

HONDA
Power
Equipment

Owner's Manual

TRIMMER/BRUSH CUTTER

UMK422 • UMK431





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 trimmer/brush cutter and should remain with the trimmer/brush cutter if resold.

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INTRODUCTION

Congratulations on your selection of a Honda trimmer/brush cutter. We are certain you will be pleased with your purchase of one of the finest trimmers/brush cutters on the market.

We want to help you get the best results from your new trimmer/brush cutter 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 trimmer, other property, or the environment.

We suggest you read the warranty policy to fully understand its coverage and your responsibilities of ownership. The warranty policy is a separate document that should have been given to you by your dealer.

When your trimmer/brush cutter needs scheduled maintenance, keep in mind that your Honda servicing dealer is specially trained in servicing Honda trimmers/brush cutters. Your Honda servicing dealer is dedicated to your satisfaction and will be pleased to answer your questions and concerns.

Best Wishes,
Honda Motor Co., Ltd.

INTRODUCTION


A FEW WORDS ABOUT SAFETY

Your safety and the safety of others are very important. And using this trimmer/brush cutter 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 trimmer/brush cutter. You must use your own good judgment.

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

- **Safety Labels** — on the trimmer/brush cutter.
- **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 *TRIMMER SAFETY*.
- **Instructions** — how to use this trimmer/brush cutter correctly and safely.

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

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QUICK REFERENCE

INFORMATION Inside back cover

TRIMMER SAFETY

IMPORTANT SAFETY INFORMATION

Honda UMK422 and UMK431 trimmers/brush cutters are designed to cut grass, weeds, brush, and/or wood if equipped with an appropriate cutting attachment. Other uses can result in injury to the operator or damage to the trimmer and other property.

These Honda trimmers are intended for use by gardening professionals. Never allow children to operate the trimmer.

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

Always Wear Eye Protection and Protective Clothing

- The most frequent injuries associated with string trimmers are eye injuries caused by thrown debris. Always wear safety glasses or goggles that meet the ANSI Z87.1 rating whenever you use the trimmer.
- The operator must wear hearing protectors when using this trimmer. 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 the trimmer harness, gloves, a long-sleeved shirt, long pants, and sturdy boots with nonslip soles.
See page 14 for more information.

Keep Away From Cutting Lines and Blades

- A spinning cutting attachment can cut through your clothes and skin just as easily as it cuts through grass and brush. Keep all parts of your body away from a spinning cutting attachment.
- Even after the engine has stopped, the cutting attachment 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 Trimming

- If you stop trimming or cutting for any reason, even to clean off the cutting attachment, 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.

Always Wear the Harness When Trimming

- The harness keeps the trimmer away from your body, lowering your chances of being cut by the trimmer's blade or cutting line.

Read This Manual Before Using the Trimmer

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

Clear the Working Area First

- Objects thrown by the trimmer can cause serious injury. Before operating the trimmer, carefully inspect the area, and remove all broken glass, pieces of wire, and other loose objects.

Keep the Trimmer Properly Maintained

- The cutting attachment should be examined for looseness, cracks, broken parts, or excessive wear. Tighten or replace as needed before operating the trimmer.
- Do not operate the trimmer without a debris shield properly installed. Make sure you have the right shield installed for your cutting attachment.
For more information, see page 9.

ATTACHMENTS & MODIFICATIONS

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

Attachments

Your Honda trimmer servicing dealer has cutting attachments, debris shields, barrier bars, handles, handlebars, and shoulder harnesses that have been designed and approved for your trimmer and are covered by warranty.

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

Modifications

Do not remove the debris shield or modify your trimmer in any way that would alter its design or operation. This could make your trimmer 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 trimmer/brush cutter, you need to determine whether the person is old enough, large enough, and strong enough to safely handle and control the trimmer/brush cutter.

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 trimmer/brush cutter.

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 trimmer/brush cutter.

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 trimmer/brush cutter 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.

TRIMMER SAFETY

SAFETY LABEL LOCATIONS

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

⚠ WARNING



**READ AND FOLLOW
OWNER'S MANUAL.**
Failure to do so can
result in serious injury
to the operator and
bystanders.

⚠ WARNING



**OBJECTS THROWN BY CUTTING ATTACHMENTS CAN CAUSE
SERIOUS INJURY.**

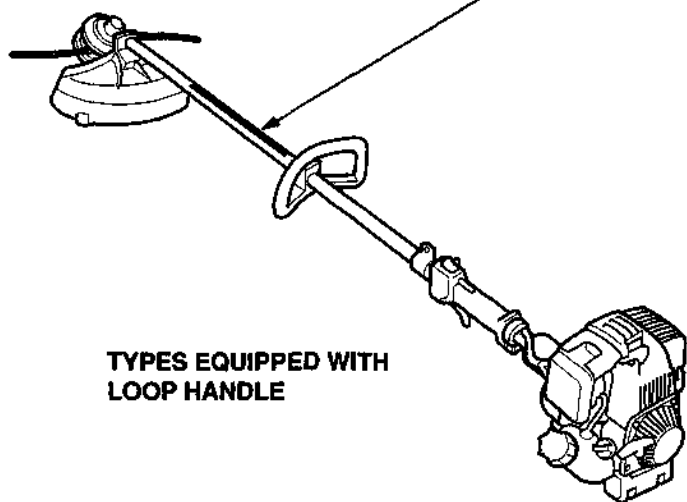
- Always wear eye protection that meets ANSI Z87.1.
- Always wear hearing protection and protective clothing.
- Keep bystanders at least 50 feet (15m) away.
- Do not operate without shield.

⚠ WARNING

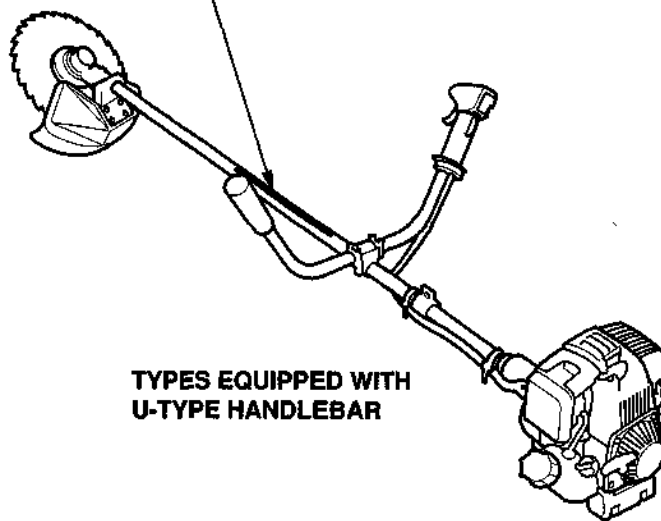


CONTACT WITH ROTATING CUTTING ATTACHMENT CAN CAUSE SERIOUS INJURY.

- Keep away from rotating cutting attachment.
- Be aware of possible kickback when using blades.
(See Owner's Manual for special operating precautions)
- Install proper shield, handle, and harness for cutting attachment.
- Use only Honda recommended cutting attachments.



**TYPES EQUIPPED WITH
LOOP HANDLE**



**TYPES EQUIPPED WITH
U-TYPE HANDLEBAR**

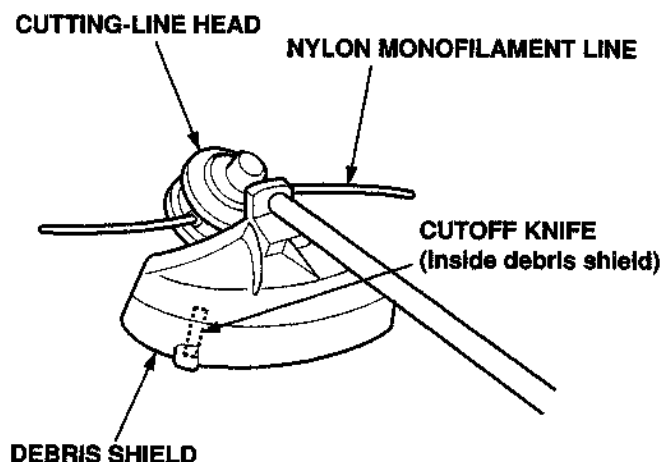
RECOMMENDED CUTTING ATTACHMENTS

CUTTING-LINE HEADS AND SHIELD

A cutting-line head containing nylon monofilament line, and a debris shield with cutoff knife, is standard equipment. The shield's cutoff knife automatically removes any excess line that is released from the cutting head.

Honda UMK431UNBA trimmers are supplied with two different debris shields. Use the debris shield with the cutoff knife when the cutting-line head is installed.

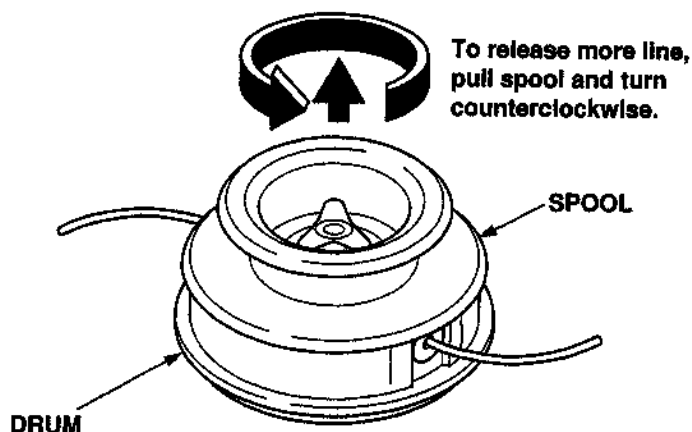
Nylon monofilament line is suitable for cutting grass and ordinary weeds, but not brush and woody growth.



Manual-Feed Cutting-Line Head

Line is released from the cutting head by manually pulling and turning the spool with the trimmer stopped.

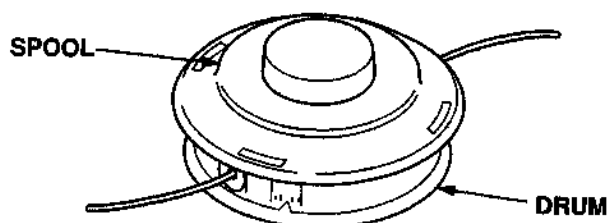
MANUAL-FEED CUTTING-LINE HEAD



Semiautomatic (bump-feed) Cutting-Line Head

Line is released from the cutting head by bumping the spool on hard ground during operation.

