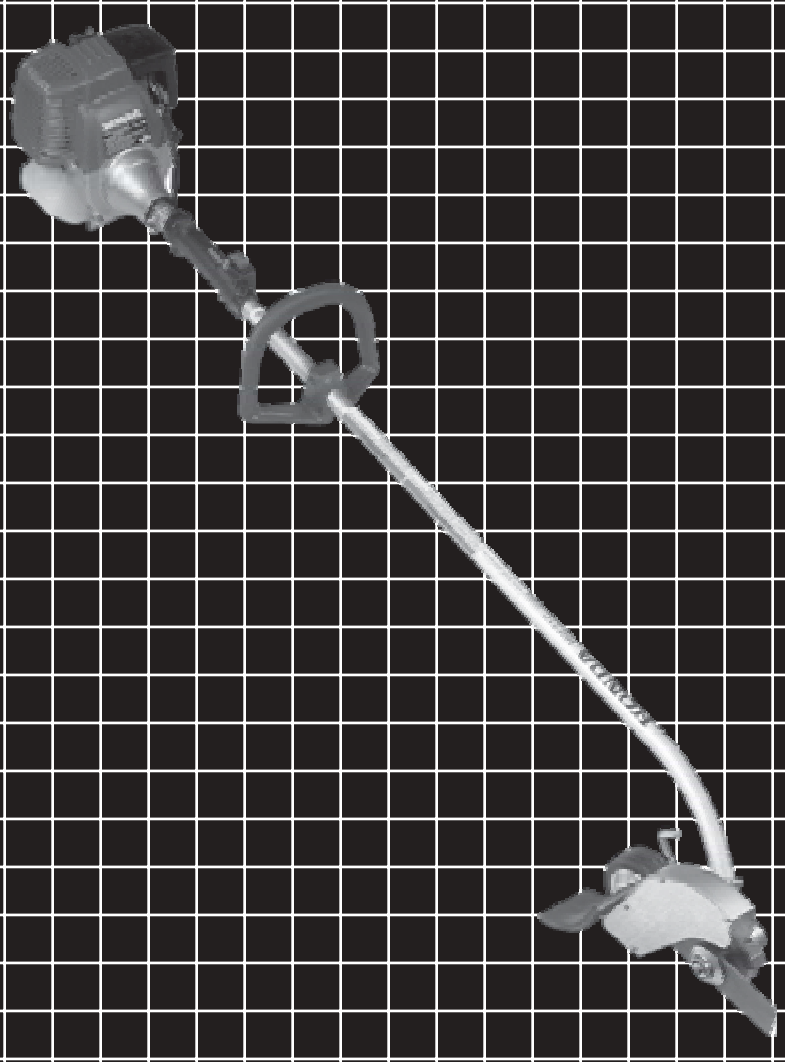
HONDA
Power
Equipment

Owner's Manual
STICK EDGER
HHE31C

Click here to save this manual to your computer.



⚠ WARNING: ⚠

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

Keep this owner's manual handy so you can refer to it at any time. This owner's manual is considered a permanent part of the stick edger and should remain with the stick edger if resold.

INTRODUCTION

Congratulations on your selection of a Honda stick edger. We are certain you will be pleased with your purchase of one of the finest stick edgers on the market.

We want to help you get the best results from your new stick edger and to operate it safely. This manual contains the information on how to do that; please read it carefully.

As you read this manual, you will find information preceded by a **NOTICE** symbol. That information is intended to help you avoid damage to your stick edger, other property, or the environment.

We suggest you read the *Distributor's Limited Warranty* to fully understand its coverage and your responsibilities of ownership. The *Distributor's Limited Warranty* is a separate document that should have been given to you by your dealer.

When your stick edger needs scheduled maintenance, keep in mind that your authorized Honda servicing dealer is specially trained in servicing Honda stick edgers. Your authorized Honda servicing dealer is dedicated to your satisfaction, and will be pleased to answer your questions and concerns.

Best wishes,
American Honda Motor Co., Inc.

INTRODUCTION

A FEW WORDS ABOUT SAFETY

Your safety, and the safety of others, are very important. And using this stick edger safely is an important responsibility.

To help you make informed decisions about safety, we have provided operating procedures and other information on labels and in this manual. This information alerts you to potential hazards that could hurt you or others.

Of course, it is not practical or possible to warn you about all the hazards associated with operating or maintaining a stick edger. You must use your own good judgment.

You will find important safety information in a variety of forms, including:

- **Safety Labels** — on the stick edger.
- **Safety Messages** — preceded by a safety alert symbol ⚠ and one of three signal words, DANGER, WARNING, or CAUTION.

  These signal words mean:

  ⚠ DANGER You WILL be KILLED or SERIOUSLY HURT if you don't follow instructions.

  ⚠ WARNING You CAN be KILLED or SERIOUSLY HURT if you don't follow instructions.

  ⚠ CAUTION You CAN be HURT if you don't follow instructions.

- **Safety Headings** — such as *IMPORTANT SAFETY INFORMATION*.
- **Safety Section** — such as *STICK EDGER SAFETY.*
- **Instructions** — how to use this stick edger correctly and safely.

This entire book is filled with important safety information — please read it carefully.

CONTENTS

STICK EDGER SAFETY

IMPORTANT SAFETY INFORMATION

The Honda HHE31C stick edger is designed to edge grass borders. Other uses can result in injury to the operator or damage to the stick edger and other property.

This Honda stick edger is intended for use by gardening professionals. Never allow children to operate the stick edger.

Most accidents can be prevented if you follow all instructions in this manual and on the stick edger. The most common hazards are discussed below, along with the best way to protect yourself and others.

Always Wear Eye Protection and Protective Clothing

- Stick edgers can throw debris that can cause serious eye damage. Always wear safety glasses or goggles that meet the ANSI Z87.1 rating whenever you use the stick edger.
- The operator must wear hearing protectors when using this stick edger. Hearing protectors will protect the operator's ears from noise damage.
- Wearing protective clothing also reduces the risk and severity of injury from thrown debris or contact with the cutting attachment. Wear gloves, a long-sleeved shirt, long pants, and sturdy boots with nonslip soles.

See page 11 for more information.

Keep Away From Cutting Blade

- A spinning cutting blade can cut through your clothes and skin just as easily as it cuts through grass and dirt. Keep all parts of your body away from a spinning blade.
- Even after the engine has stopped, the blade will spin for several seconds. Do not touch it until it has stopped spinning, or you may get cut.

Turn the Engine Off When Not Edging

- If you stop edging for any reason, even to clean off the blade or shield, always shut off the engine.

Keep People Away From Your Working Area

- To prevent injury to others, keep people at least 50 feet (15 meters) away from the working area during operation.

Read This Manual Before Using the Stick Edger

- Read the manual before operating the stick edger. Understand how to use all the controls and obey all warnings.

Clear the Working Area First

- Objects thrown by the stick edger can cause serious injury. Before operating the stick edger, carefully inspect the area and remove any broken glass, pieces of wire, and other loose objects. Do not use the stick edger on gravel surfaces.

Keep the Stick Edger Properly Maintained

- The blade should be examined for looseness, cracks, broken parts, or excessive wear. Tighten or replace as needed before operating the stick edger.
- Do not operate the stick edger without a debris shield properly installed.

See page 27 for more information.

ATTACHMENTS & MODIFICATIONS

Modifying your stick edger, or installing some non-Honda attachments, can make your stick edger unsafe. Before you make any modifications or install any attachments, be sure to read the following information.

Attachments

Non-Honda attachments are usually designed for universal applications. Although aftermarket attachments may fit on your stick edger, they may not meet factory specifications and could make your stick edger unsafe.

Modifications

Do not remove the debris shield or modify your stick edger in any way that would alter its design or operation. This could make your stick edger unsafe.

IMPORTANT MESSAGE TO EMPLOYERS

As an employer, you have special responsibilities to the people who work for you.

Before you ask anyone to operate this stick edger, you need to determine whether the person is old enough, large enough, and strong enough to safely handle and control the stick edger.

If you decide they are, make sure the employee reads and understands all instructions and warnings in this manual and on the labels before operating the stick edger.

Allow adequate time for hands-on training by a qualified instructor, and personally supervise practice sessions, until you feel sure the employee is ready to operate the stick edger.

Also be sure employees wear proper clothing, eye and hearing protection, and any other gear that may be required by local ordinances or your insurance company.

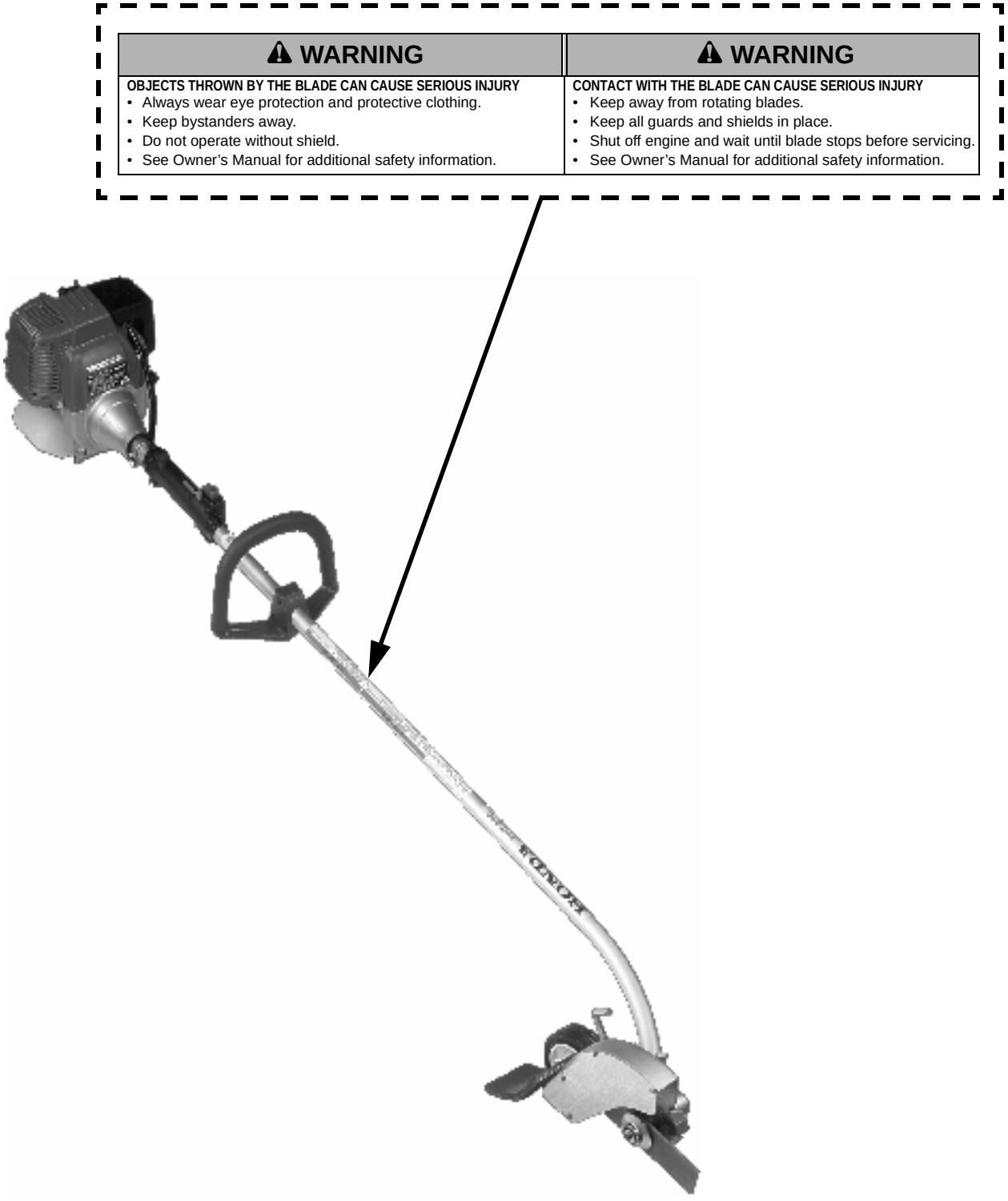
Remember, too, that you are responsible for keeping the stick edger properly maintained and in safe operating condition.

Your commitment to safety on the job can help prevent accidents and result in longer and more productive years of service.

