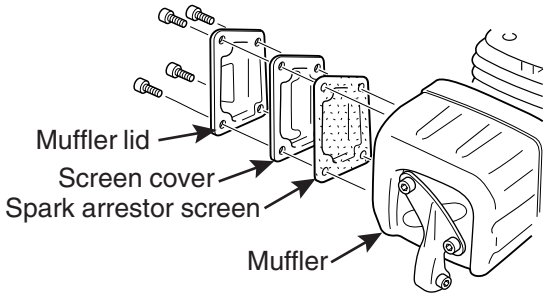


Inspect muffler assembly (As Needed)

- Remove air cleaner cover and remove spark plug lead.
- Remove muffler lid, spark arrestor screen cover and screen from muffler body.
- Clean carbon deposits from muffler components.
- Replace screen if it is cracked, or has holes burned through.
- Assemble components in reverse order.

NOTE

- Carbon deposits in muffler will cause drop in engine output. Spark arrestor screen must be checked periodically.

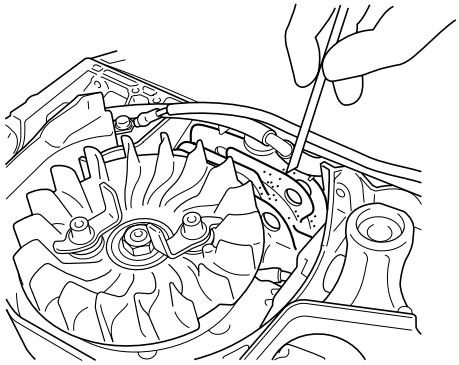


Clean cylinder fins (As Needed)

1. Check periodically.
2. Clogged fins will result in poor engine cooling.
3. Remove dirt and dust from between fins to let cooling air pass easily.

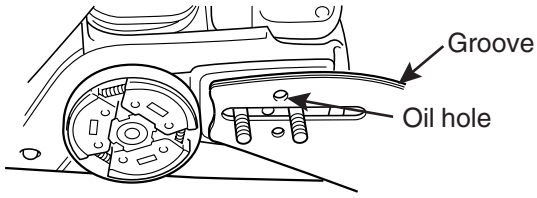
NOTE

Clogged fins will cause poor engine cooling.



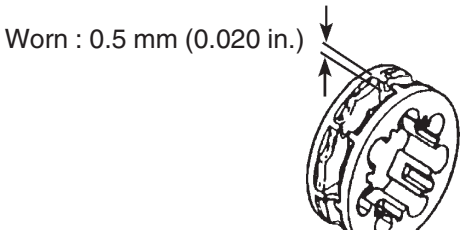
MAINTENANCE

Guide bar (After Each Use)



- Clean the groove of the guide bar with a small screwdriver. Clean oil holes with a wire.
- Check sprocket and the clutch and clean the bar mount area before installation of the bar. Replace either or both if worn.

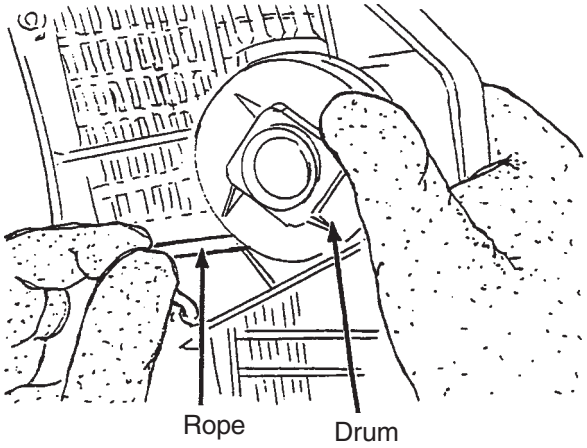
Sprocket (After Each Use)



- A damaged sprocket will cause premature damage or wear of saw chain.
  - When the sprocket has worn out 0.5 mm (0.020 in.) or more, replace it.
- Check sprocket when you install new chain. Replace it if worn.

Rewind starter (As Needed)

NOTE
Do not add more tension than required to draw the handle against the cover, or starter trouble may develop.