SEMIAUTOMATIC (bump-feed) CUTTING-LINE HEAD



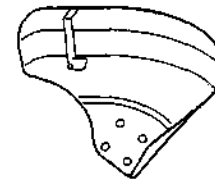
RECOMMENDED CUTTING ATTACHMENTS

BLADES AND SHIELD

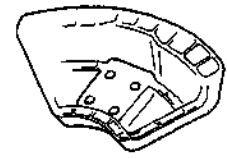
A variety of blades is available from your Honda trimmer servicing dealer. Always use a debris shield designed for use with a blade when attaching a blade to your trimmer. This type of debris shield does not have a cutoff knife.

Metal blades are supplied with a cover surrounding the edge of the blade. For safety, and to protect the blade, the cover should be installed whenever the trimmer is not in use.

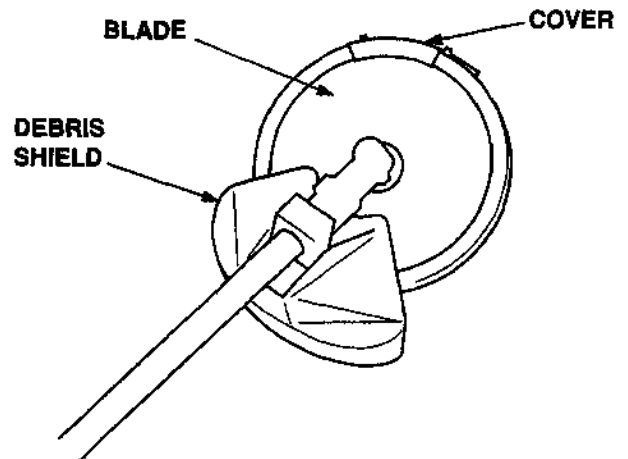
If installing a metal blade on, a Honda trimmer equipped with a loop handle, also install the Honda conversion kit that includes a full shoulder harness, a barrier bar, and a debris shield for metal blades. Follow the installation instructions and safety information that come with the kit.



CUTTING LINE
DEBRIS SHIELD



BRUSH/WOOD BLADE
DEBRIS SHIELD



Grass/Weed Blades

Grass/weed blades, which may be plastic or metal, are used as an alternative to nylon monofilament line for cutting grass and ordinary weeds.

However, blades should never be used for edging against solid surfaces.

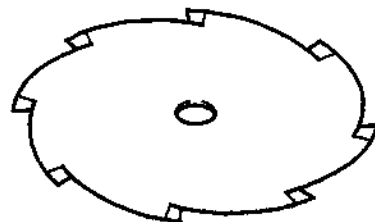
GRASS/WEED BLADE



Weed/Brush Blades

These metal blades have chisel-shaped teeth that are used for cutting tough field grass, thick weeds, and light brush. They are not designed for sawing woody material. The teeth must be sharp for good results.

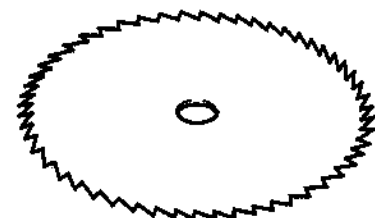
WEED/BRUSH BLADE



Brush/Wood Blades

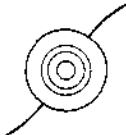
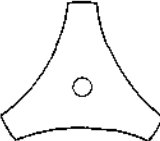
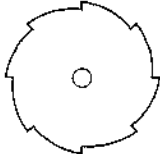
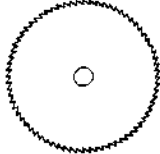



These metal blades are used for sawing through saplings, shrubs, and woody brush. The teeth must be sharp for good results. Brush/wood blades will also cut grass and weeds, but they are not efficient for that purpose.

BRUSH/WOOD BLADE



RECOMMENDED CUTTING ATTACHMENTS

CUTTING ATTACHMENT APPLICATIONS

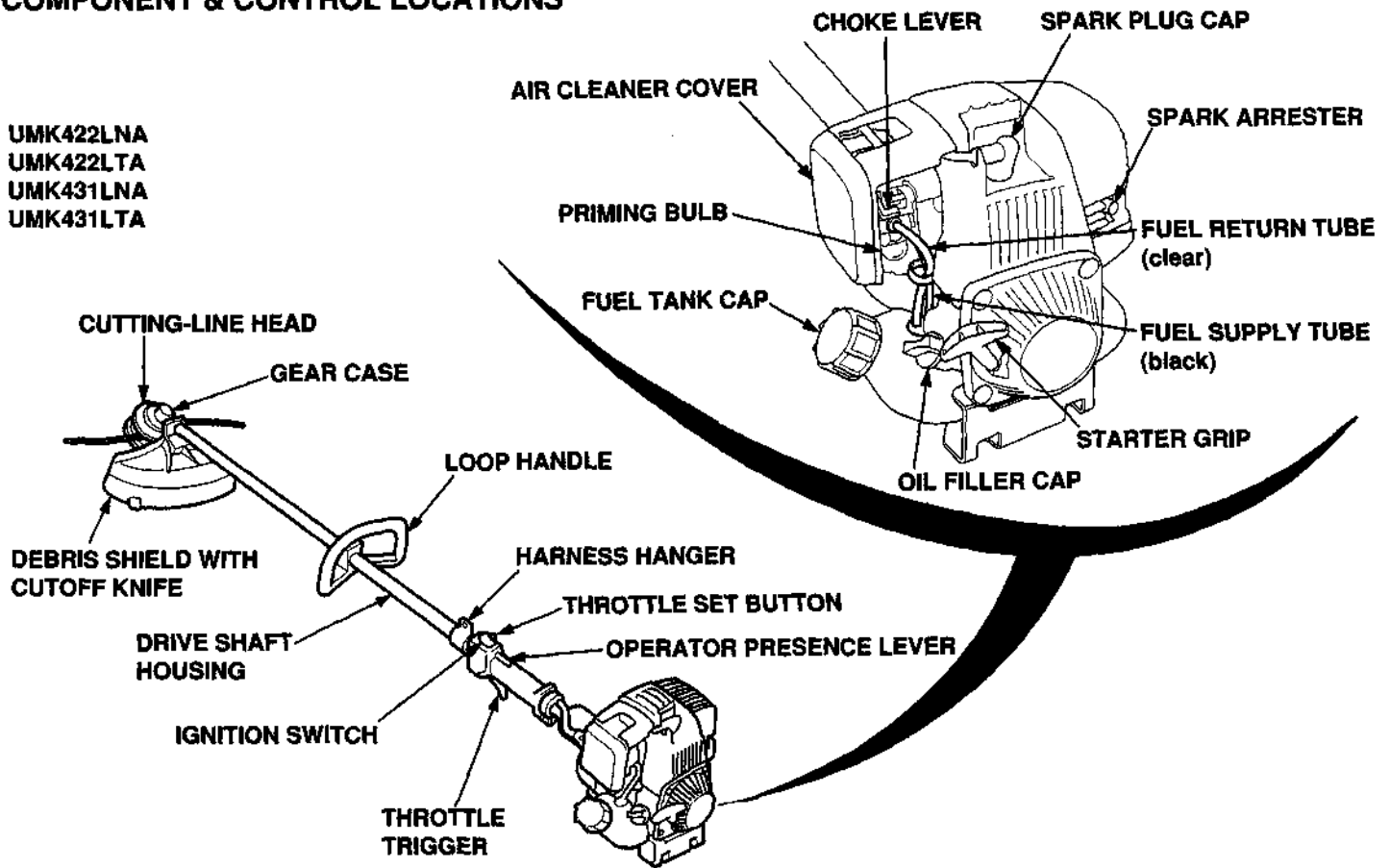
				
GRASS AND LIGHT WEEDS 	OK	OK	OK	X
THICK WEEDS AND LIGHT BRUSH 	X	X	OK	X
WOODY BRUSH, SHRUBS, SAPPLINGS 	X	X	X	OK

Your Honda trimmer servicing dealer has cutting attachments that have been designed and approved for your trimmer and are covered by warranty. Non-Honda attachments are usually designed for universal applications. Although aftermarket attachments may fit on your trimmer, they may not meet factory specifications and could make your trimmer unsafe.

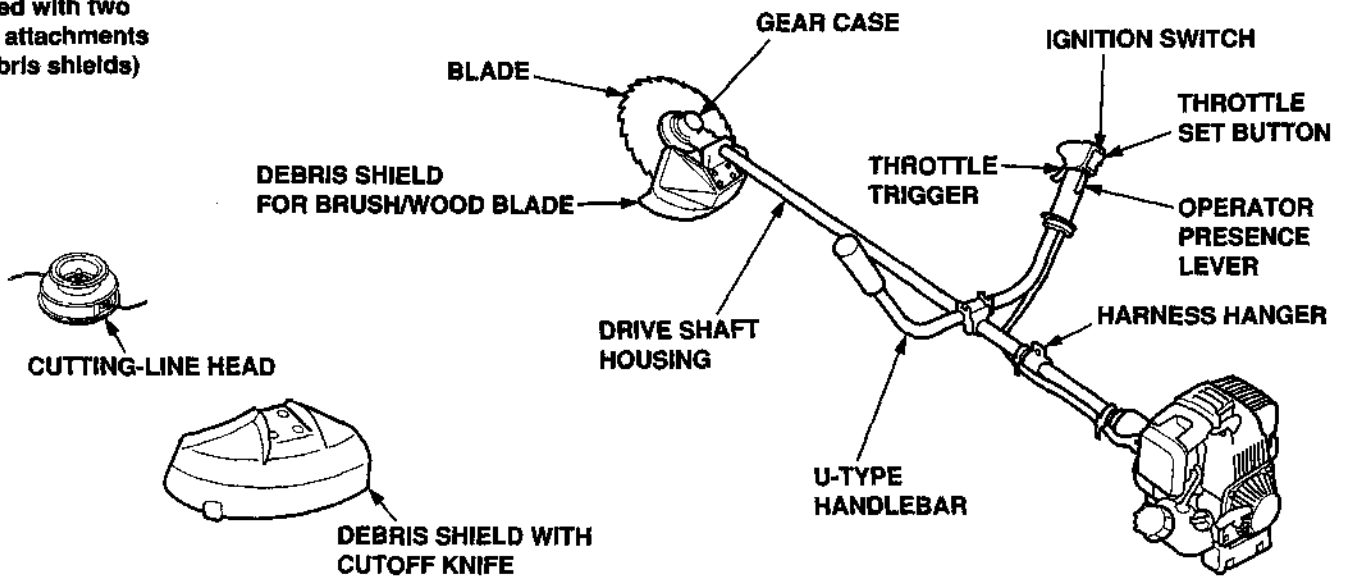
CONTROLS & EQUIPMENT

COMPONENT & CONTROL LOCATIONS

UMK422LNA
UMK422LTA
UMK431LNA
UMK431LTA



UMK431UNBA
(supplied with two
cutting attachments
and debris shields)