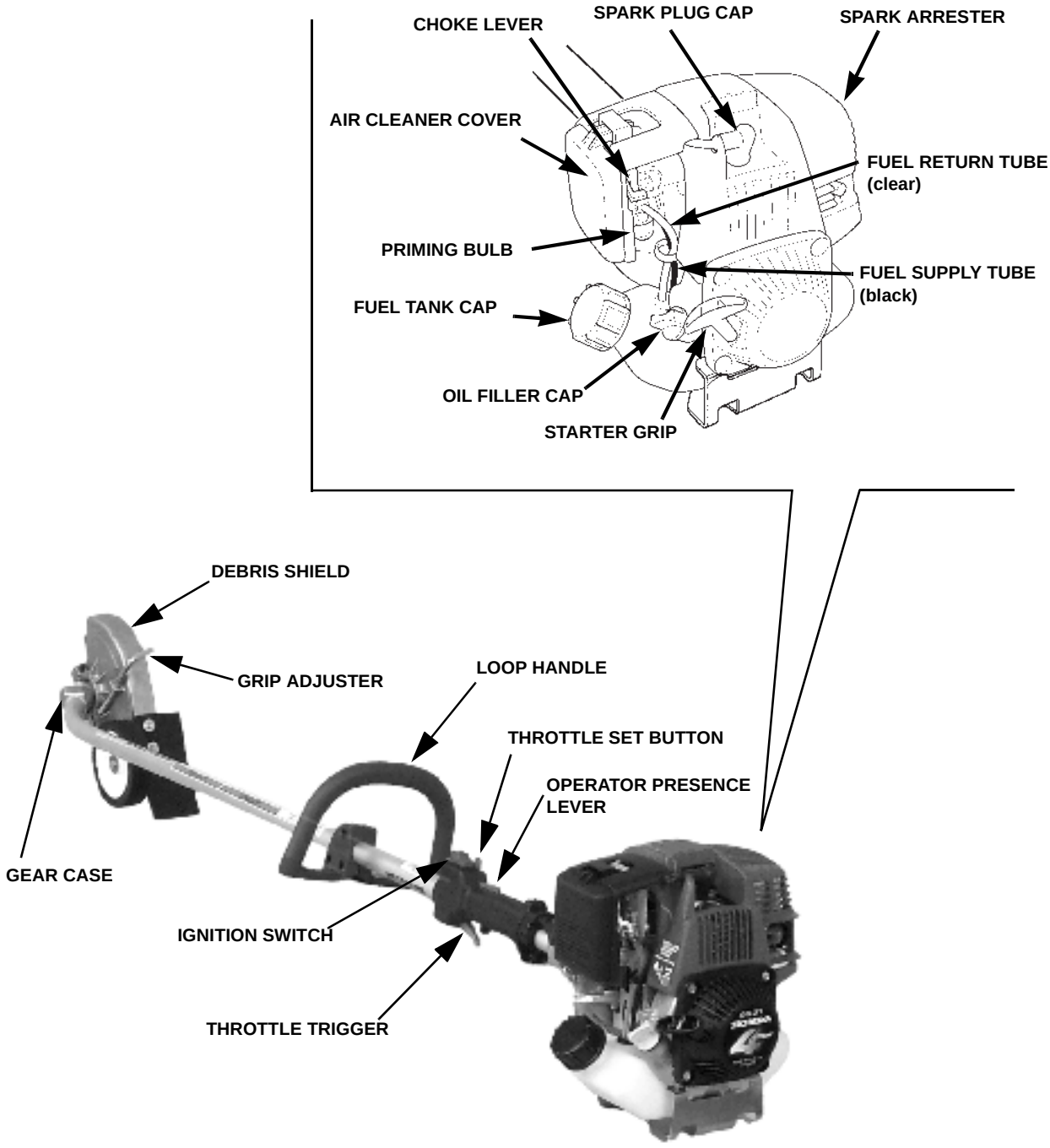
STICK EDGER SAFETY

SAFETY LABEL LOCATIONS

The labels shown here contain important safety information. Please read them carefully. These labels are considered permanent parts of your stick edger. If a label comes off or becomes hard to read, contact an authorized Honda servicing dealer for a replacement.

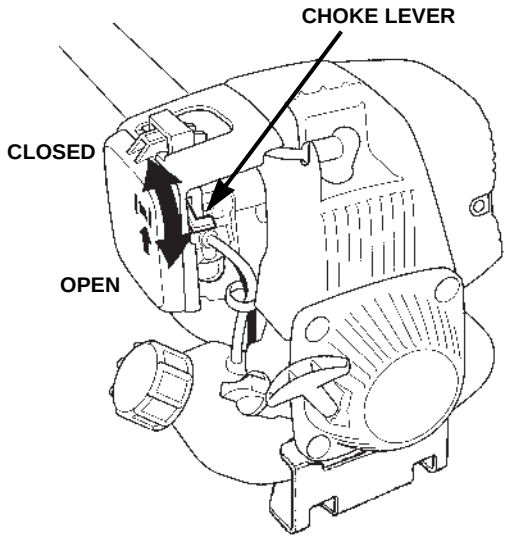


COMPONENT & CONTROL LOCATIONS



CONTROLS

Choke Lever

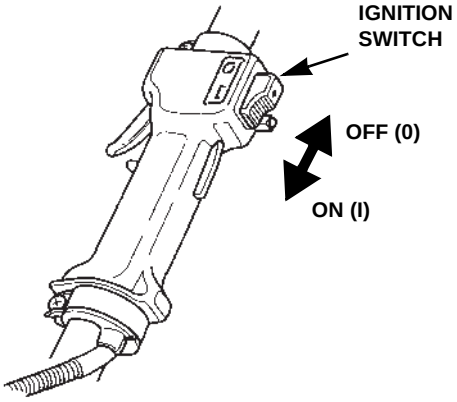


The choke lever opens and closes the choke valve.

The CLOSED position enriches the fuel mixture for starting a cold engine.

The OPEN position provides the correct fuel mixture for operation after starting, and for restarting a warm engine.

Ignition Switch

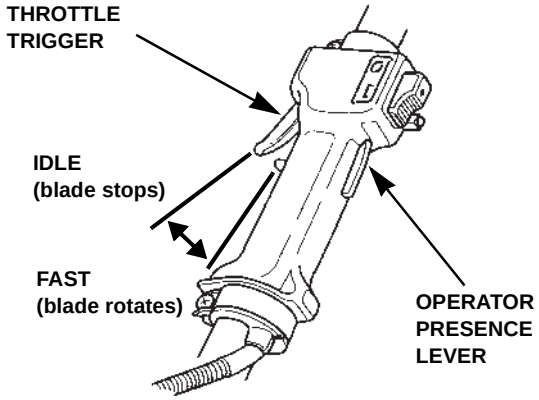


The ignition switch controls the ignition system.

The ignition switch must be in the ON (I) position for the engine to start and run.

Moving the ignition switch to the OFF (0) position stops the engine.

Operator Presence Lever



The operator presence lever blocks the throttle trigger. This safety feature prevents unintentional throttle trigger operation if the stick edger is bumped while the operator's hand is not on the control handle.

When the operator presses the presence lever by gripping the control handle, the trigger moves freely.

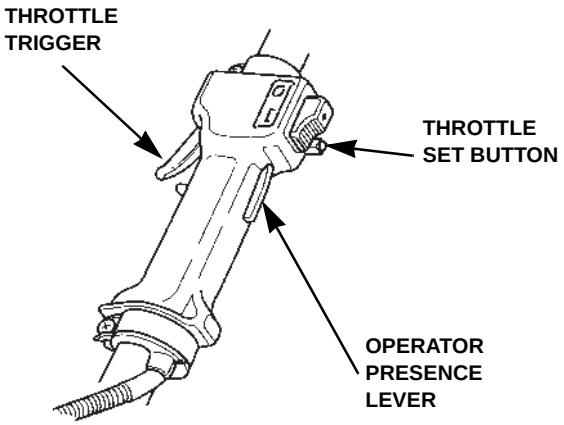
Throttle Trigger

The throttle trigger controls engine speed.

Pulling the throttle trigger toward the control handle grip increases engine speed. The stick edger will have the greatest cutting force at maximum engine speed.

Releasing the throttle trigger reduces engine speed. At idle, the blade should coast to a stop.

Throttle Set Button



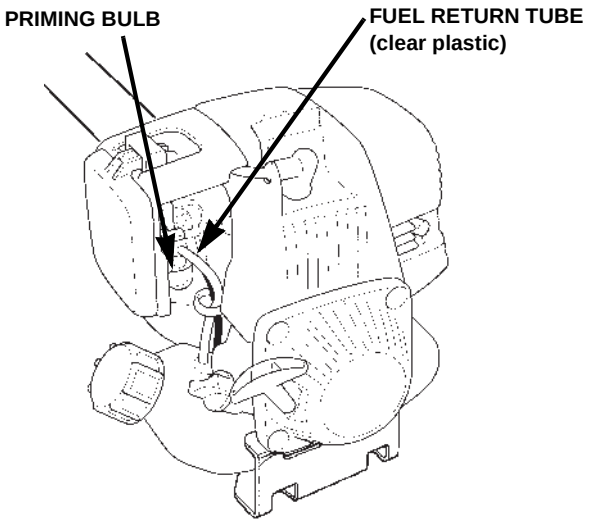
The throttle set button is used to hold the throttle trigger at the fast idle position for starting. Do not allow the blade to contact any obstruction when starting the engine with the throttle set button engaged.

To engage the throttle set button, press the operator presence lever by gripping the control handle, pull the throttle trigger, then press and hold the throttle set button while releasing the throttle trigger.

To disengage the throttle set button, simply pull the throttle trigger. The throttle set button automatically disengages when the throttle trigger is pulled.

Do not use the throttle set button while operating the stick edger. The stick edger will not return to idle, and the blade will continue to spin until the throttle set button is disengaged and the throttle trigger is released.

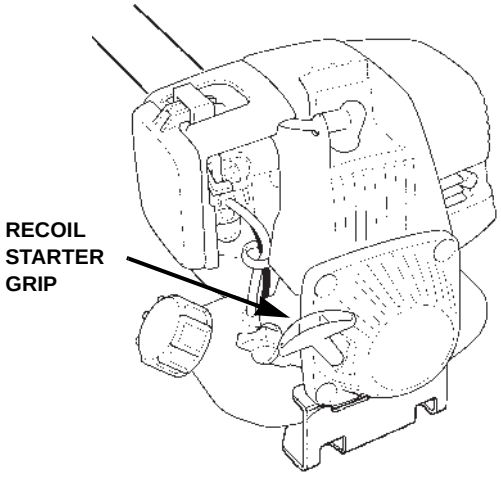
Priming Bulb



Pressing the priming bulb pumps fuel from the fuel tank to the carburetor. This procedure is necessary for starting a cold engine and after refueling an engine that has run out of fuel.

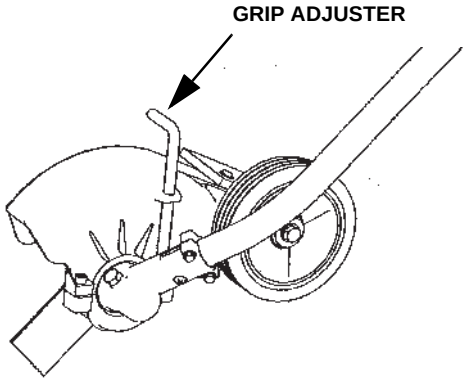
To ensure fuel has reached the carburetor, press the priming bulb repeatedly until fuel can be seen in the clear plastic fuel return tube.

Recoil Starter Grip



Pulling the starter grip operates the recoil starter to crank the engine for starting.

Grip Adjuster



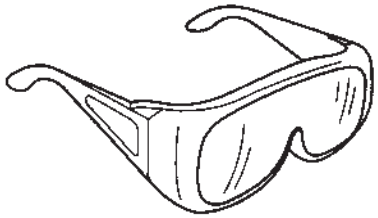
The grip adjuster locks the blade height adjustment. Turning the grip adjuster counter clockwise allows the debris shield/holder-protector to rotate and raise or lower the blade height.

EQUIPMENT

The Honda HHE31C stick edger is supplied with safety glasses. Refer to page 11 for a description of other equipment and protective clothing you will need.

Safety Glasses

SAFETY GLASSES (ANSI Z87.1)



Safety glasses or goggles that comply with ANSI (American National Standards Institute) standard Z87.1 must be worn by the operator of any Honda stick edger. The safety glasses supplied with each new Honda HHE31C stick edger comply with this ANSI standard.

ARE YOU READY TO OPERATE THE STICK EDGER?

Your safety is your responsibility. A little time spent in preparation will significantly reduce your risk of injury.

Knowledge

Read and understand this manual. Know what the controls do and how to operate them.

Familiarize yourself with the stick edger and its operation before you begin to use it. Know what to do in case of emergencies.

Physical and Mental Readiness

You must be alert and in good physical condition to operate the stick edger. Do not operate the stick edger if you are tired, ill, or under the influence of alcohol, medication, or any substance that might impair your vision, dexterity, or judgment.

If you have any physical problem that may be aggravated by strenuous work, consult your physician before operating the stick edger.

Protective Clothing

Wearing protective clothing will reduce your risk of injury. Do not wear loose clothing, jewelry, short pants, sandals, or go barefoot. Secure hair so it is above shoulder level.

Eye, Face, and Head Protection

Always wear safety glasses or goggles that comply with ANSI standard Z87.1 to protect your eyes from thrown objects. Prescription glasses may be worn under the safety glasses or goggles.