1. Remove screws and remove starter assembly from housing.
2. Pull starter rope out 30 to 45 cm (1 to 1½ feet) and prevent drum from rewinding.
3. Grasp the rope between notch and cover and wind both rope and drum one turn clockwise.
4. Hold drum in place and pull rope straight out through hole in cover.
5. Allow starter to rewind.
6. Repeat above process if more tension is needed.
7. Place starter assembly on powerhead and slowly pull the handle until the ratchets engage properly and the fan cover fits flush against the powerhead.
8. Secure starter assembly with screws.

MAINTENANCE

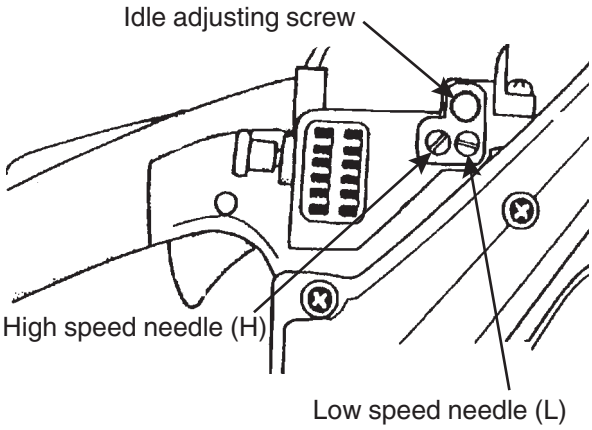
Carburetor adjustment (As Needed)

Every unit is run at the factory and the carburetor is set in compliance with Emission Regulations. In addition, the carburetor is equipped with “H” (High Speed) and “L” (Low Speed) needle adjustment limiters that prevent settings outside acceptable limits.

1. Before adjusting carburetor clean or replace air filter and muffler “Spark Arrestor Screen”.
2. Make sure the bar and chain are properly adjusted.
3. Start engine and run several minutes to bring to operating temperature. Flash choke twice during warm-up to clear any air from the fuel system.
4. Stop engine.
   Turn “H” speed needle counterclockwise (CCW) to stop.
   Turn “L” speed needle midway between full clockwise (CW) stop and CCW stop.
5. Idle Speed Adjustment:
   - Start engine, turn “Idle” speed adjustment screw CW until the saw chain begins to turn, then turn screw out CCW until the saw chain stops turning.
     Turn screw out, CCW, an additional 1/4 turn.
6. Accelerate to full throttle for 2 - 3 seconds to clear any excess fuel in the engine, then return to idle.
   Accelerate engine to full throttle to check for smooth transition from idle to high speed.
   If engine hesitates turn “L” needle CCW 1/8 turn and repeat acceleration.
   Continue adjustment until smooth acceleration results.
7. Check idle speed and reset if necessary as described in item 5. If a tachometer is available idle speed should be set to 2800 - 3000 r/min.

⚠ WARNING
Cutting attachment must not move when unit is idling.

⚠ CAUTION
When starting, idling adjustment speed should be adjusted not to rotate the saw chain. Correct idle speed is adjusted 2800 to 3000 r/min. Or 1/4 turn CCW from the point the chain stops moving.
When you experience trouble with the carburetor, contact your dealer.



MAINTENANCE

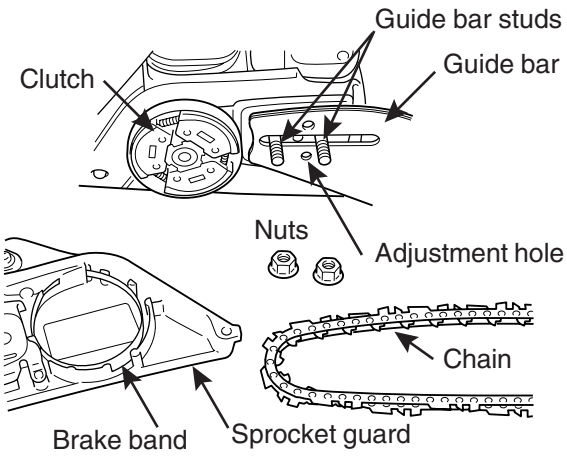
Mounting guide bar and chain

- Remove the sprocket guard with outer side plate, leaving the inner side plate in position.