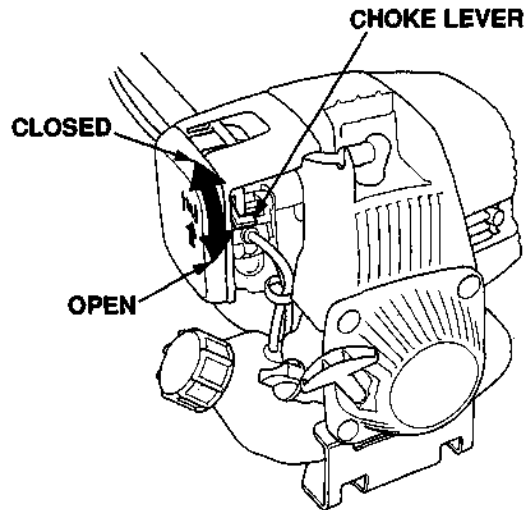
CONTROLS

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

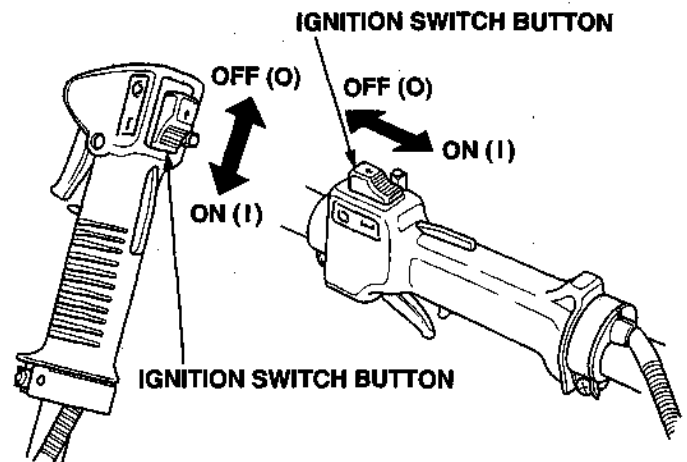
The ignition switch controls the ignition system.

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

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

U-type handle:

Loop handle:



Operator Presence Lever

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

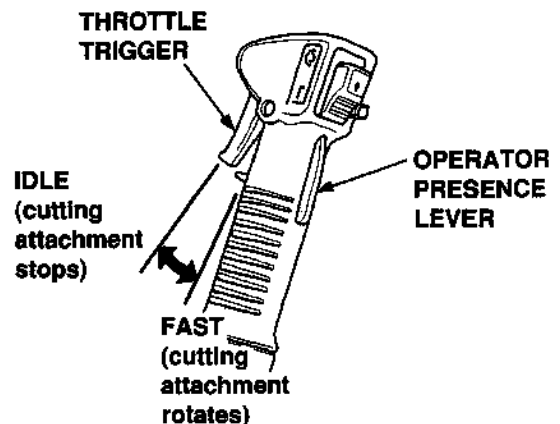
When the operator presses the presence lever by gripping the control handle, the trigger moves freely.

Throttle Trigger

The throttle trigger controls engine speed.

Pulling the throttle trigger toward the grip increases engine speed. The trimmer will have the greatest cutting force at maximum engine speed.

Releasing the throttle trigger reduces engine speed. At idle, the cutting-line head or blade should coast to a stop.



CONTROLS & EQUIPMENT

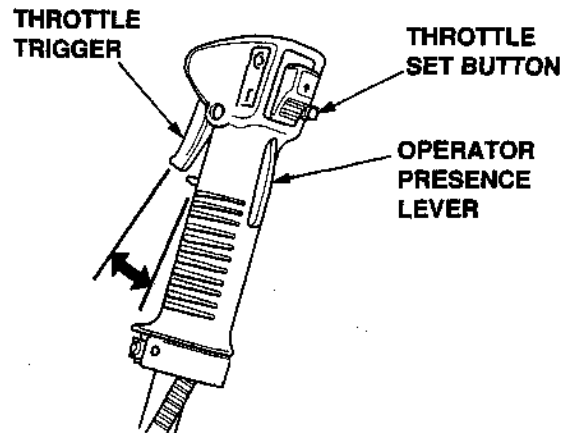
Throttle Set Button

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

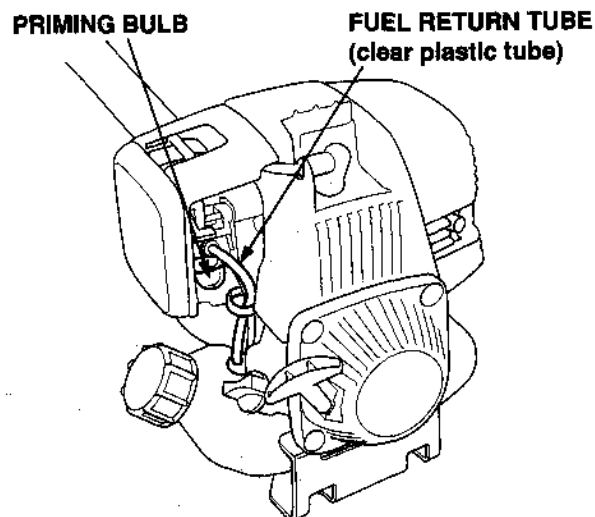
Do not use the throttle set button while operating the trimmer. The trimmer will not return to idle, and the cutting-line head or blade will continue to spin, until the set button is disengaged and the throttle trigger is released.



Priming Bulb

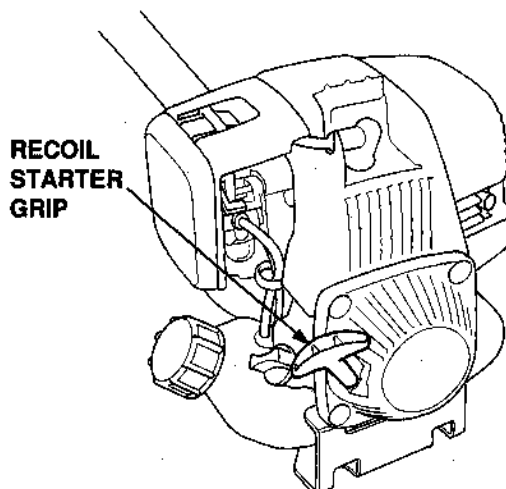
Pressing the priming bulb pumps fuel from the fuel tank to the carburetor. This procedure is necessary for starting a cold engine and after refueling an engine that has run out of fuel.

To ensure that 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.



EQUIPMENT

Honda UMK422 and UMK431 trimmers/brush cutters are supplied with a shoulder harness and safety glasses. Refer to page 14 for a description of other equipment and protective clothing you will need.

Shoulder Harness

A full shoulder harness must be worn by the operator of these Honda trimmers/brush cutters when equipped with a blade and debris shield. If the trimmer is equipped with a cutting-line head and shield with cutoff knife, the operator may wear a single-strap harness.

A suitable shoulder harness is supplied with each new Honda UMK422 and UMK431 trimmer/brush cutter. Replacement shoulder harnesses may be purchased through any authorized Honda trimmer/brush cutter servicing dealer.

Before operation, adjust your shoulder harness as described on page 16.

Quick-Release Latch

The shoulder harnesses supplied with these trimmers are equipped with a quick-release latch.

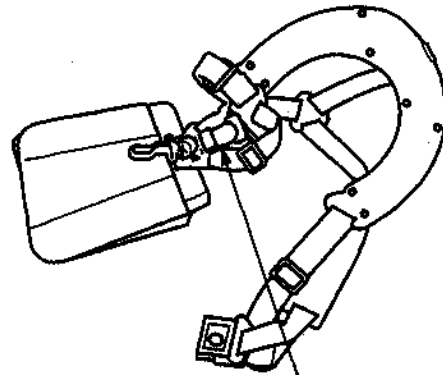
Pull the latch tab upward to detach the trimmer from the harness.

Insert the latch tongue in the slot of the quick-release latch to reattach the trimmer to the harness.

Safety Glasses

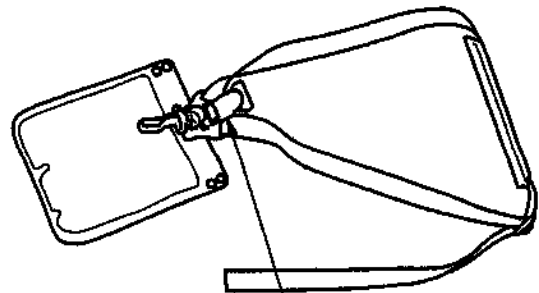
Safety glasses or goggles that comply with ANSI standard Z87.1 must be worn by the operator of any Honda trimmer/brush cutter. The safety glasses supplied with each new Honda UMK422 and UMK431 trimmer/brush comply with the ANSI standard.