A helmet with a face shield is recommended for further protection. However, safety glasses or goggles should always be worn under the face shield. Do not rely on a face shield alone to protect your eyes.

Wearing a dust mask will help to reduce the amount of pollens and dust inhaled.

Hearing Protection

Hearing protectors will help to protect your ears from noise. Earmuff-style hearing protectors can also protect your ears from thrown objects.

Hand and Body Protection

Wear gloves, a long-sleeved shirt, and long pants made of heavy material. Clothing should fit closely but allow freedom of movement, and should have no strings, straps, etc. that could catch on brush or the stick edger. Keep clothing fastened.

Foot Protection

Wear sturdy work boots with good toe protection and nonslip soles.

IS YOUR WORKING AREA READY?

Objects thrown by the stick edger can cause serious injury. Before operating the stick edger, carefully inspect the area and remove all objects that could be thrown by, or entangled in, the cutting blade, such as rocks, broken glass, nails, wire, or string.

Clear the area of children, bystanders, and pets. Keep all children, bystanders, and pets at least 50 feet (15 meters) away from where the stick edger is being operated.

Even outside a 50-foot (15-meter) radius of the stick edger, there may be a risk of injury from thrown objects, so bystanders should be encouraged to wear eye protection.

If anyone approaches you while you are operating the stick edger, release the throttle trigger and stop the engine.

IS YOUR STICK EDGER READY TO GO?

For your safety, and to maximize the service life of your equipment, it is very important to take a few moments before you operate the stick edger to check its condition. Be sure to take care of any problem you find, or have your servicing dealer correct it, before you operate the stick edger.

⚠ WARNING

Improperly maintaining this stick edger, or failing to correct a problem before operation, could cause a malfunction in which you could be seriously injured.

Always perform a preoperation inspection before each operation, and correct any problem.

Safety Inspection

- Look around the engine for signs of oil or gasoline leaks. Wipe up any spills before starting the engine.
- Replace any damaged parts.
- Check that all fasteners are in place and secure. Tighten as necessary.

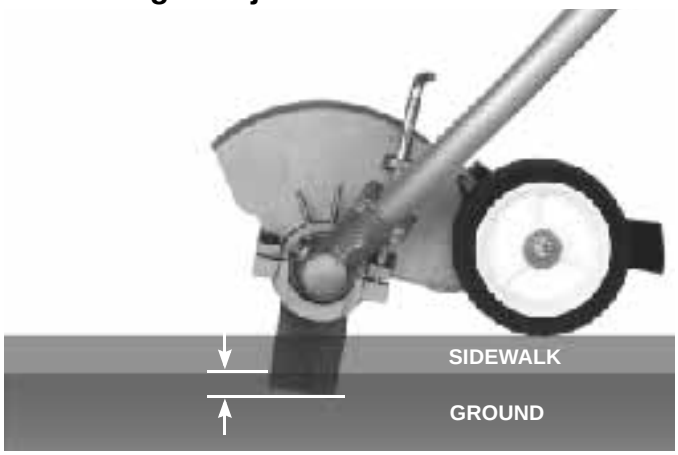
Maintenance Inspection

- Check the oil level (see page 20). Running the engine with a low oil level can cause engine damage.
- Check the air filter (see page 21). A dirty air filter will restrict air flow to the carburetor, reducing engine and stick edger performance.
- Check throttle cable free play (see page 24). The cable must be correctly adjusted and operate smoothly for good throttle control.
- Check the fuel level (see page 25). Starting with a full tank will help to eliminate or reduce operating interruptions for refueling.

Blade Inspection

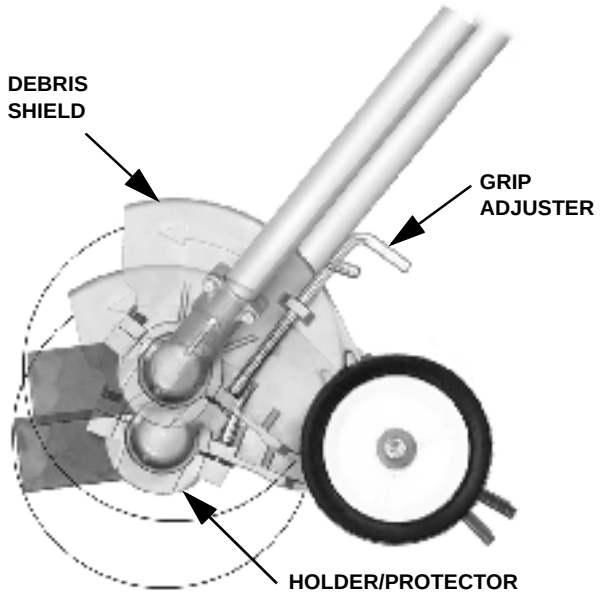
- Look for signs of damage to the blade, wheel and debris shield (see page 27). Replace any parts that are worn out, bent, cracked, chipped, or damaged in any way.
- Make sure the overall length of the cutting blade is at least 5 1/2" (140 mm) (see page 27).
- Make sure the blade is properly installed and securely fastened (see page 27).
- Check that the debris shield is securely installed and in good condition.
- Check that the ground clearance of the holder/protector is at least 1/2" (12 mm) above the ground surface when the stick edger is in the normal operating position (see page 13).

Blade Height Adjustment

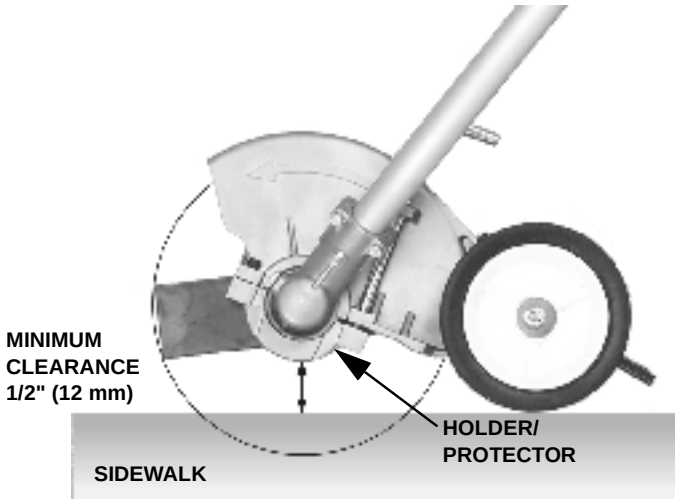


The cut depth varies according to ground conditions. The cutting blade should be adjusted so it just touches the ground or surface of the soil.

1. Move the ignition switch to the OFF (0) position and disconnect the spark plug cap (see page 22).



2. Turn the grip adjuster.
3. While holding the edger in the operating position, rotate the debris shield until the blade is at the appropriate height for the working conditions.



4. The holder/protector must remain at least 1/2" (12 mm) above the sidewalk surface when the stick edger is in the normal operating position.
5. Tighten the grip adjuster.
6. Connect the spark plug cap.

OPERATION

SAFE OPERATING PRECAUTIONS

Before operating the stick edger for the first time, please review the *IMPORTANT SAFETY INFORMATION* on page 4 and *BEFORE OPERATION* on page 11.

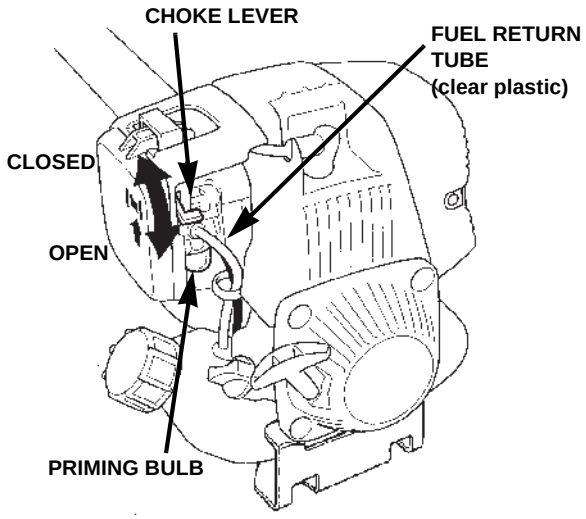
Even if you have operated other stick edgers, take time to become familiar with the operation of this stick edger's controls and handling.

For your safety, avoid starting or operating the engine in an enclosed area, such as a garage. Your engine's exhaust contains poisonous carbon monoxide gas which can collect rapidly in an enclosed area and cause illness or death.

If the stick edger starts to shake or vibrate, stop the engine immediately. After the blade has completely stopped, inspect it to determine the cause of the vibration. Sudden vibration is a sign of a hazardous problem, such as a loose or damaged blade. Do not operate the stick edger until the problem is corrected.

Prolonged exposure to vibration may cause vibration syndrome (Raynaud's disease). Symptoms include loss of skin color in the hands and numbness or a painful tingling sensation in the fingers, hands, and arms. Regular users of any power equipment may feel the numbness or pain spontaneously, at any time, not just after using the equipment. If any of these symptoms occur, see a physician immediately.

STARTING THE ENGINE

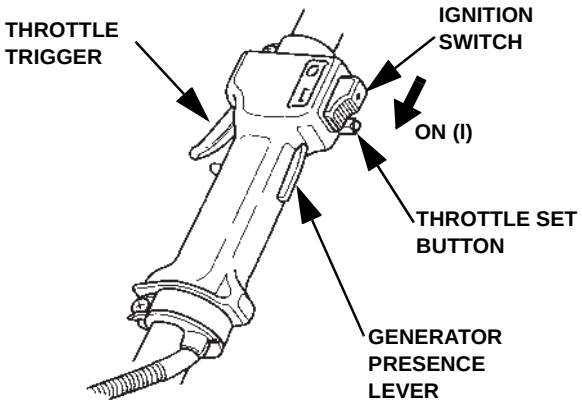


1. To start a cold engine, move the choke lever to the CLOSED position.

   To restart a warm engine, leave the choke lever in the OPEN position.

2. To start a cold engine, or after refueling an engine that has run out of fuel, press the priming bulb repeatedly until fuel can be seen in the clear plastic fuel return tube.

   To restart a warm engine, it is not necessary to press the priming bulb.



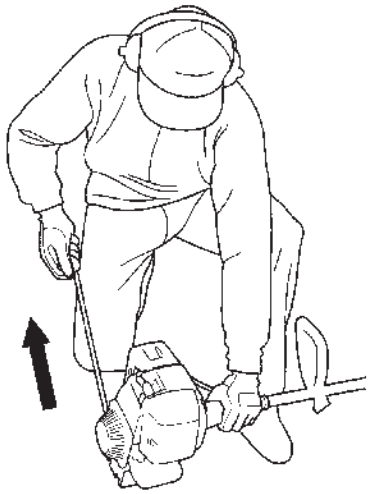
3. Set the throttle trigger in the starting position, using the throttle set button.

   To set the throttle trigger for starting, press the operator presence lever by gripping the control handle, pull the throttle trigger, then press and hold the throttle set button while releasing the throttle trigger.

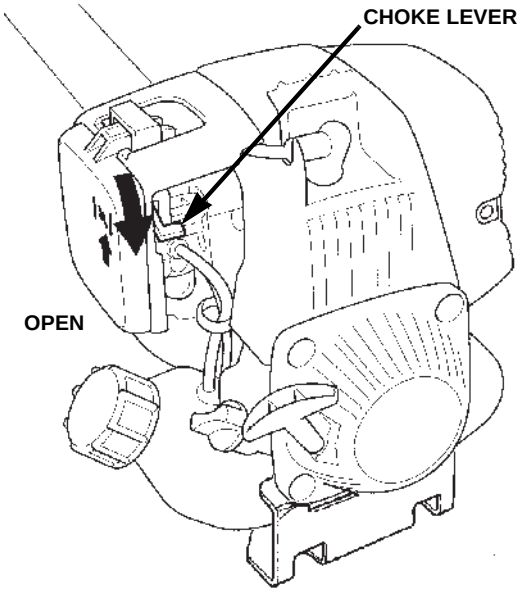
4. Move the ignition switch to the ON position (see page 8).

5. Set the stick edger on the ground, resting on the wheel and the fuel tank guard. Do not allow the blade to contact any obstruction.

   Always rest the stick edger on the ground for starting, rather than holding it in the operating position. This prevents the end of the stick edger from swinging into something as you start the engine.



6. With your left hand, hold the drive shaft housing just ahead of the engine. With your right hand, pull the starter grip lightly until you feel resistance, then pull briskly. Return the starter grip gently.



7. If the choke lever was moved to the CLOSED position to start the engine, gradually move it to the OPEN position as the engine warms up.