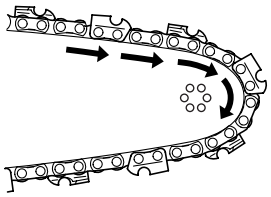
NOTE

1. The inner side plate is fitted with a narrow lubricating oil slot at the top.
2. The guide bar must be installed with the droop pointing down.
3. Ensure that the chain is installed with the cutters directed forward on the top of the bar.
4. Refer to page 18 for proper chain tension.

- Mount the guide bar ensuring that the chain tensioner fits in the hole provided.



- Holding the bar in this position, feed the chain around the sprocket and into the guide bar groove.
- Fit sprocket guard and nuts. Secure the nuts hand tight.



Accessories

- Special Chain Maintenance Kit
  Part No. 999 440 0003 0
  Includes:
  - Bench Grinder
  - Special Diamond Grinding Wheel
  - Depth Gauge Kit
  - Complete Sharpening Instructions
- Special ECHO Detergent Bar and Chain Oil Part No. 36880 (one gallon)
- Special Replacement Bar (12 in. angle bar 0.063 in. gauge) Part No. 359860
- Special Carbide Replacement Chain (3/8 in. pitch 0.063 in. gauge) Part No. 7562505

SPECIFICATIONS

			QV-8000 TYPE1-E
Mass	With bar and chain, full fuel and oil Powerhead only, dry	kg kg	10 (22.0 lb.) 8.3 (18.3 lb.)
Engine	Type Displacement Bore × Stroke Compression ratio Bearings Maximum engine speed Carburetor Starter Power transmission	 mL (cm^3) mm r/min 	Air-cooled two-stroke single cylinder 80.7 (4.92 cu. in.) 52 × 38 (2.05 × 1.50 in.) 7.3 : 1 Heavy-duty, ball bearings on crank shaft, matched caged needles on connecting rod and piston pin. 12500 (no load) Diaphragm type Recoil starter Automatic centrifugal clutch
Ignition system	Type Spark plug Spark plug gap	 mm	Electronic: CDI with SAIS (sloped advance ignition timing) NGK BPM7A 0.6 to 0.7 (0.024 to 0.028 in.)
Fuel and engine lubrication	Gasoline octane rating Mixture ratio Fuel/oil mix Gasoline capacity	 L	Use 89 octane unleaded. Do not use fuel containing methyl alcohol, more than 10 % ethyl alcohol or 15 % MTBE. Do not use alternative fuels such as E-20 or E-85. 50 : 1 ratio with ECHO Power Blend X™, ISO-L-EGD (ISO/CD 13738) and JASO M345-FC/FD two-stroke, air-cooled engine oil. Use an approved type fuel container. Never mix fuel directly in the saw tank. Do not smoke near fuel. Pour half of the gasoline into the container, then all of the oil. Mix thoroughly before adding the remainder of the gasoline. Then mix thoroughly again. Fill the saw tank with fuel and tighten the fuel cap to prevent leakage. Wipe up any spillage. Always move away a safe distance from the fueling site before starting the engine. **NOTE: Use of non-recommended oils or failure to follow above instructions may result in engine malfunction and will void the warranty.** 0.82 (27 US. fl. oz.)
Oil	Bar and chain Tank capacity	 L	ECHO bar and chain oil (or motor oil) 0.4 (13.6 US. fl. oz.)
Guide bar	Length Gauge	mm mm	305 (12 in.) angle bar with industrial sprocket nose 1.6 (0.063 in.)
Sprocket	Rim size	mm	9.53 (3/8 in.) 7 teeth
Saw chain	Papco Firebrand Carbide Chain pitch Drive link gauge Chain speed at 9500 r/min Type Bar lubricant	 mm mm m/s	#75DG-50E, 400-S 9.53 (3/8 in.) 1.6 (0.063 in.) 21.1 (4150 f/m) Automatic/adjustable and manual override Detergent bar oil
Other features			Patented skid/stand for safer operation of equipment, Large starter handle for use with gloves, Chain brake, Anti-vibration system, Throttle safety catch, Front and rear handles, Chain catcher.

* Technical data subject to change without notice.