FULL SHOULDER HARNESS

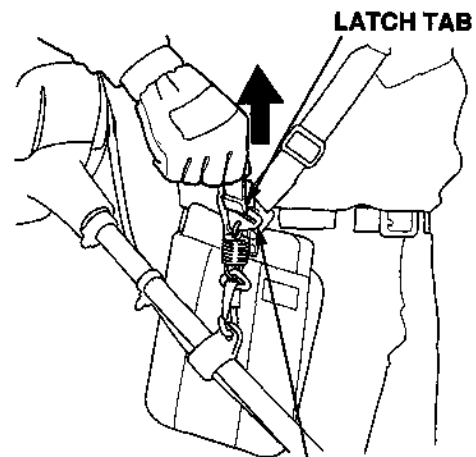


QUICK-RELEASE LATCH

SINGLE-STRAP SHOULDER HARNESS

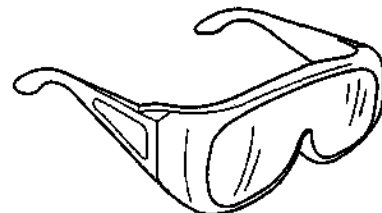


QUICK-RELEASE LATCH



QUICK-RELEASE LATCH

SAFETY GLASSES (ANSI Z87.1)



BEFORE OPERATION

ARE YOU READY TO OPERATE THE TRIMMER?

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 trimmer 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 trimmer. Do not operate the trimmer 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 trimmer.

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 trimmer. 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 trimmer can cause serious injury. Before operating the trimmer, carefully inspect the area, and remove all objects that could be thrown by, or entangled in, the cutting attachment, 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 trimmer is being operated.

Even outside a 50-foot (15-meter) radius of the trimmer, 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 trimmer, release the throttle trigger and stop the engine.

IS YOUR TRIMMER 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 trimmer 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 trimmer.

⚠ WARNING

Improperly maintaining this trimmer, 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.

Cutting Attachment Inspection

- Look for signs of damage to the cutting attachment (see pages 33 and 39). Replace any cutting attachment and parts that are worn out, bent, cracked, chipped, or damaged in any way.
- If using a metal blade, be sure it is sharp. A dull blade is more likely to snag and thrust.
- If using a metal blade on a trimmer equipped with a loop handle, be sure the barrier bar (optional part) is installed beneath the loop handle.
- Make sure the cutting attachment is properly installed and securely fastened (see pages 38 and 40).
- Check that the debris shield is the correct shield for the cutting attachment (see page 9), and that it is securely installed and in good condition.

Maintenance Inspection

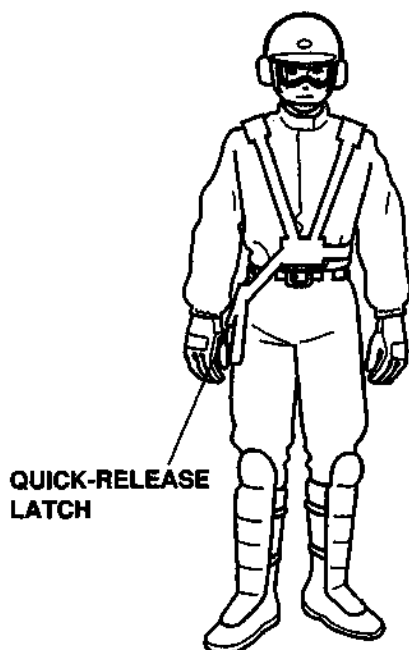
- Check the oil level (see page 26). Running the engine with a low oil level can cause engine damage.
- Check the air filter (see page 27). A dirty air filter will restrict air flow to the carburetor, reducing engine and trimmer performance.
- Check throttle cable free play (see page 30). The cable must be correctly adjusted and operate smoothly for good throttle control.
- Check the fuel level (see page 31). Starting with a full tank will help to eliminate or reduce operating interruptions for refueling.

BEFORE OPERATION

ARE YOUR SHOULDER HARNESS AND TRIMMER CORRECTLY ADJUSTED?

Adjusting the Harness

Adjust the harness so the quick-release latch is at your right hip, as shown.

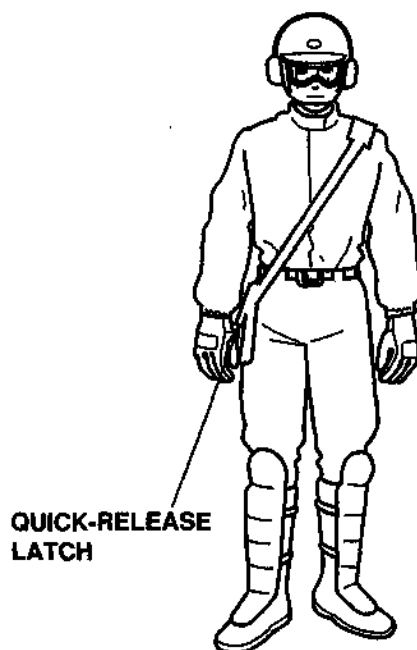
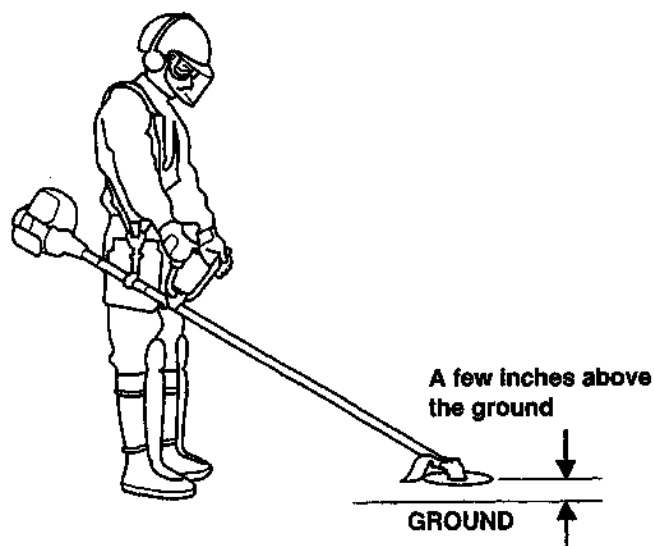


FULL SHOULDER HARNESS

Balancing the Trimmer on the Shoulder Harness

Hang the trimmer on the harness hook, and see how it balances.

Adjust the shoulder harness, the hanger clamp on the trimmer shaft, and the loop handle or U-type handlebar, so the handle or handlebars are in a comfortable operating position, and the trimmer hangs with its cutting attachment a few inches above the ground (see page 19).



SINGLE-STRAP SHOULDER HARNESS

OPERATION

SAFE OPERATING PRECAUTIONS

Before operating the trimmer for the first time, please review the **IMPORTANT SAFETY INFORMATION** on page 4 and the chapter titled **BEFORE OPERATION**.

Even if you have operated other trimmers, take time to become familiar with the operation of this trimmer'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 trimmer starts to shake or vibrate, stop the engine immediately. After the cutting head 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 cutting attachment. Do not operate the trimmer 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 the symptoms occurs, 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.

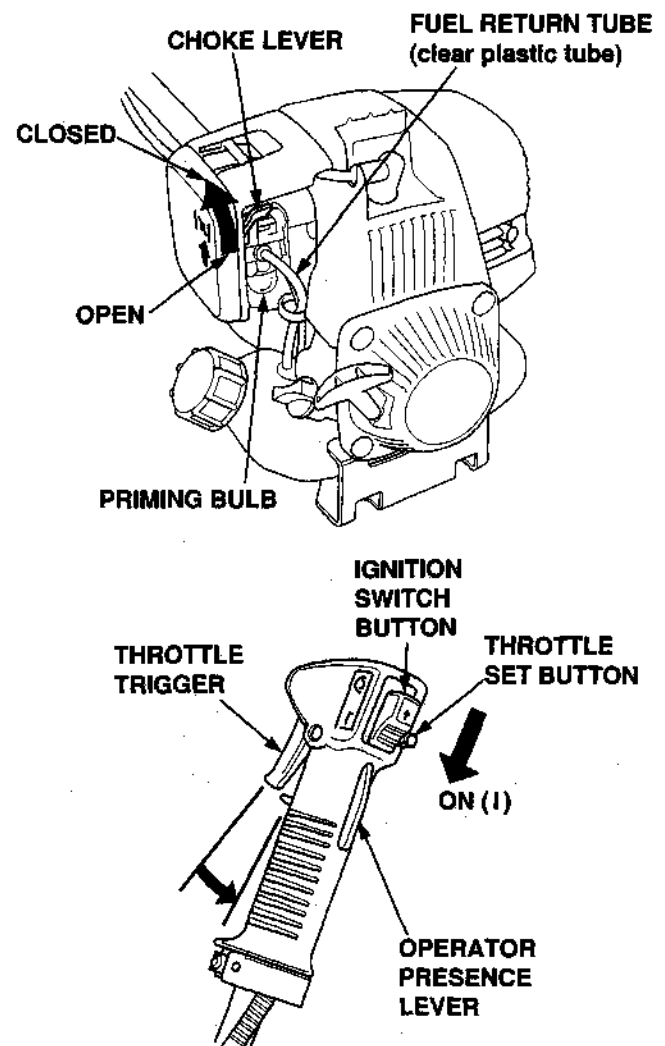
2. To start a cold engine, or after refueling an engine that has run out of fuel, press the priming bulb repeatedly until fuel can be seen in the clear-plastic fuel-return tube.

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 button to the **ON (I)** position.

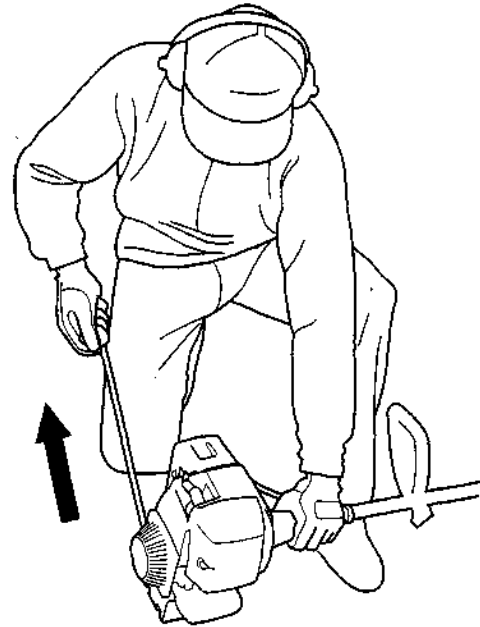


OPERATION

5. Set the trimmer on the ground, resting on the debris shield and the fuel tank guard. Do not allow the cutting line or blade to contact any obstruction.