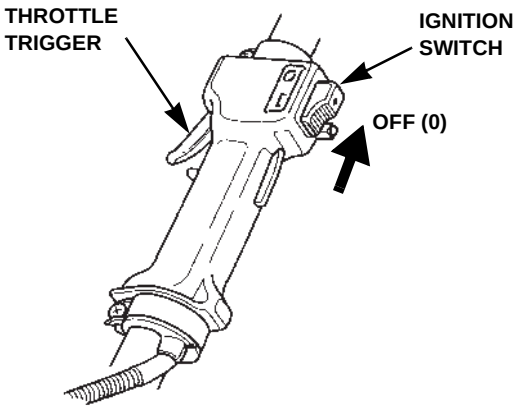
   Allow the engine to warm up for a few minutes after a cold start. When the engine is warm enough to idle well, pull and release the throttle trigger to disengage the throttle set button.

8. Be careful to avoid contact with the blade while handling the stick edger with the engine running.

   The blade should not rotate with the engine idling. If there is rotation at idle, adjust the idle speed correctly before using the stick edger.

   For idle adjustment, consult your authorized Honda servicing dealer.

STOPPING THE ENGINE



1. Release the throttle lever.
2. Lift the blade/wheel up slightly, so it no longer contacts the ground.
3. Move the ignition switch to the OFF (0) position.

   Wait for the blade to stop before allowing the end of the stick edger to contact anything.

⚠ WARNING

The blade will continue to spin briefly after the engine has stopped or the throttle trigger is released.

A coasting blade can cause injury.

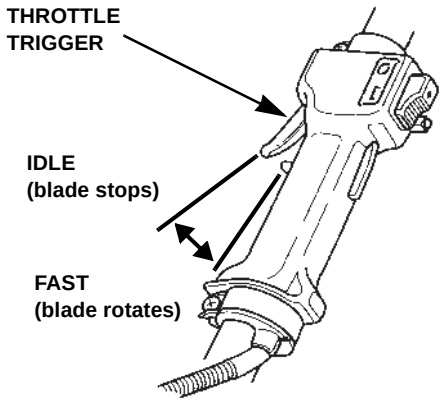
Maintain proper control of the stick edger until the blade has completely stopped rotating.

STICK EDGER OPERATION

Operating Position

- Hold the stick edger firmly with both hands, with your fingers and thumbs encircling the loop handle and throttle grip as shown. This will help you to keep the stick edger under control at all times.
- Always hold the edger on your right side.
- Hold and guide the edger so the blade remains in a vertical position.
- Keep the cutting blade below waist level.
- Keep all parts of your body away from the rotating blade and hot surfaces.

Throttle Operation



Pull the throttle trigger toward the grip to increase engine speed and start the blade rotation.

The stick edger has the greatest cutting force at maximum engine speed.

Release the throttle trigger to reduce engine speed. At idle, the cutting blade should coast to a stop.

Blade Operation

If the stick edger starts to vibrate after the blade strikes an object, stop the engine immediately and check the blade for damage. A damaged blade may break, and pieces of a broken blade can become dangerous projectiles. Replace the blade if it is broken, cracked, bent, or damaged in any way.

SAFE OPERATING PRACTICES

Be very careful when operating the stick edger when the ground is wet and slippery. Operate the stick edger only under conditions with good visibility. Do not operate the stick edger where you cannot see the edge it is cutting.

⚠ WARNING

A rotating blade can cut deeply.

Keep away from the blade whenever the engine is running.

Always stop the engine and be sure the blade has stopped turning, before inspecting or handling the blade.

OPERATING TIPS

Edging

Plan to edge regularly, in order to maintain a neat edge, with a single pass.

If the ground is dry and hard, water the area before edging.

Plan your work so the edger is always held on your right hand side.

When starting to edge, position the edger over the area to edge. With the edger running at about 1/2 throttle, slowly lower the blade to the ground, while increasing the throttle to full speed. Be careful not to strike the concrete.

Cut at a normal walking speed. If the engine begins to bog down, slow your walking pace down to maintain full throttle.

Do not position the cutting blade above waist level during operation, such as along a wall or raised surface, because that would increase the risk of thrown objects striking your face.

Operation on Slopes

When possible, start on the low side of a slope and work upward. This will reduce your risk of slipping and falling.

SERVICING YOUR HONDA STICK EDGER

THE IMPORTANCE OF MAINTENANCE

Good maintenance is essential for safe, economical, and trouble-free operation. It will also help reduce air pollution.

⚠ WARNING

Improperly maintaining this stick edger, or failure to correct a problem before operation, can cause a malfunction in which you can be seriously hurt or killed.

Always follow the inspection and maintenance recommendations and schedules in this owner's manual.

To help you properly care for your stick edger, the following pages include a maintenance schedule, routine inspection procedures, and simple maintenance procedures using basic hand tools. Other service tasks that are more difficult, or require special tools, are best handled by professionals and are normally performed by a Honda technician or other qualified mechanic.

The maintenance schedule applies to normal operating conditions. If you operate your stick edger under severe conditions, such as sustained high-load or high-temperature operation, or use it in unusually wet or dusty conditions, consult your authorized Honda servicing dealer for recommendations applicable to your individual needs and use.

Remember that your authorized Honda servicing dealer knows your stick edger best and is fully equipped to maintain and repair it.

To ensure the best quality and reliability, use only new, genuine Honda parts or their equivalents for repair and replacement.

Maintenance, replacement, or repair of the emission control devices and systems may be performed by any engine repair establishment or individual, using parts that are "certified" to EPA standards.

MAINTENANCE SAFETY

Some of the most important safety precautions follow. However, we cannot warn you of every conceivable hazard that can arise in performing maintenance. Only you can decide whether or not you should perform a given task.

⚠ WARNING

Failure to properly follow maintenance instructions and precautions can cause you to be seriously hurt or killed.

Always follow the procedures and precautions in the owner's manual.

Safety Precautions

- Make sure the engine is off before you begin any maintenance or repairs. This will eliminate several potential hazards:
  - — **Carbon monoxide poisoning from engine exhaust**
    Be sure there is adequate ventilation whenever you operate the engine.
  - — **Burns from hot parts**
    Let the engine and exhaust system cool before touching.
  - — **Injury from moving parts**
    Do not run the engine unless instructed to do so.
- Read the instructions before you begin, and make sure you have the tools and skills required.
- To reduce the possibility of fire or explosion, be careful when working around gasoline. Use only a nonflammable solvent, not gasoline, to clean parts. Keep cigarettes, sparks, and flames away from all fuel-related parts.

MAINTENANCE SCHEDULE

REGULAR SERVICE PERIOD (3) **ITEM** Perform at every indicated month or operating hour interval, whichever comes first.		Before each use	First month or 10 hrs.	Every 3 months or 25 hrs.	Every 6 months or 50 hrs.	Every year or 100 hrs.	Every 2 years or 200 hrs.	Refer to Page number
Engine oil	Check	O						20
	Change		O		O			20
Air filter	Check	O						21
	Clean			O(1)				21
Spark plug	Check-clean					O		22
	Replace						O	22
Spark arrester	Clean					O		23
Engine cooling fins	Check				O			24
Throttle cable	Check	O						24
Fuel filter	Check					O		26
Fuel tank	Clean					O		26
Fuel tubes	Check	Every two years (replace if necessary (2))						26
Cutting blade	Check	O						27
Gear case	Lubricate				O(2)			30
Drive shaft	Check-lubricate				O(2)			30
Grass deflector	Check	O						—
Holder/protector	Check	O						—
Nuts, bolts, fasteners	Check-Retighten if necessary	O						—
Idle speed	Check-adjust					O(2)		—
Valve clearance	Check-adjust						O(2)	—
Clutch shoes and drum	Check				O(2)			—

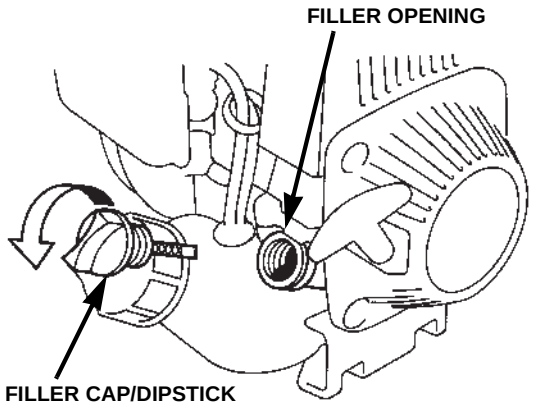
(1) Service more frequently when used in dusty areas.

(2) These items should be serviced by an authorized Honda servicing dealer, unless you have the proper tools and are mechanically proficient. Refer to the Honda shop manual for service procedures.

(3) Log hours of operation to determine proper maintenance intervals.

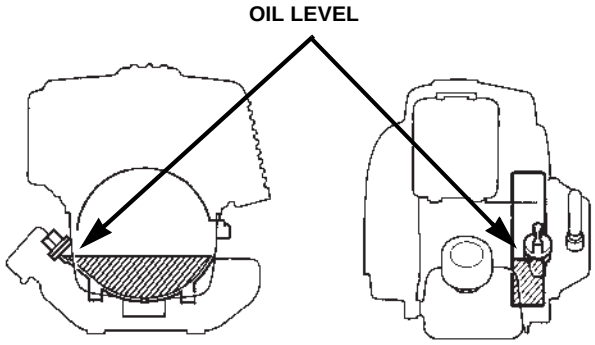
ENGINE

Engine Oil Level Check



Check the engine oil level before each use, or every 10 hours if operated continuously. Rest the stick edger on a level surface, with the engine stopped and in an upright position.

1. Remove the filler cap/dipstick and wipe it clean.
2. Insert and remove the dipstick without screwing it into the filler opening. Check the oil level shown on the dipstick.



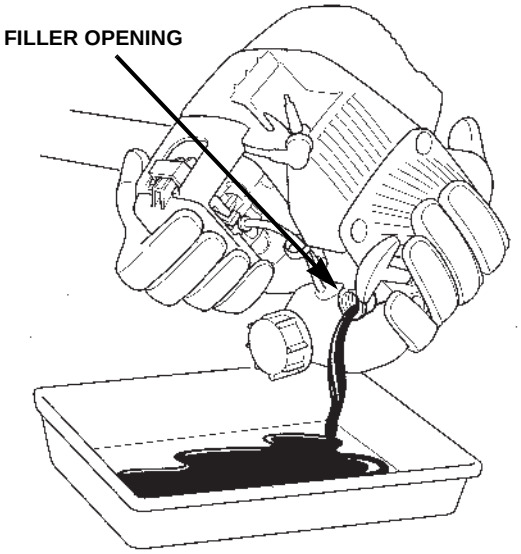
3. If the oil level is low, fill to the edge of the oil filler hole with the recommended oil (see page 21). To avoid overfilling or underfilling, be sure the engine is in a level position, as shown.

   NOTICE

   Running the engine with too little or too much oil can cause engine damage.

4. Tighten the oil filler cap/dipstick securely.

Engine Oil Change



Drain the used oil while the engine is warm. Warm oil drains quickly and completely.

1. Place a suitable container below the engine to catch the used oil, then remove the filler cap/dipstick and drain the used oil through the filler opening. Allow the used oil to drain completely.

   NOTICE

   Improper disposal of engine oil can be harmful to the environment. If you change your own oil, please dispose of the used oil properly. Put it in a sealed container, and take it to a recycling center. Do not discard it in a trash bin or dump it on the ground.

2. With the engine in an upright position, fill to the edge of the oil filler hole with the recommended oil (see page 21).

   Engine oil capacity: 3.38 fl oz (0.11US qt, 100 cc)

3. Tighten the oil filler cap/dipstick securely.

Engine Oil Recommendations

Oil is a major factor affecting performance and service life. Use 4-stroke automotive detergent oil.

SAE 10W-30 is recommended for all temperatures within the recommended operating range for these stick edgers. The recommended operating range extends from 23°F (-5°C) to 104°F (40°C).

The SAE oil viscosity and service classification are on the API label on the oil container. Honda recommends that you use API SERVICE category SH or SJ oil.

Air Filter

Inspection

Squeeze the air cleaner latch tabs, and remove the air cleaner cover. Check the filter to be sure it is clean and in good condition.

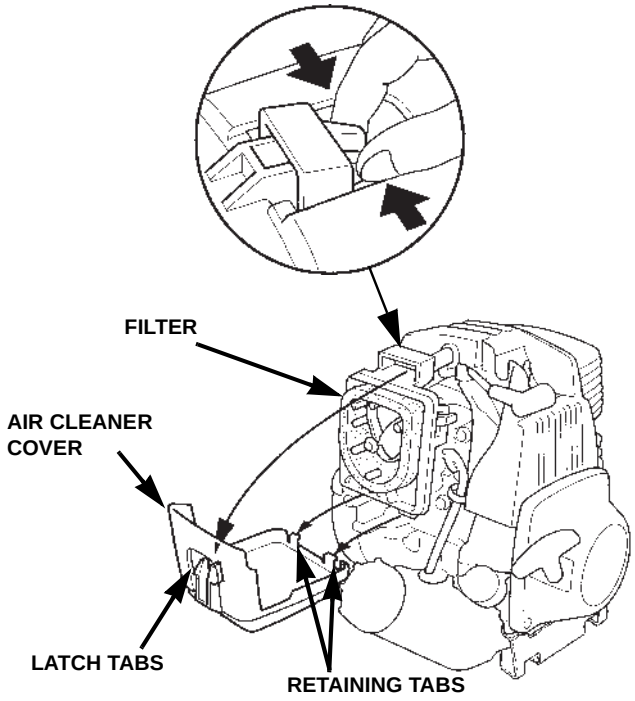
If the filter is dirty, clean it as described in the next section. Replace the filter if it is damaged. Reinstall the filter and air cleaner cover.