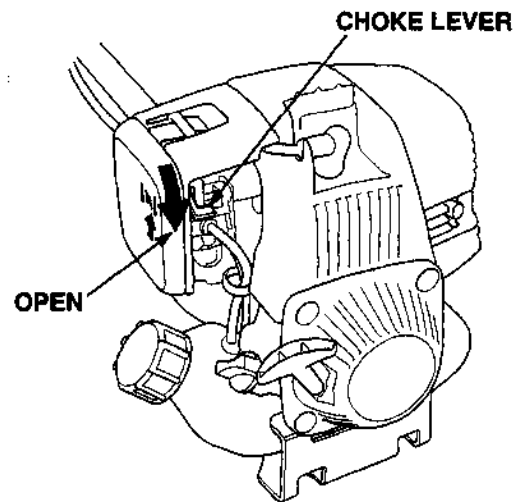
Always rest the trimmer on the ground for starting, rather than holding it in the operating position. That prevents the end of the trimmer from swinging into something as you start the engine.

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.



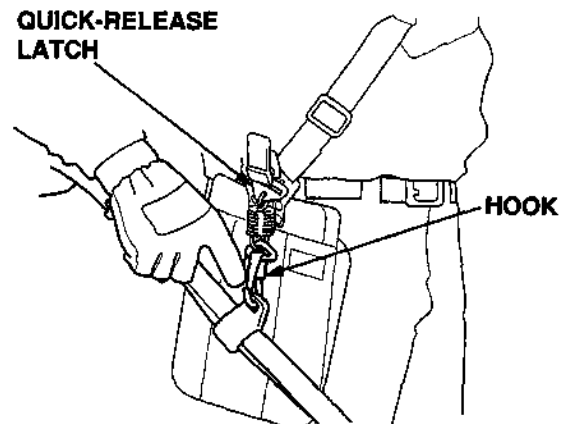
7. If the choke lever was moved to the CLOSED position to start the engine, gradually move it to the OPEN position as the engine warms up.

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. With the engine idling, hook the trimmer to your shoulder harness. Be careful to avoid contact with the cutting line head or blade while handling the trimmer with the engine running.

The cutting line head or blade should not rotate with the engine idling. If there is rotation at idle, adjust the idle speed correctly before using the trimmer. For idle adjustment, consult your servicing dealer.



STOPPING THE ENGINE

1. Release the throttle lever.
2. Move the ignition switch button to the OFF (O) position.

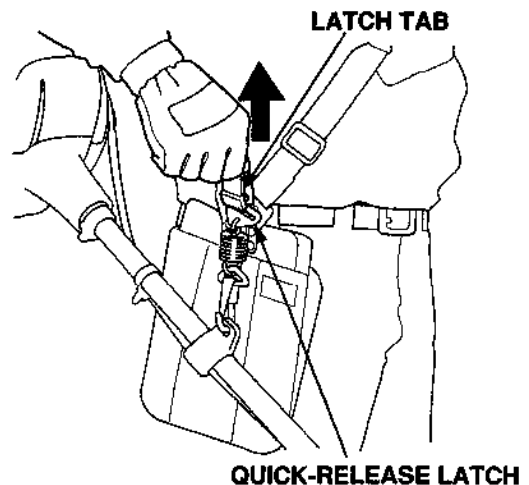
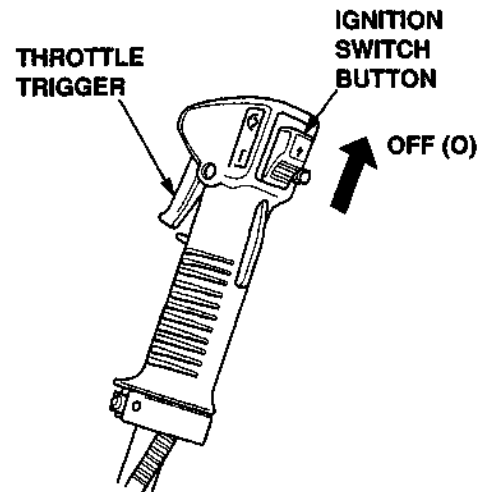
Wait for the cutting line head or blade to stop before allowing the end of the trimmer to contact anything.

⚠ 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 trimmer until the blade has completely stopped rotating.



TRIMMER/HARNESS QUICK DISCONNECTION

To quickly detach the trimmer from the harness, pull the quick-release latch tab upward.

Insert the latch tongue in the slot of the quick-release latch to reattach the trimmer to the harness.

TRIMMER OPERATION

Operating Position

Hold the trimmer firmly with both hands, with your fingers and thumbs encircling the handles as shown. This will help you to keep the trimmer under control at all times.

- Keep firm footing and balance.
- Do not overreach.
- Keep the cutting attachment below waist level.
- Keep all parts of your body away from the rotating cutting attachment and hot surfaces.



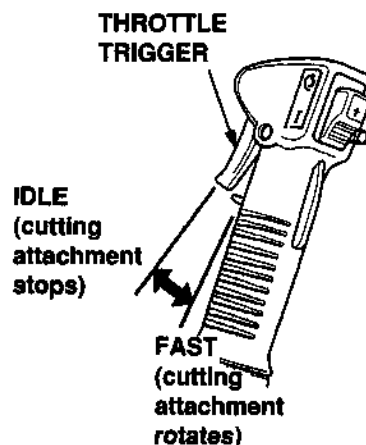
OPERATION

Throttle Operation

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

The trimmer has the greatest cutting force at maximum engine speed.

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



Using a Nylon Cutting-Line Head

As the ends of the line wear away, more line must be released from the cutting-line head. Your trimmer is factory-equipped with either a manual-feed or semiautomatic (bump-feed) cutting-line head, which have different procedures for releasing line.

The debris shield is equipped with a cutoff knife, which automatically removes any excess line that is released.

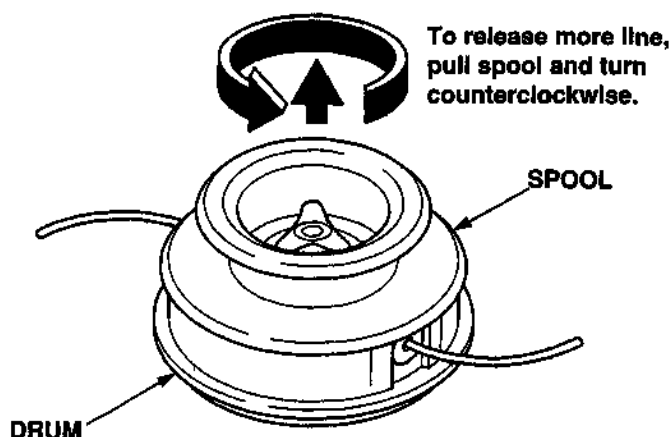
Manual-Feed Cutting-Line Head

Line must be released with the cutting-line head stopped.

1. Stop the engine, and wait for the cutting-line head to coast to a complete stop.
2. Hold the drum, pull the spool out about a quarter of an inch, then turn the spool counterclockwise until it snaps into the drum again.

The spool will snap into the drum every sixth of a turn, which releases 1 to 1-1/2 inches of line.

MANUAL-FEED CUTTING-LINE HEAD



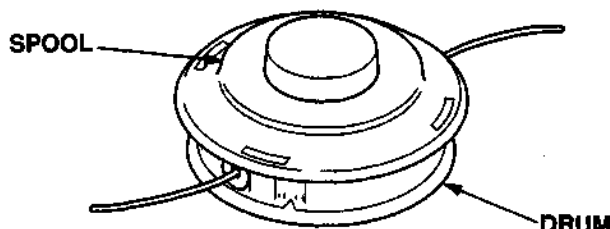
Semiautomatic (bump-feed) Cutting-Line Head

Line must be released with the cutting-line head spinning rapidly.

With the engine running at full speed, tap the cutting-line head on hard, bare ground.

Each tap releases about 2 inches of line.

SEMIAUTOMATIC (bump-feed) CUTTING-LINE HEAD



Using Blades

Refer to the chart on page 9 for appropriate blade applications.

If using a metal blade on a Honda trimmer equipped with a loop handle, also install the Honda conversion kit that includes a full shoulder harness, a barrier bar, and a debris shield for metal blades. Follow the installation instructions and safety information that come with the kit.

Metal blades are supplied with a cover surrounding the edge of the blade. For your safety, and to protect the blade, the cover should be installed whenever the trimmer is not in use.

Be sure to remove the blade cover before starting the engine. Otherwise, the blade cover may fly off at high speed.

If the trimmer 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 trimmer over uneven or rough ground, and when the ground is wet and slippery. Watch out for hidden obstacles that could cause you to stumble. Operate the trimmer only under conditions with good visibility. Do not operate the trimmer where you cannot see what it is cutting.

⚠ WARNING

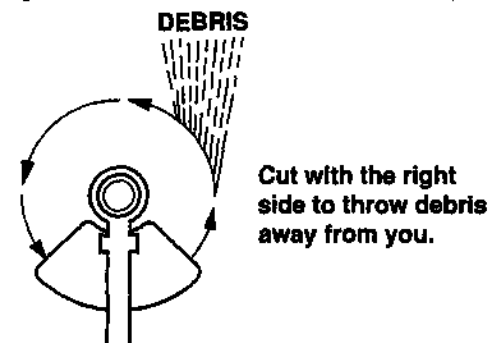
Rotating cutting lines can cause serious abrasions and cuts, and blades can cut deeply.

- **Keep away from the cutting lines or blade whenever the engine is running.**
- **Always stop the engine, and be sure the cutting line head or blade has stopped turning, before inspecting or handling the cutting lines or blade.**

Thrown Debris

The trimmer will throw debris in the direction of blade movement at the point of contact.

The cutting line head or blade on Honda UMK422 and UMK431 trimmers rotates counterclockwise, as viewed from the operator's position, so tilting the cutting line head to the right will throw debris away from you, and tilting to the left will throw debris toward you.



If the cutting line head or blade is held parallel to the ground, debris will scatter in all directions, and there will be greater friction which will wear out the cutting line or blade sooner.