NOTICE

Operating the engine without an air filter, or with a damaged air filter, will allow dirt to enter the engine, causing rapid engine wear. This type of damage is not covered by the Distributor's Limited Warranty.

Cleaning

A dirty air filter will restrict air flow to the carburetor, reducing engine performance. If you operate the engine in very dusty areas, clean the air filter more often than specified in the MAINTENANCE SCHEDULE.



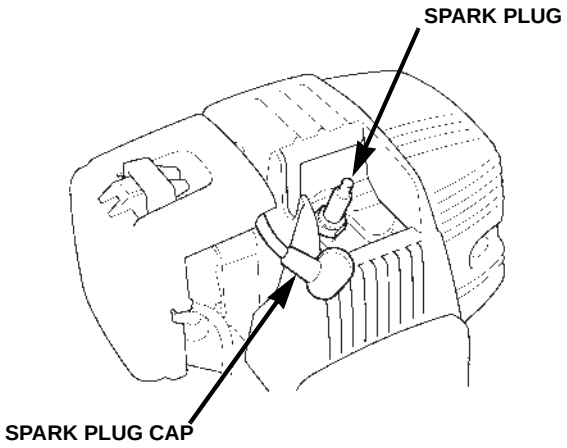
1. Clean the air filter in warm soapy water, rinse, and allow to dry thoroughly. Or clean in nonflammable solvent and allow to dry.
2. Dip the air filter in clean engine oil, then squeeze out all excess oil. The engine will smoke when started if too much oil is left in the filter.
3. Wipe dirt from the air cleaner base and cover using a moist rag. Be careful to prevent dirt from entering the carburetor.

Spark Plug Service

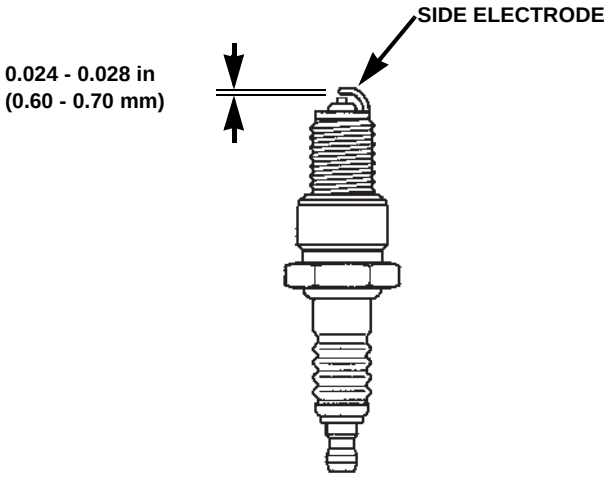
Recommended spark plugs:
CR5HSB (NGK)
U16FSR-UB (DENSO)

NOTICE

An incorrect spark plug can cause engine damage.



1. Disconnect the spark plug cap, and remove any dirt from around the spark plug area.
2. Remove the spark plug with a 5/8-inch spark plug wrench.
3. Inspect the spark plug. Replace it if the electrodes are worn, or if the insulator is cracked or chipped.



4. Measure the spark plug electrode gap with a suitable gauge. The gap should be 0.024 ~ 0.028 in (0.60 ~ 0.70 mm). Correct the gap, if necessary, by carefully bending the side electrode.
5. Install the spark plug carefully, by hand, to avoid cross-threading.
6. After the spark plug seats, tighten with a 5/8 inch spark plug wrench to compress the washer.

   If reinstalling the used spark plug, tighten 1/8 ~ 1/4 turn after the spark plug seats.

   If installing a new spark plug, tighten 1/2 turn after the spark plug seats.

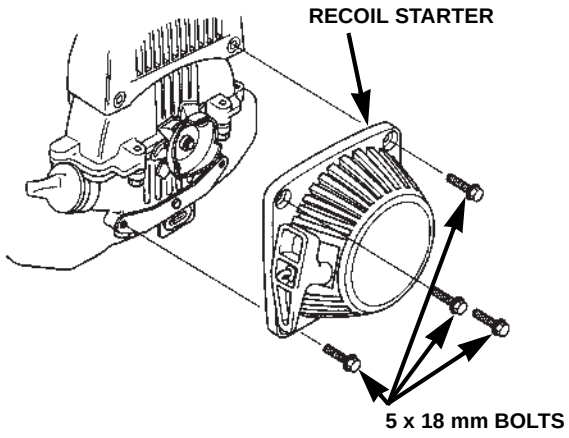
   NOTICE

   A loose spark plug can overheat and damage the engine. Overtightening the spark plug can damage the threads in the cylinder head.
7. Attach the spark plug cap.

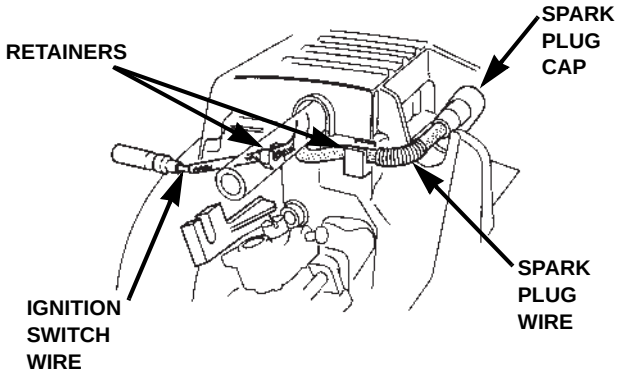
Spark Arrester Service

The spark arrester must be serviced every 100 hours to keep it functioning as designed.

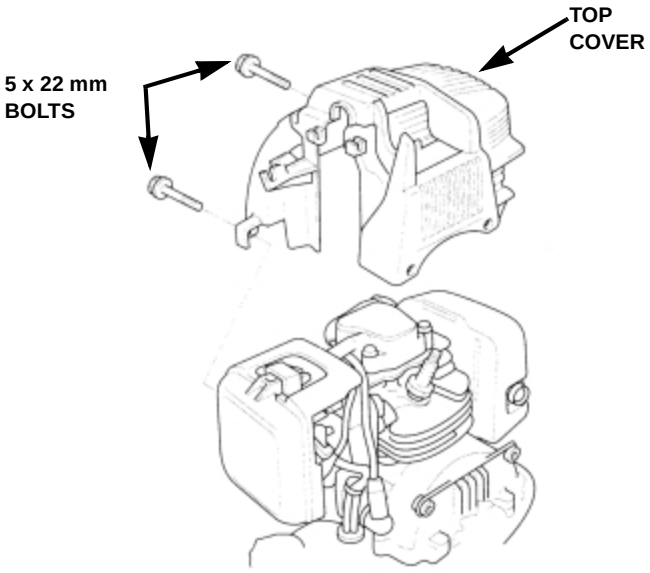
If the engine has been running, the muffler will be very hot. Allow the muffler to cool before servicing the spark arrester.



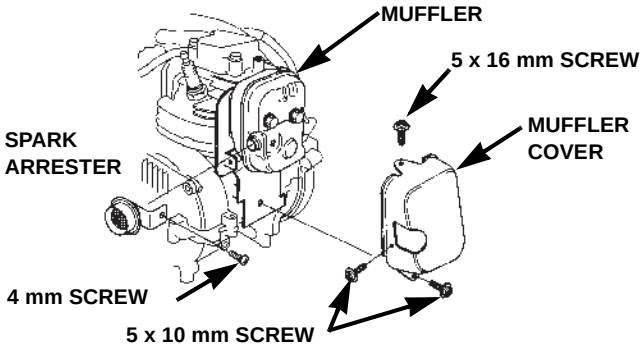
1. Remove the four 5 x 18 mm bolts from the recoil starter, and remove the recoil starter.



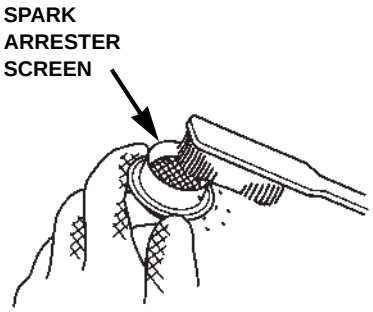
2. Disconnect the spark plug cap from the spark plug. Pull the spark plug wire and the ignition switch wire out of the retainers in the top cover.



3. Remove the two 5 x 22 mm bolts from the top cover, and remove the top cover.



4. Remove the three 5 mm screws from the muffler cover, and remove the muffler cover.
5. Remove the 4 mm screw from the spark arrester, and remove the spark arrester.

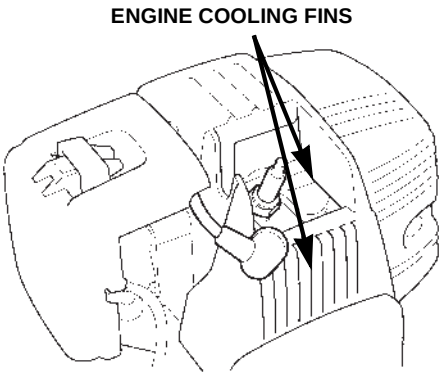


6. Use a brush to remove carbon deposits from the spark arrester screen. Be careful to avoid damaging the screen.

   The spark arrester must be free of breaks and holes. Replace the spark arrester if it is damaged.

7. Install the spark arrester, muffler cover, top cover, and recoil starter in the reverse order of disassembly.

Cooling Fin Inspection

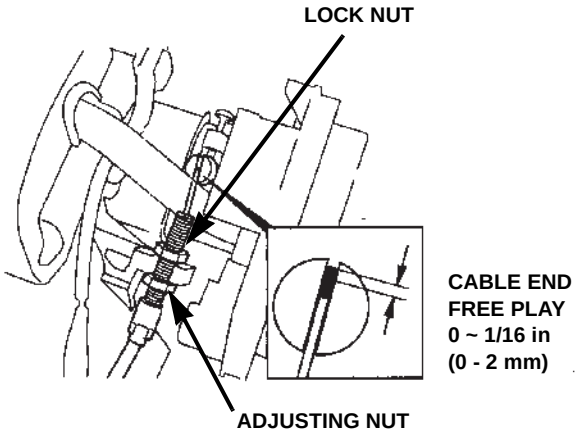


Inspect the engine cooling fins, and clean out any dirt and debris.

If it is necessary to remove the top cover for better access to the cooling fins, follow disassembly steps 1 through 3 on page 23.

Throttle Cable

Inspection



Verify the throttle trigger operates smoothly and the throttle cable is undamaged. If there is visible damage, or if the throttle trigger does not operate smoothly, have your authorized Honda servicing dealer replace the throttle cable.

Check the free play at the end of the throttle cable. Free play should be 0 ~ 1/16 in (0 ~ 2 mm). If adjustment is needed, use the following cable adjustment procedure.

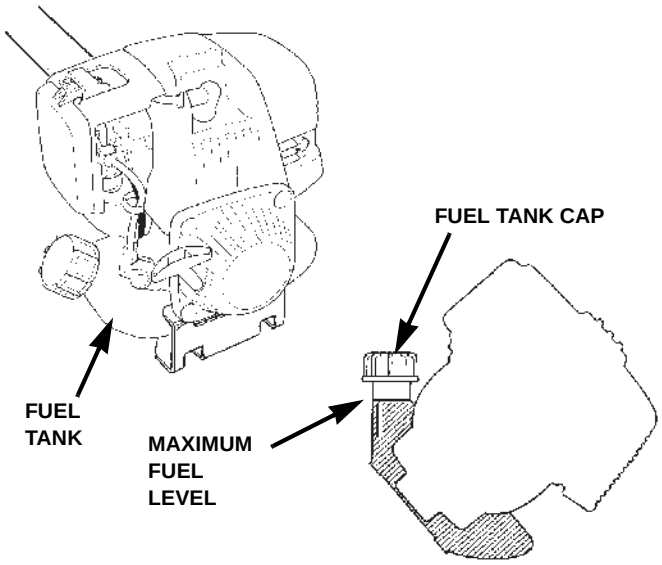
Adjustment

1. Loosen the lock nut with a 10 mm wrench, and turn the adjusting nut in or out as required.
2. Tighten the lock nut and recheck cable free play.

FUEL SYSTEM

Refueling

Fuel tank capacity:
0.69 US qt/22.0 fl oz (650 cc)



Check the fuel level by looking through the translucent fuel tank.

If the fuel level is low, refuel in a well-ventilated area with the engine stopped. If the engine has been running, allow it to cool first.