When operating the trimmer near a hard surface, such as a wall, work from an angle where debris that strikes the hard surface will ricochet away from you.

Gravel, loose stones, etc. can be picked up by the nylon cutting lines or blade and thrown many feet with enough force to cause serious personal injury and/or property damage. Before crossing graveled areas, release the throttle trigger to stop the cutting line head or blade.

OPERATION

Blade Thrust (Kickback)

Blade thrust (kickback) is the sudden, forceful, and uncontrolled movement of a blade-equipped trimmer that may occur if the blade binds in the cut or strikes a solid object.

Blade thrust (kickback) throws the trimmer in the direction opposite blade rotation at the point of contact, and the jolt received by the operator can result in further loss of control.

To reduce the risk of loss of control, use metal blades on trimmers equipped with a U-type handlebar, or install the barrier bar (optional part) on trimmers equipped with a loop handle.

Replace or sharpen dull blades. Dull blades are more likely to bind in the cut and cause blade thrust.

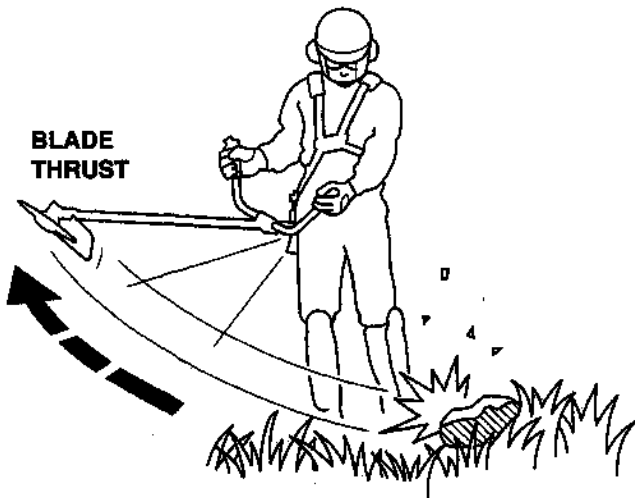
Watch out for hidden obstacles, such as rocks, stumps, roots, etc., that could cause the blade to kick back if struck. Blade thrust is more likely to occur in areas where it is difficult to see what is being cut.

Understand the reaction forces of the blade. When using a brush blade to saw through heavy brush and small saplings, saw with the side of the brush blade that is moving toward you and tends to pull the trimmer away from you.

Blades on Honda UMK422 and UMK431 trimmers rotate counterclockwise, as viewed from the operator's position. Therefore, the left side of the blade is moving toward you. With these trimmers, sawing with the left side of a brush blade will give you better control and less risk of kickback, though it will throw the sawdust toward you.

Cut from the side of saplings that will cause them to fall away from the trimmer. This will help to prevent the blade from binding in the cut and kicking back.

Accelerate the engine to maximum speed before starting the cut, and saw through with uniform pressure.



OPERATING TIPS

Scything

Swing the trimmer in a level arc by rotating your body with a smooth, easy motion, rather than moving the trimmer with your arms. Do not chop at tough weeds and brush; let the cutting line or blade work through tough growths gradually.

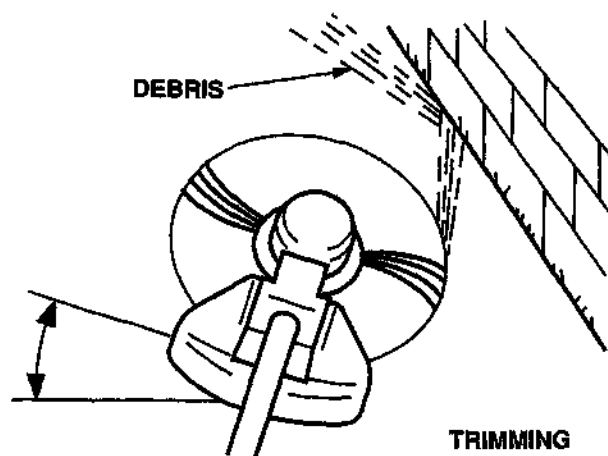
To direct thrown debris away from you, tilt the cutting attachment to the right side, scythe from left to right, then return without cutting.



Trimming and Edging

Use nylon line for cutting against a hard surface. Work from an angle where debris that strikes the hard surface will ricochet away from you.

Avoid contact with wires, wire fences, metal rods, etc. Overlapping a wire will cause the nylon line to wrap around the wire and break off.



Brush Clearing

Clearing brush with a brush blade may require both scything and sawing.

Scything with the right side of the blade will direct thrown debris away from you.

Be especially careful to direct debris away from you if recutting an area to shorten stumps. Short lengths of shrub and sapling stumps may tear off and be thrown at high speed.

Sawing heavy brush and saplings with the left side of the blade will reduce the risk of kickback.

Accelerate the engine to maximum speed before starting the cut, and saw through with uniform pressure.

If shrubs or saplings bind the blade, stop the engine, and while supporting the weight of the trimmer, push the shrub or sapling away to free the blade. Do not use the blade as a lever.



Operation on Slopes

Start on the low side of a slope, and work upward. This will reduce your risk of slipping and falling, and it will give you a cutting angle that will better enable you to direct debris away from you.

Do not let the cutting line or blade dig into the slope, because that can cause stones and dirt to be thrown at you.

Do not raise the cutting attachment above waist level during operation, because that would increase the risk of thrown objects striking your face.

Avoid steep slopes that would require holding the cutting attachment above waist level. Avoid slippery slopes that might cause you to lose your balance.

SERVICING YOUR HONDA TRIMMER

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 trimmer, 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 trimmer, 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 trimmer under severe conditions, such as sustained high-load or high-temperature operation, or use it in unusually wet or dusty conditions, consult your servicing dealer for recommendations applicable to your individual needs and use.

Remember that your servicing dealer knows your trimmer 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.

SERVICING YOUR HONDA TRIMMER

MAINTENANCE SCHEDULE

REGULAR SERVICE PERIOD (3)		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
ITEM	Perform at every indicated month or operating hour interval, whichever comes first.							
• Engine oil	Check	○						26
	Change		○		○			26
• Air filter	Check	○						27
	Clean			○(1)				27
Throttle cable	Check	○						30
Cutting attachment	Check	○						33 & 39
Debris shield	Check	○						33 & 39
Nuts, bolts, fasteners	Check- Retighten if necessary	○						—
Engine cooling fins	Check				○			30
Shoulder harness quick-release	Check	○						19
• Idle speed	Check- Adjust					○(2)		—
• Valve clearance	Check- Adjust						○(2)	—
Gear case	Lubricate				○(2)			—
Clutch shoes and drum	Check				○(2)			—
• Spark plug	Check- Clean					○		28
	Replace						○	28
Spark arrester	Clean					○		29
• Fuel filter	Check					○		32
• Fuel tank	Clean					○		32
• Fuel tubes	Check	Every two years [replace (2) if necessary]						32

• Emission-related items

- (1) Service more frequently when used in dusty areas.
- (2) These items should be serviced by your 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.

SERVICING YOUR HONDA TRIMMER

ENGINE

Engine Oil Level Check

Check the engine oil level before each use, or every 10 hours if operated continuously. Rest the trimmer 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 27). 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. Screw in the 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.

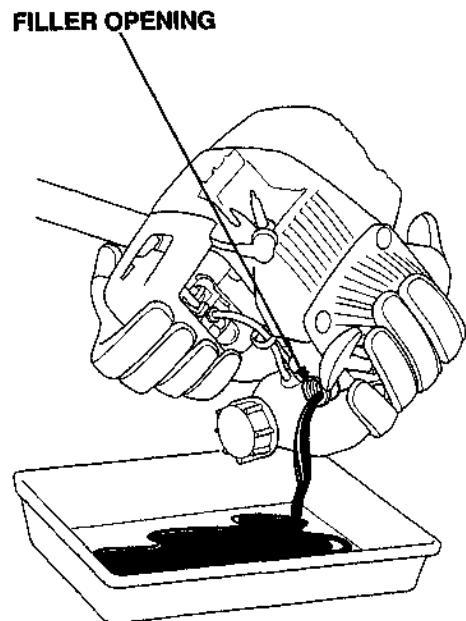
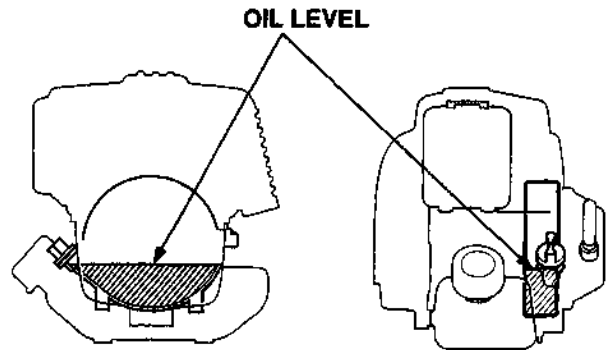
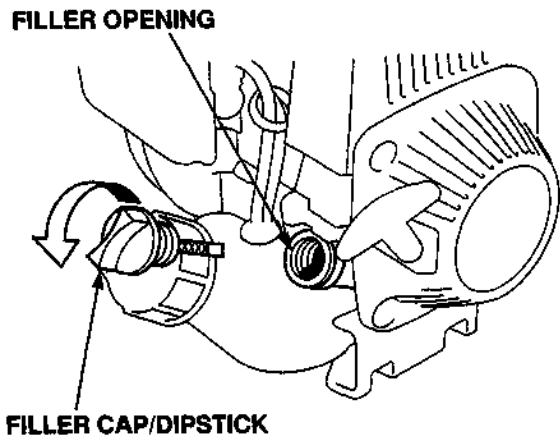
NOTICE

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.

3. With the engine in an upright position, fill to the edge of the oil filler hole with the recommended oil (see page 27).

Engine oil capacity: 0.11 US qt (3.38 fl. oz, 0.1 l)

4. Screw in the 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 trimmers. The recommended operating range extends from 23°F (-5°C) to 104°F (40°C).

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

Air Filter Inspection

Press the air cleaner latch tab, 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 under *Air Filter Cleaning*. Replace the filter if it is damaged. Reinstall the filter and air cleaner cover.