To refuel, rest the stick edger on the ground with the fuel tank cap facing up, as shown. Remove the fuel tank cap, and fill the tank with gasoline to the bottom of the filler neck. Refuel carefully to avoid spilling fuel. Do not overfill. There should be no fuel in the filler neck. After refueling, tighten the fuel tank cap securely.

⚠ WARNING

Gasoline is highly flammable and explosive.

You can be burned or seriously injured when handling fuel.

- Stop the engine and keep heat, sparks, and flame away.
- Handle fuel only outdoors.
- Wipe up spills immediately.

Never refuel the engine inside a building where gasoline fumes may reach flames or sparks. Keep gasoline away from appliance pilot lights, barbecues, electric appliances, power tools, etc.

Spilled fuel is not only a fire hazard, it causes environmental damage. Wipe up spills immediately.

Move at least 10 feet (3 meters) away from the fueling source and site before starting the engine.

Fuel Recommendations

Use unleaded gasoline with a pump octane rating of 86 or higher.

These engines are certified to operate on unleaded gasoline. Unleaded gasoline produces fewer engine and spark plug deposits and extends exhaust system life.

Never use stale or contaminated gasoline or an oil/gasoline mixture. Avoid getting dirt or water in the fuel tank.

Occasionally you may hear a light “spark knock” or “pinging” (metallic rapping noise) while operating under heavy loads. This is no cause for concern.

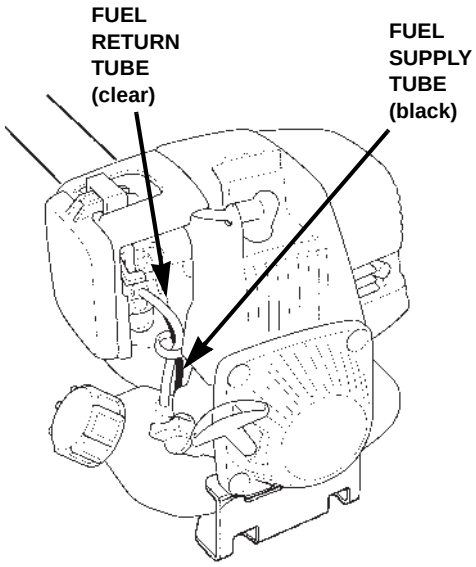
If spark knock or pinging occurs at a steady engine speed, under normal load, change brands of gasoline. If spark knock or pinging persists, see an authorized Honda servicing dealer.

NOTICE

Running the engine with persistent spark knock or pinging can cause engine damage.

Running the engine with persistent spark knock or pinging is misuse, and the Distributor's Limited Warranty *does not cover parts damaged by misuse.*

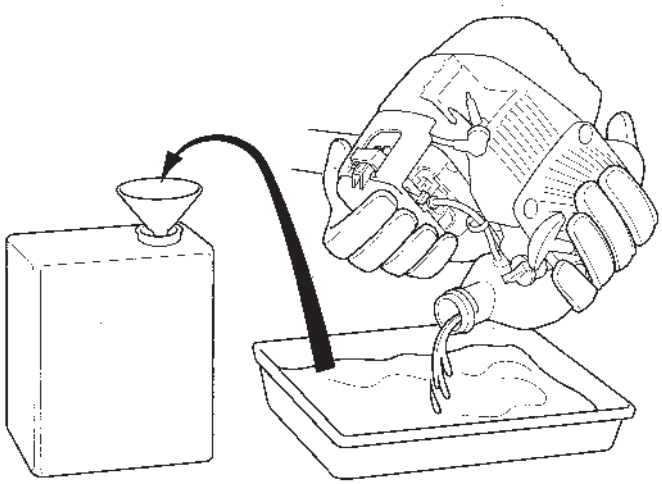
Fuel Tube Inspection



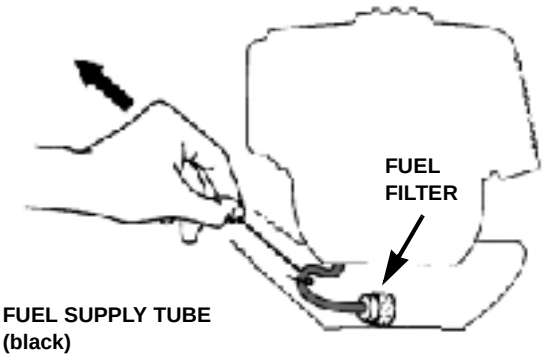
Check the fuel supply and return tubes, and replace any tube that is damaged, cracked, or leaking.

Refer to the Honda shop manual for tube replacement instructions, or take the stick edger to an authorized Honda servicing dealer.

Fuel Filter and Fuel Tank Cleaning



1. Remove the fuel tank cap, and empty the fuel tank into an approved gasoline container. Use a funnel to avoid spilling gasoline.



2. Pull the fuel filter out through the fuel filler neck by hooking the black fuel supply tube with a piece of wire, such as a partly straightened paper clip.
3. Inspect the fuel filter. If the fuel filter is dirty, remove it and wash it with nonflammable solvent. Be careful to avoid damaging the filter.

   Replace the filter if it is damaged or excessively dirty.
4. Rinse sediment from the fuel tank with nonflammable solvent.
5. Insert the fuel filter in the fuel tank, and install the fuel tank cap.

EDGER

Blade

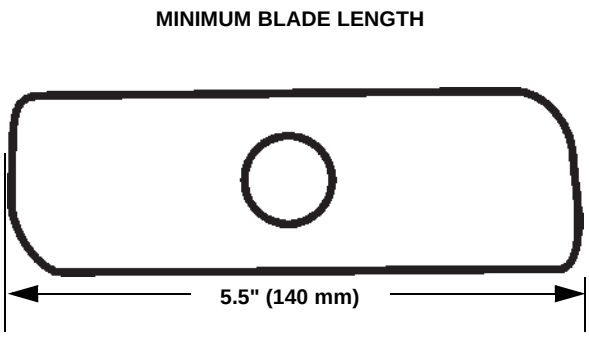
Inspection

Always wear gloves when working around the blade. Before each use, check the blade and split pin for wear and damage, and check the tightness of the blade nut. Examine the entire head area, including the grass deflector, and clear or clean dirt, debris, or any other foreign materials from it.

⚠ WARNING

A worn, damaged or cracked blade can break, and pieces of the damaged blade can become dangerous projectiles.

Inspect the blade regularly, and do not operate the stick edger with a dull, worn, cracked or damaged blade.



The blade must be replaced when its overall length is reduced to 5.5" (140 mm).

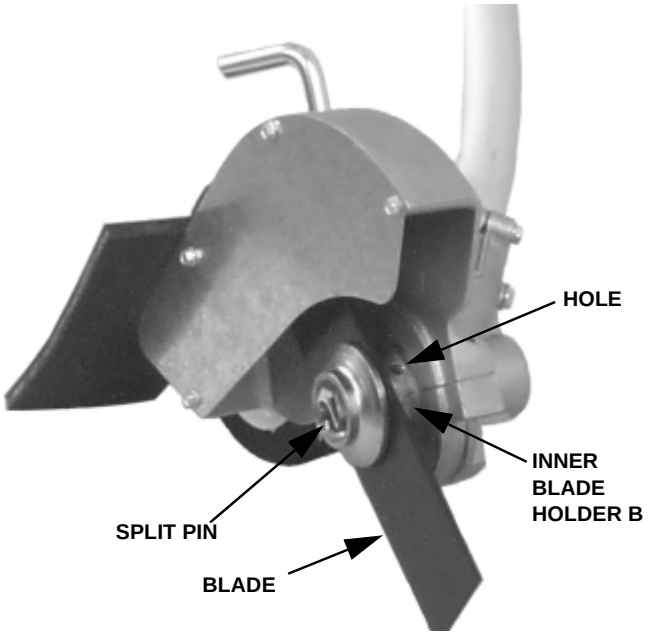
Removal and Installation

Always wear gloves when working around the blade.

A torque wrench is required to install the blade; if you do not have one, have an authorized Honda servicing dealer tighten the blade nut for you. If the blade nut is tightened too much, the blade bolt can break. If it is not tightened enough, the blade could come off. In either case, it would be possible for the blade to fly off while you are operating the stick edger.

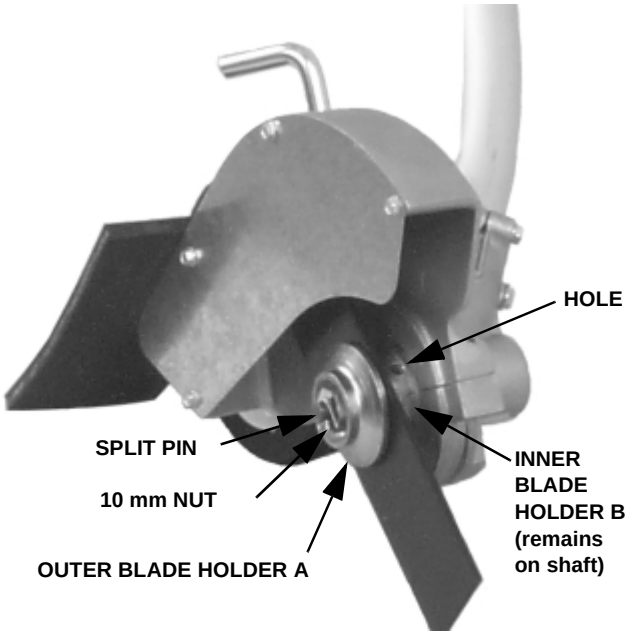
BLADE REPLACEMENT:
Your authorized Honda servicing dealer has blades that have been designed and approved for your stick edger and are covered by the Honda *Distributor's Limited Warranty*. Non-Honda blades are usually designed for universal applications. Although aftermarket blades may fit on your stick edger, they may not meet factory specifications and could make your stick edger unsafe.

1. Move the ignition switch to the OFF (0) position and disconnect the spark plug cap.



2. Remove and discard the split pin.
3. Rotate the blade until the hole in inner blade holder B aligns with round stopper hole in the gear case.

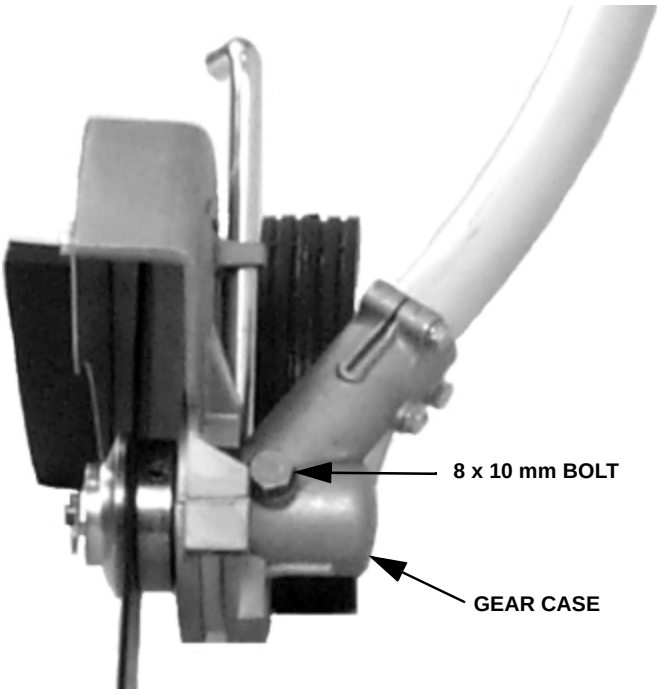
Insert the tip of the 3/16" (5 mm) hex wrench (commercially available) fully into the hole to lock the blade into position.



4. Remove the 10 mm nut (in a clockwise rotation) and outer blade holder A from the end of the shaft. Remove the blade, making sure the inner blade holder B remains on the shaft.
5. Install and center the blade on the inner blade holder B. Install the outer blade holder A. Install the nut (counterclockwise) using a torque wrench to tighten the blade nut to a torque of 19.2~22.1 ft-lb (26~30 N•m).
6. Install a new split pin to secure the blade nut.
7. Connect the spark plug cap.

Gear Case Lubrication

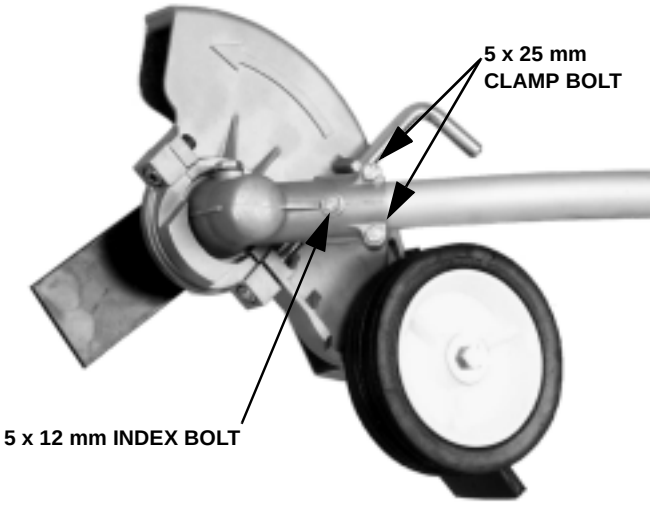
1. Move the ignition switch to the OFF (0) position and disconnect the spark plug cap.