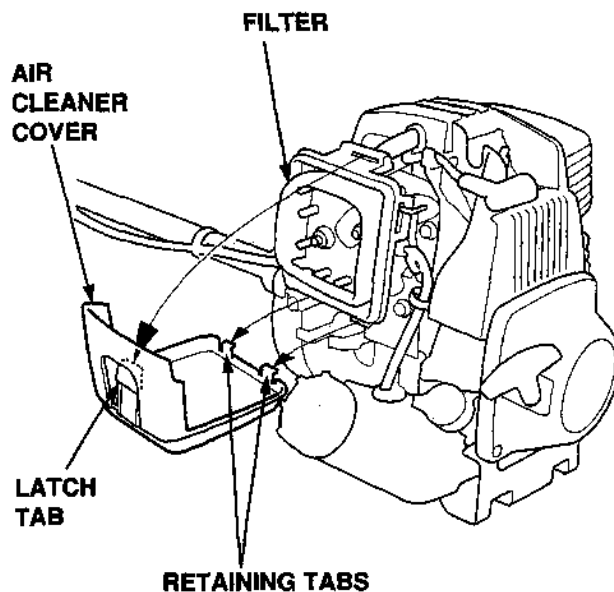
NOTICE

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.

Air Filter 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.



SERVICING YOUR HONDA TRIMMER

Spark Plug Service

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

NOTICE

Incorrect spark plugs 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. Clean the spark plug with a wire brush if you are going to reuse it.
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.

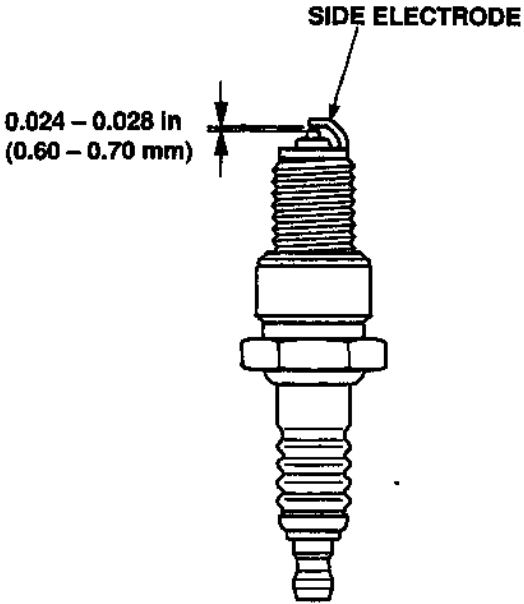
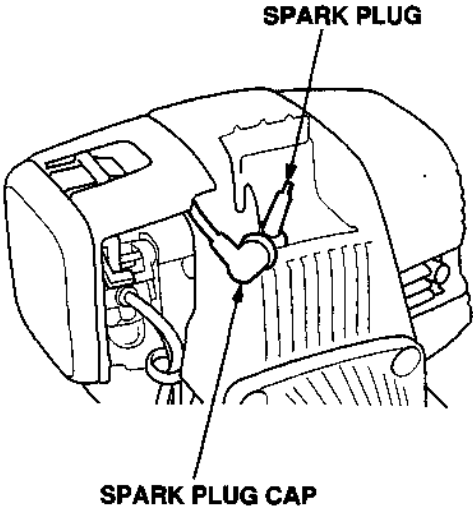
If reinstalling the used spark plug, tighten 1/8 – 1/4 turn after the spark plug seats.

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

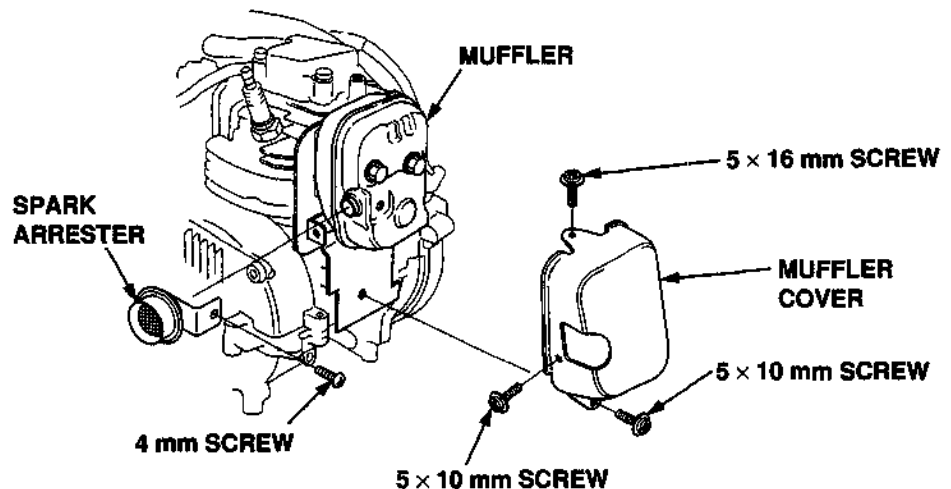
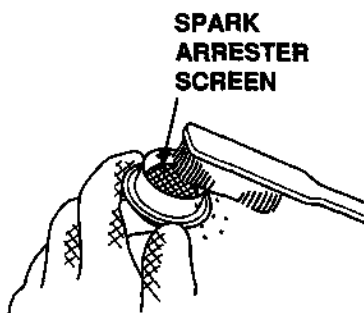
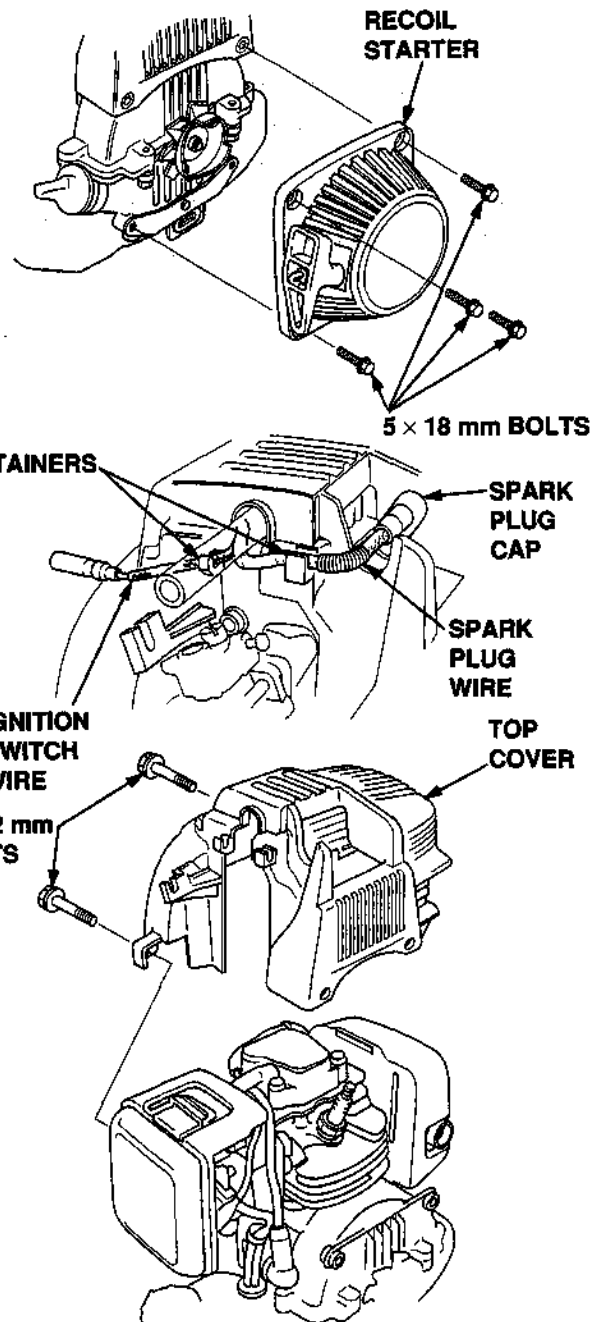
The spark arrestor must be serviced every 100 hours to keep it functioning as designed.

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

1. Remove the four 5 × 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 × 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 arrestor, and remove the spark arrestor.
6. Use a brush to remove carbon deposits from the spark arrestor screen. Be careful to avoid damaging the screen.

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

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

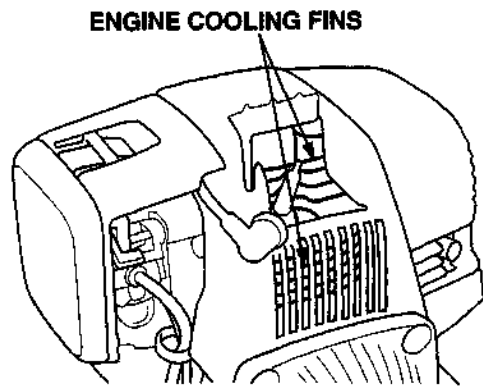


SERVICING YOUR HONDA TRIMMER

Cooling Fin Inspection

Inspect the engine cooling fins, and clean out dirt and debris if they are clogged.

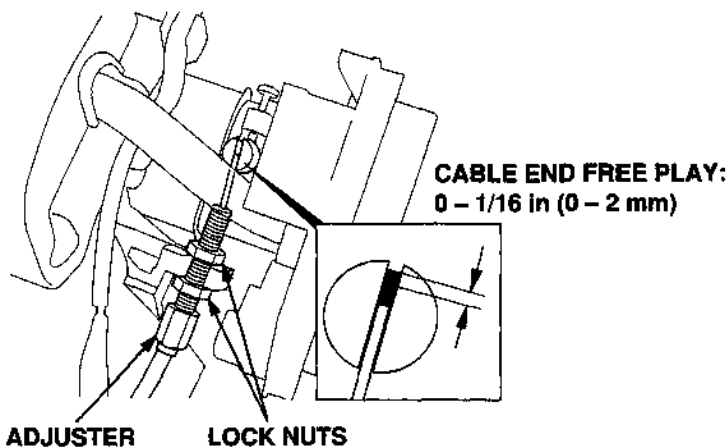
If it is necessary to remove the top cover for better access to the cooling fins, follow disassembly steps 1 through 3 on page 29.



Throttle Cable Inspection

Verify that 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 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.