2. Remove the 8 x 10 mm bolt from the gear case.
3. Fill the gear case with NLGI No. 2 grease until it runs out from the bolt hole.
4. Install the 8 x 10 mm bolt in the gear case and tighten securely.

Drive Shaft Lubrication and Inspection

Inspect and lubricate the shaft every 50 hours to extend its service life. Always remove the shaft in a clean environment.

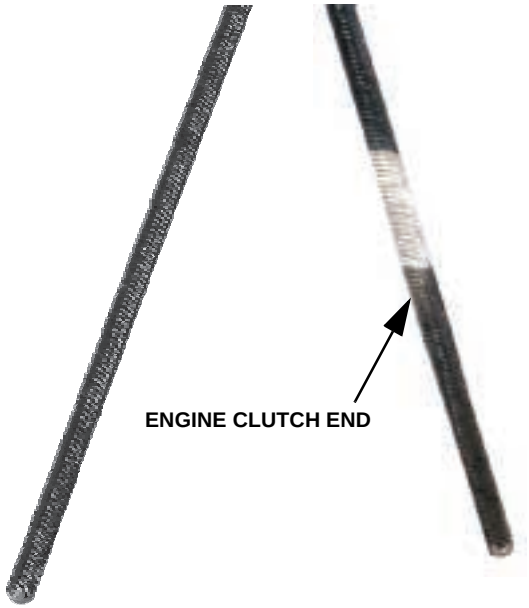


1. Remove the 5 x 12 mm index bolt and loosen the two 5 x 25 mm clamp bolts. Remove the gearbox from the shaft housing.

2. Remove the shaft from the housing. As you remove the shaft, pull it through a clean shop towel to remove the grease and check for damage and broken strands. Never pull the shaft through your bare hands.

   The greatest chance for wear and damage is at the center of the bend radius—about one foot (300 mm) from the gearbox-end of the shaft. Look for broken strands, stretching, and twisting to the point of reducing the radius of the shaft. Replace the shaft if it is damaged.

3. After wiping and inspecting the drive shaft, evenly coat it with a thin layer of general-purpose grease along it's entire length.



4. The square shaft ends are different sizes. The smaller end is marked with white paint and fits into the engine clutch. Insert it into the housing and slide it into the clutch, rotating the shaft if necessary.
5. Install the gearbox onto the shaft housing, rotating the blade to engage the shaft. Insert the index bolt and rotate the gearbox slightly to align the screw with the index hole in the shaft housing. The gearbox is correctly installed when the index screw is tightened and there is slight movement of the gearbox on the shaft housing.
6. Tighten the two gearbox clamp bolts securely.

STORAGE

STORAGE PREPARATION

Proper storage preparation is essential for keeping your stick edger trouble free and looking good. The following steps will help to keep rust and corrosion from impairing your stick edger's function and appearance, and will make the engine easier to start when you use the stick edger again.

Cleaning

Before washing the stick edger head area, disconnect the spark plug cap.

Wash the stick edger, including the area around the stick edger head.

Wash the engine by hand, and be careful to prevent water from entering the air cleaner.

NOTICE

Using a garden hose or pressure washing equipment can force water into the air cleaner. Water in the air cleaner will soak the filter and can enter the carburetor or engine, causing damage.

Water on a hot engine can cause damage. If the engine has been running, allow it to cool for at least 1/2 hour before washing.

If using a garden hose or pressure washing equipment to clean the stick edger, be careful to avoid getting water into controls and the shaft, or anywhere near the engine air cleaner or muffler opening.

After washing the stick edger, wipe dry all accessible surfaces, and connect the spark plug cap.

Start the engine outdoors, and let it run until it reaches normal operating temperature to evaporate any water remaining on the engine.

Stop the engine and allow it to cool.

After the stick edger is clean and dry, coat other areas that may rust with a light film of oil. Lubricate the control cable cores with a silicone spray lubricant.

Fuel

Gasoline will oxidize and deteriorate in storage. Old gasoline will cause hard starting, and it leaves gum deposits that clog the fuel system. If the gasoline in your stick edger deteriorates during storage, you may need to have the carburetor and other fuel system components, serviced or replaced.

The length of time that gasoline can be left in your fuel tank and carburetor without causing functional problems will vary with such factors as gasoline blend, your storage temperatures, and whether the fuel tank is partially or completely filled. The air in a partially filled fuel tank promotes fuel deterioration. Very warm storage temperatures accelerate fuel deterioration. Fuel deterioration problems may occur within a few months, or even less if the gasoline was not fresh when you filled the fuel tank.

The *Distributors Limited Warranty* does not cover fuel system damage or engine performance problems resulting from neglected storage preparation.

You can extend fuel storage life by adding a gasoline stabilizer that is formulated for that purpose, or you can avoid fuel deterioration problems by draining the fuel tank and carburetor.

Adding Fuel Stabilizer to Extend Fuel Storage Life

When adding a fuel stabilizer, fill the fuel tank with fresh gasoline. If only partially filled, air in the tank will promote fuel deterioration during storage. If you keep a container of gasoline for refueling, be sure that it contains only fresh gasoline.

Add fuel stabilizer following the manufacturer's instructions.

After adding a fuel stabilizer, run the engine outdoors for 10 minutes to be sure that treated gasoline has replaced the untreated gasoline in the carburetor.

Draining the Fuel Tank and Carburetor

Disconnect the spark plug cap. Make sure the ingintion switch is in the OFF (0) position.

Drain the fuel from the fuel tank to a suitable container (see page 26). Press the primer bulb a few times to draw any remaining fuel out of the carburetor, then drain this fuel from the tank.

Engine Oil

Change the engine oil (see page 20).

Carburetor & Air Cleaner

Clean the air filter (see page 21) and move the choke lever to the CLOSED position.

Engine Cylinder

Remove the spark plug (see page 22). Pour a 1/4 tablespoon (1 ~ 3 cc) of clean engine oil into the cylinder. Pull the starter rope several times to distribute the oil in the cylinder. Reinstall the spark plug. Pull the starter rope slowly until resistance is felt then return the starter grip gently. This closes the valves so moisture cannot enter.

STORAGE PRECAUTIONS

If your stick edger will be stored with gasoline in the fuel tank and carburetor, it is important to reduce the hazard of gasoline vapor ignition. Select a well-ventilated storage area away from any appliance that operates with a flame, such as a furnace, water heater, or clothes dryer. Also avoid any area with a spark-producing electric motor, or where power tools are operated.

If possible, avoid storage areas with high humidity, because that promotes rust and corrosion.

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

REMOVAL FROM STORAGE

Check your stick edger as described in the *BEFORE OPERATION* chapter of this manual.

If the fuel was drained during storage preparation, fill the tank with fresh gasoline. If you keep a container of gasoline for refueling, be sure that it contains only fresh gasoline. Gasoline oxidizes and deteriorates over time, causing hard starting.

If the cylinder was coated with oil during storage preparation, the engine will smoke briefly at startup. This is normal.

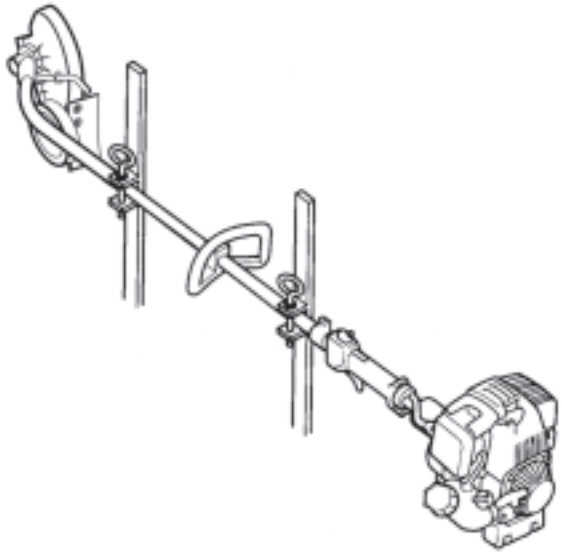
TRANSPORTING

BEFORE LOADING

If the engine has been running, allow it to cool for at least 15 minutes before loading the stick edger on the transport vehicle. A hot engine and exhaust system can burn you and can ignite some materials.

Always turn the ignition switch to the OFF (0) position. Make sure the fuel cap is securely tightened.

LOADING



The stick edger may be secured by suitable clamps, hangers or straps. Secure the stick edger by at least two points along the metal section of the drive shaft housing. Avoid securing the stick edger by the engine, gear case/debris shield or throttle lever area. The stick edger should be secured in a horizontal position, with the engine turned up.

Don't hang the stick edger by the gear case or debris shield, or they may be damaged.

TAKING CARE OF UNEXPECTED PROBLEMS

ENGINE STARTING PROBLEMS

Engine Will Not Start	Possible Cause	Correction
Check control positions.	Ignition switch OFF (0).	Turn ignition switch ON (I).
	Choke not in CLOSED (cold engine).	Move choke to the CLOSED position.
Check fuel.	Out of fuel.	Add fuel.
	Bad fuel, stick edger stored without treating or draining gasoline, refueled with bad gasoline.	Drain fuel tank and carburetor, refuel with fresh gasoline.
Remove spark plug.	Spark plug faulty, fouled, or has incorrect gap.	Clean, gap, or replace the spark plug.
Take stick edger to an authorized Honda servicing dealer, or refer to shop manual.	Fuel filter clogged, carburetor malfunction, ignition malfunction, valves stuck, etc.	Replace or repair faulty components as needed.

ENGINE OPERATING PROBLEMS

Low Power or Engine Speed Won't Increase	Possible Cause	Correction
Check air filter.	Filter dirty or clogged.	Check, clean or replace air filter.
Check fuel filter.	Filter dirty or clogged.	Replace fuel filter.
Check throttle cable.	Out of adjustment, broken, or bent.	Adjust cable, or replace if necessary.
Check spark arrester.	Screen clogged.	Clean screen.

TAKING CARE OF UNEXPECTED PROBLEMS

BLADE PROBLEMS

Blade Won't Stop Turning When Throttle in SLOW Position	Possible Cause	Correction
Check throttle control and cable.	Fault in throttle control or cable; throttle cable out of adjustment or bent.	Check throttle control parts, adjust or replace cable if necessary.
Check clutch.	Clutch springs broken or worn, or clutch system faulty.	Replace clutch springs or replace/repair other clutch system parts.

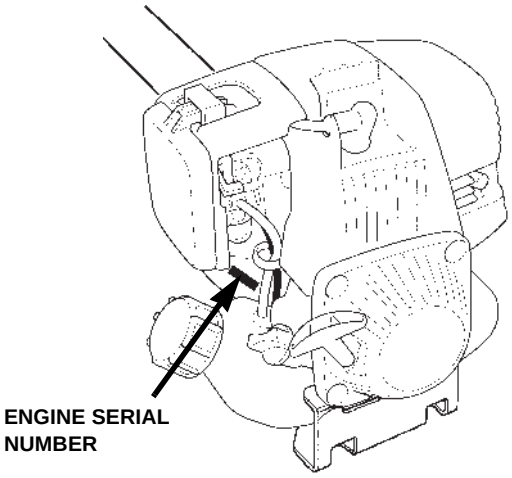
Blade Won't Turn	Possible Cause	Correction
Check clutch, drive shaft, and gearbox.	Worn or broken clutch, broken shaft, worn or broken gearbox parts.	Replace or repair faulty components as needed.

Excessive Vibration	Possible Cause	Correction
Check blade nut.	Blade nut loose.	Tighten blade nut securely.
Check blade.	Blade damaged.	Replace blade.
Drive shaft.	Drive shaft bent or damaged.	Replace drive shaft.

TECHNICAL INFORMATION

This section contains important information about serial number locations, operation at high altitudes, oxygenated fuels and emissions control systems.

Serial Number Locations



There are two serial numbers, one for the stick edger and another for the engine. Record these numbers in the space provided. You'll need to have these numbers available when ordering parts or making technical or warranty inquires (page 38).

Frame Serial #: _____

Engine Serial #: _____

Carburetor Modifications for High Altitude Operation

At high altitude, the standard carburetor air-fuel mixture will be too rich. Performance will decrease, and fuel consumption will increase. A very rich mixture will also foul the spark plug and cause hard starting. Operation at an altitude that differs from that at which this engine was certified, for extended periods of time, may increase emissions.

High altitude performance can be improved by specific modifications to the carburetor. If you always operate your stick edger at altitudes above 5,000 feet (1,500 meters), have your servicing dealer perform this carburetor modification. This engine, when operated at high altitude, with carburetor modifications for high altitude use, will meet each emission standard throughout it's useful life.

Even with carburetor modification, engine horsepower will decrease about 3.5% for each 1,000-foot (300-meter) increase in altitude. The effect of altitude on horsepower will be greater than this if no carburetor modification is made.

NOTICE

When the carburetor has been modified for high altitude operation, the air-fuel mixture will be too lean for low altitude use. Operation at altitudes below 5,000 feet (1,500 meters) with a modified carburetor may cause the engine to overheat and result in serious engine damage. For use at low altitudes, have your servicing dealer return the carburetor to original factory specifications.

Oxygenated Fuels

Some conventional gasolines are being blended with alcohol or an ether compound. These gasolines are collectively referred to as oxygenated fuels. To meet clean air standards, some areas of the USA and Canada use oxygenated fuels to help reduce emissions. If you use an oxygenated fuel, be sure it is unleaded and meets the minimum octane rating requirement. Before using an oxygenated fuel, try to confirm the fuel's contents. Some states/provinces require this information to be posted on the pump.

The following are the EPA approved percentages of oxygenates:

ETHANOL (ethyl or grain alcohol) 10% by volume	You may use gasoline containing up to 10% ethanol by volume. Gasoline containing ethanol may be marketed under the name "Gasohol".
MTBE (Methyl Tertiary Butyl Ether) 15% by volume	You may use gasoline containing up to 15% MTBE by volume.
METHANOL (methyl or wood alcohol) 5% by volume	You may use gasoline containing up to 5% methanol by volume, as long as it also contains cosolvents and corrosion inhibitors to protect the fuel system. Gasoline containing more than 5% methanol by volume may cause starting and/or performance problems. It may also damage metal, rubber, and plastic parts of your fuel system.

If you notice any undesirable operating symptoms, try another service station or switch to another brand of gasoline. Fuel system damage or performance problems resulting from the use of an oxygenated fuel containing more than the percentages of oxygenates mentioned above are not covered under warranty.

EMISSIONS CONTROL SYSTEM INFORMATION

Source of Emissions

The combustion process produces carbon monoxide, oxides of nitrogen, and hydrocarbons. Control of hydrocarbons and oxides of nitrogen is very important because, under certain conditions, they react to form photochemical smog when subjected to sunlight. Carbon monoxide does not react in the same way, but it is toxic.

Honda utilizes lean carburetor settings and other systems to reduce the emissions of carbon monoxide, oxides of nitrogen, and hydrocarbons.

The U.S. and Califomia Clean Air Acts

EPA and California regulations require all manufacturers to furnish written instructions describing the operation and maintenance of emissions control systems.

The following instructions and procedures must be followed in order to keep the emissions from your Honda engine within the emissions standards.

Tampering and Altering

Tampering with or altering the emissions control system may increase emissions beyond the legal limit. Among those acts that constitute tampering are:

- Removal or alteration of any part of the intake, fuel, or exhaust systems.
- Altering or defeating the speed-adjusting mechanism to cause the engine to operate outside its design parameters.

Problems That May Affect Emissions

If you are aware of any of the following symptoms, have your engine inspected and repaired by your servicing dealer.

- Hard starting or stalling after starting
- Rough idle
- Misfiring or backfiring under load
- Afterburning (backfiring)
- Black exhaust smoke or high fuel consumption

Replacement Parts

The emissions control systems on your new Honda engine were designed, built, and certified to conform with EPA and California emissions regulations. We recommend the use of genuine Honda parts whenever you have maintenance done. These original-design replacement parts are manufactured to the same standards as the original parts, so you can be confident of their performance. The use of replacement parts that are not of the original design and quality may impair the effectiveness of your emissions control system.

A manufacturer of an aftermarket part assumes the responsibility that the part will not adversely affect emissions performance. The manufacturer or rebuilder of the part must certify that use of the part will not result in a failure of the engine to comply with emissions regulations.

Maintenance

Follow the MAINTENANCE SCHEDULE on page 19. Remember this schedule is based on the assumption that your machine will be used for its designed purpose. Sustained high-load or high-temperature operation, or use in unusually wet or dusty conditions, will require more frequent service.

Air Index

An Air Index Information hang tag/label is applied to engines certified to an emission durability time period in accordance with the requirements of the California Air Resources Board.

The bar graph is intended to provide you, our customer, the ability to compare the emissions performance of available engines. The lower the Air Index, the less pollution.

The durability description is intended to provide you with information relating the engine's emission durability period. The descriptive term indicates the useful life period for the engine's emission control system. See your *Emission Control System Warranty* for additional information.

Descriptive Term	Applicable to Emissions Durability Period
Moderate	50 hours (0–65 cc) 125 hours (greater than 65 cc)
Intermediate	125 hours (0–65 cc) 250 hours (greater than 65 cc)
Extended	300 hours (0–65 cc) 500 hours (greater than 65 cc)

The Air Index Information hang tag/label must remain on the stick edger until it is sold. Remove the hang tag before operating the stick edger.

CONSUMER INFORMATION

Honda Publications

Two other documents are available from your Honda dealer. There is a shop manual, which covers complete maintenance and overhaul procedures. It is intended to be used by a skilled technician. There is also a parts catalog that provides a complete, illustrated parts list.

Warranty Service Information

Honda Power Equipment dealership personnel are trained professionals. They should be able to answer any question you may have. If you encounter a problem that your dealer does not solve to your satisfaction, please discuss it with the dealership's management. The Service Manager or General Manager can help. Almost all problems are solved in this way.

If you are dissatisfied with the decision made by the dealership's management, contact the Honda Power Equipment Customer Relations Office. You can write:

American Honda Motor Co., Inc.
Power Equipment Division
Customer Relations Office
4900 Marconi Drive
Alpharetta, GA 30005-8847

Or telephone: (770) 497-6400

When you write or call, please give us this information:

- Model and serial numbers (see page 35)
- Name of the dealer who sold the stick edger to you
- Name and address of the dealer who services your stick edger
- Date of purchase
- Your name, address, and telephone number and a detailed description of the problem

Replacement Parts and Service Items

Contact an authorized Honda servicing dealer to purchase any of these (or other) genuine, original Honda items for your stick edger.

Replacement Parts		
Item	**Part Number**	**Note**
Blade	72511-VH5-000	
Blade nut	90301-VH5-000	Left hand thread
Split pin	94201-20200	
Spark plug	98056-55777-00	CR5HSB (NGK brand)
Air filter	17211-ZM3-000	
Wheel	42710-VH5-000	
Service Items		
SAE 10W30 engine oil	08207-10W30	
Silicone spray	08209-0001	
Fuel stabilizer	08732-0001	For storage

SPECIFICATIONS

DIMENSIONS and WEIGHT

Length	70.7 in (1796 mm)
Width	13.1 in (334 mm)
Height	10.0 in (255 mm)
Dry weight	16.8 lb. (7.6 kg)

ENGINE

Model	GX31
Engine type	4-stroke, overhead-valve, single-cylinder
Displacement	1.9 cu-in (31.1 cc)
Bore & stroke	1.5 x 1.0 in (39 x 26 mm)
Maximum output	1.5 hp (1.1 kW) at 7,000 rpm
Maximum torque	1.21 ft-lbs (1.64 N•m) at 4,500 rpm
Ignition system	Transistorized magneto
Spark plugs	NGK: CR5HSB or DENSO: U16FSR-UB
Starting system	Recoil
Fuel	Unleaded gasoline (86 octane or higher)
Fuel tank capacity	0.69 US qt/22.0 fl oz (650 cc)
Fuel consumption	0.14 gal/hr*
Oil capacity	0.11 US qt/3.38 fl oz (100 cc)
Carburetor type	Diaphragm type (overflow return) with fuel pump
Air cleaner	Single element, semi-dry
Idle speed	3,100 ± 200 rpm

FRAME

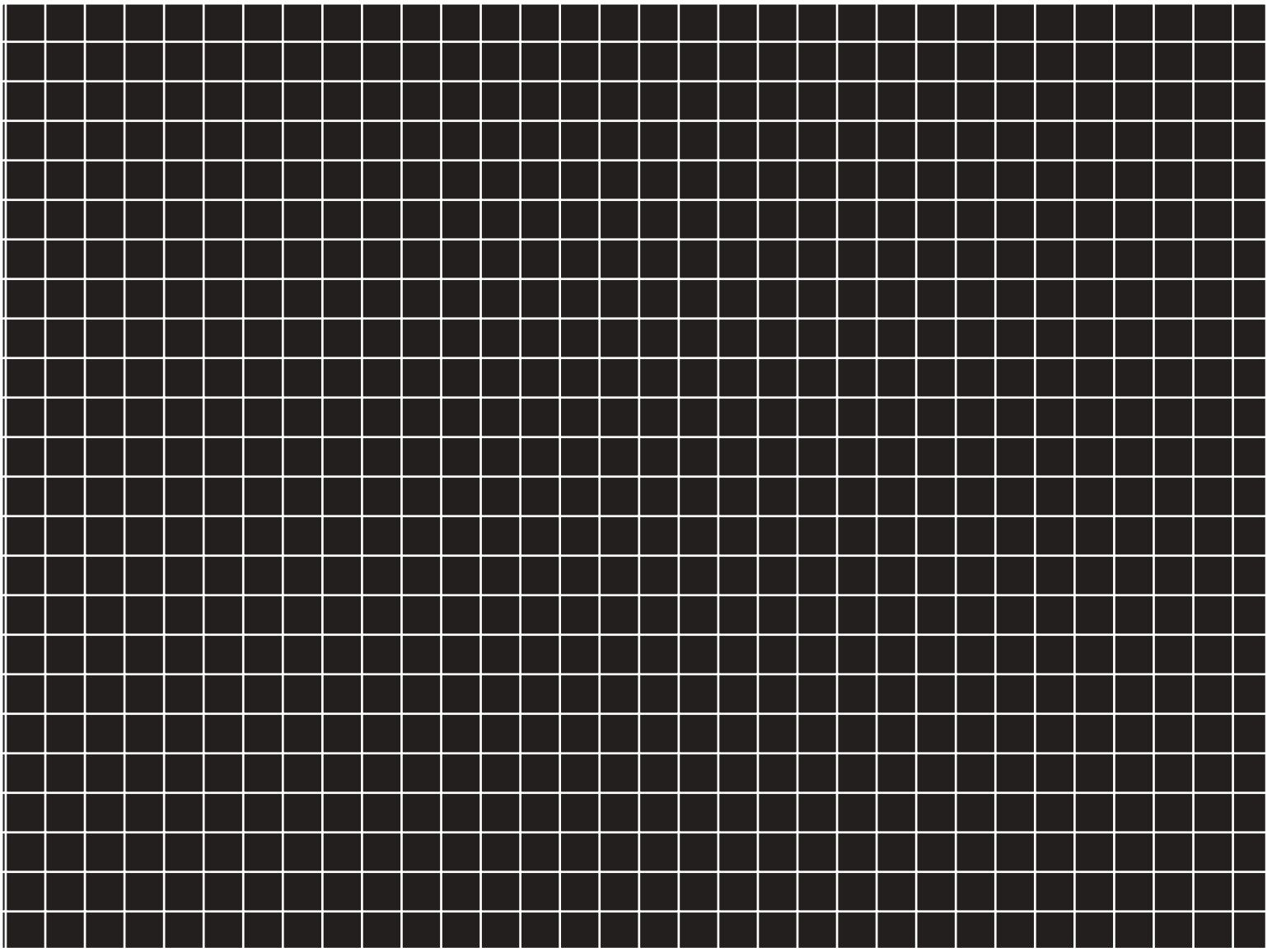
Ignition switch	Slide type
Throttle control	Two motion trigger style
Shaft housing pipe diameter	1.0 in (25.4 mm)
Shaft housing pipe thickness	0.063 in (1.6 mm)
Drive shaft	Flex type 0.25 in (6.3 mm)
Shaft support	Nylon liner
Gearbox ratio	1.25
Gearbox type	Sealed ball bearings, bevel cut gears
Blade diameter	8.0 in (203 mm)
Clutch engagement	4,200 ± 200 rpm
Clutch type	2-1/8 inch centrifugal, square drive

*Fuel consumption is approximate. Actual consumption depends on operating load.

QUICK REFERENCE

HHE31C		
Fuel	Type	Unleaded gasoline with pump octane rating of 86 or higher (page 25)
	Capacity	22.0 fl oz/0.69 US qt (650 cc)
Engine oil	Type	SAE 10W-30, API SH or SJ (page 21)
	Capacity	3.38 fl oz/0.11 US qt (100 cc)
Spark plug	Type	NGK: CR5HSB, DENSO: U16FSR-UB
	Electrode gap	0.024 ~ 0.028 in (0.60 ~ 0.70 mm)
Carburetor	Idle speed	3,100 ± 200 rpm
Maintenance	Before each use	Check engine oil (page 20) Check air filter (page 21) Check throttle cable (page 24) Check blade and debris shield (page 27) Check nuts, bolts, fasteners
	First 10 hours	Change engine oil (page 20)
	Subsequent	Refer to the MAINTENANCE SCHEDULE on page 19.

HONDA



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