Throttle Cable Adjustment

1. Loosen the lock nuts with a 10 mm wrench, and move the adjuster in or out as required.
2. Tighten the lock nuts and recheck cable free play.

FUEL SYSTEM

Refueling

Fuel tank capacities

UMK422: 0.48 US qt/15.2 fl. oz (0.45 ℓ)

UMK431: 0.69 US qt/22.0 fl. oz (0.65 ℓ)

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 trimmer 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.

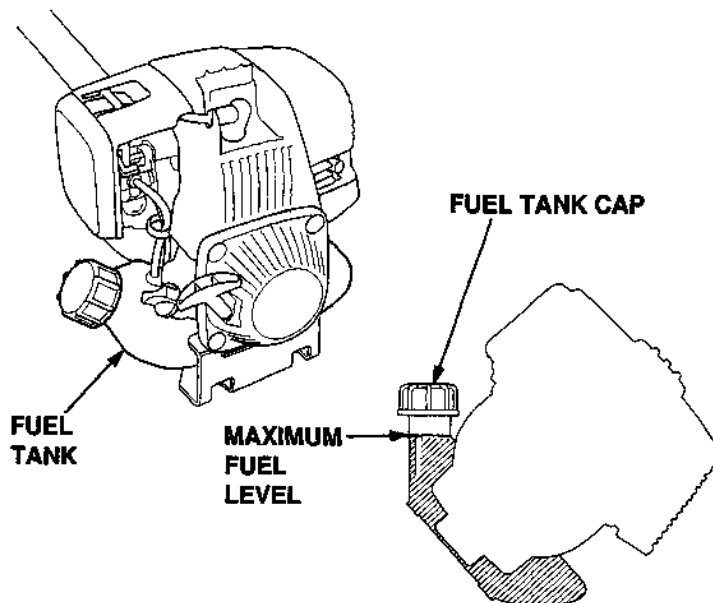
You can be burned or seriously injured when handling fuel.

- 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.

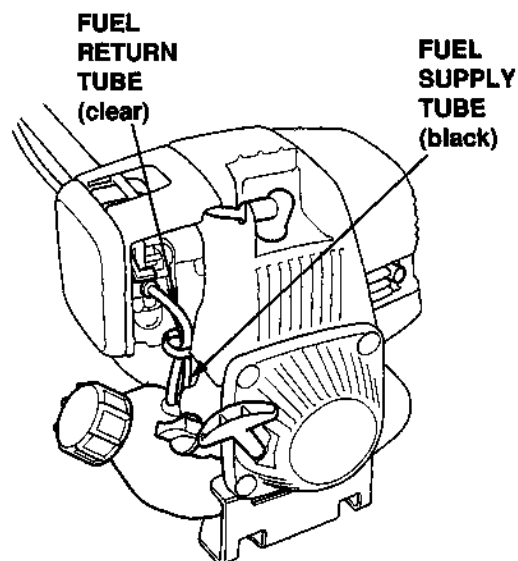
Running the engine with persistent spark knock or pinging is misuse, and the Distributor's Limited Warranty does not cover parts damaged by misuse.

SERVICING YOUR HONDA TRIMMER

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 trimmer to a Honda trimmer servicing dealer.

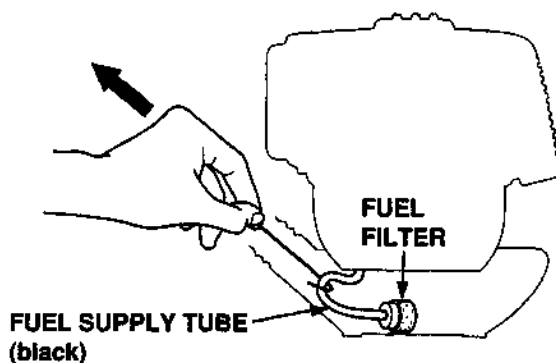
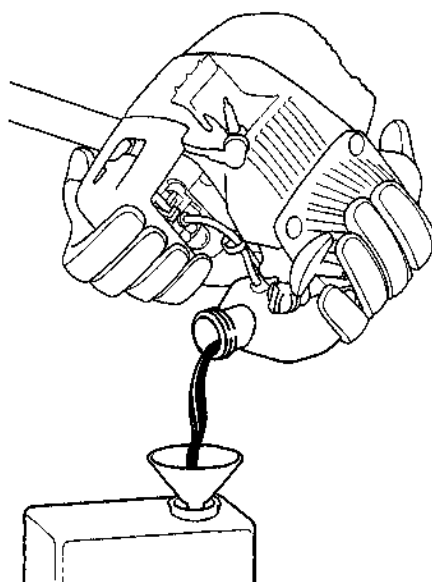


Fuel Filter and Fuel Tank Cleaning

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, 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.



CUTTING ATTACHMENTS

There are several cutting attachments for your trimmer. Use the following section to inspect, remove, service and install a standard (factory-installed) cutting attachment.

Always turn the engine switch to the OFF position, and disconnect the spark plug cap before performing any inspection, adjustment or maintenance on the trimmer.

Cutting-Line Heads

All Honda trimmers come with either a manual or semiautomatic cutting head. Read this section to learn how to inspect, install new line, and remove and install a cutting head from the trimmer.

Inspection

Make sure the nylon line is only sticking out of the metal eyelets on the head. If any of the line has come off the spool, follow the "Installing Replacement Nylon Line" instructions in this section to disassemble the spool and replace the line.

Examine the entire head area, including the debris shield, and clear or clean it free from dirt, debris, loose string, wire, or any other foreign materials.

For the semiautomatic head, verify the spool cover is locked in place (page 35). For the manual feed head, make sure the three-sided knob is correctly tightened (page 36). For both head styles, check for any cracks in the plastic, and replace any damaged parts.

Installing Replacement Nylon Line

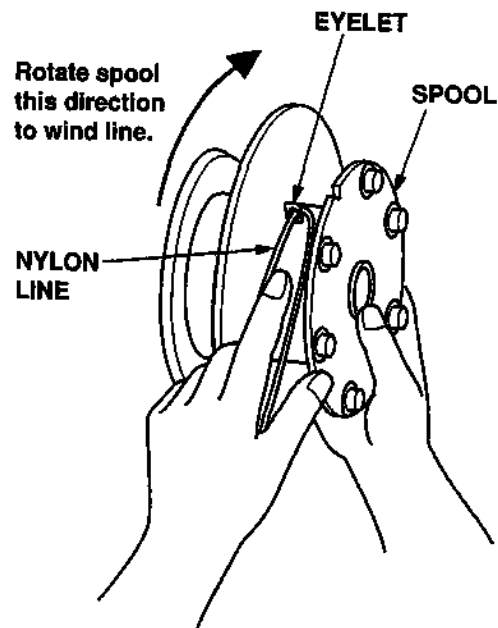
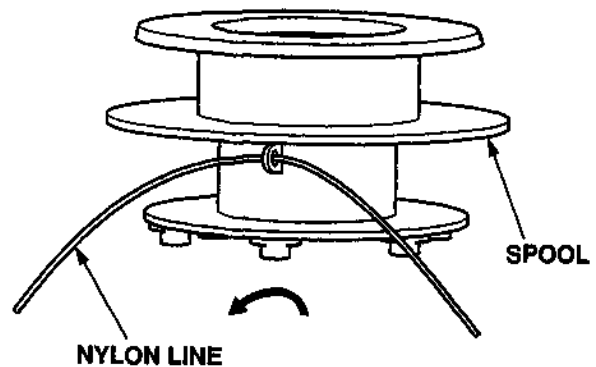
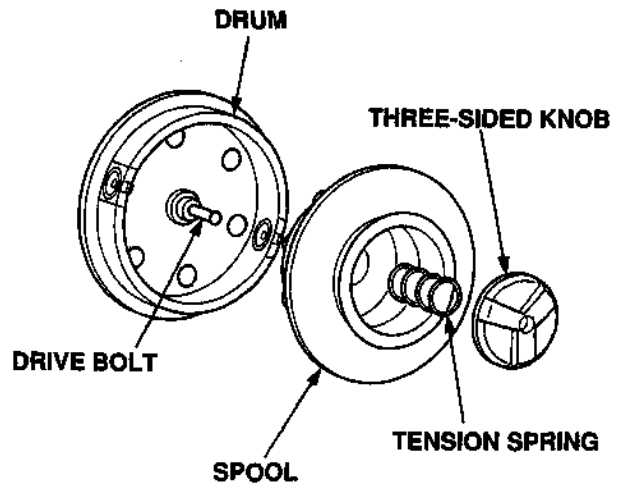
First, determine which cutting-line head style is on your trimmer. A manual-feed trimmer head has a three-sided knob on the bottom of the head, while the semiautomatic head has a spring-loaded round button on the bottom of the head.

Use only the line size specified for the trimmer head. For original, factory-installed Honda cutting-line heads, use 0.095- or 0.105-inch-diameter nylon line. Do not use any kind of metal, wire or wire rope line on the trimmer. Use only genuine Honda replacement nylon trimmer line or the equivalent.

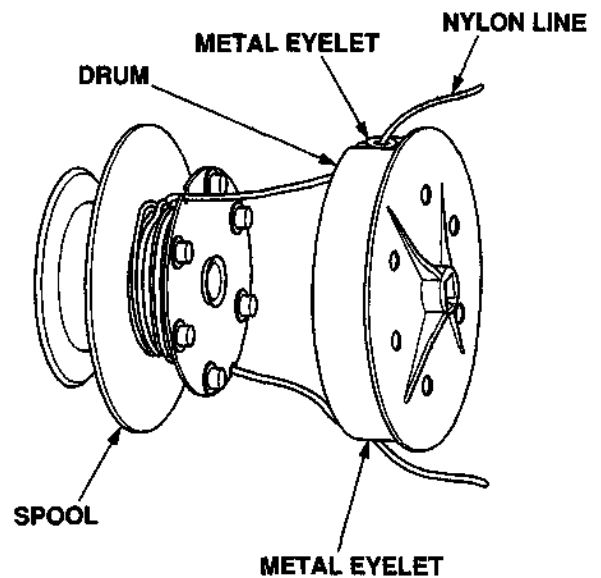
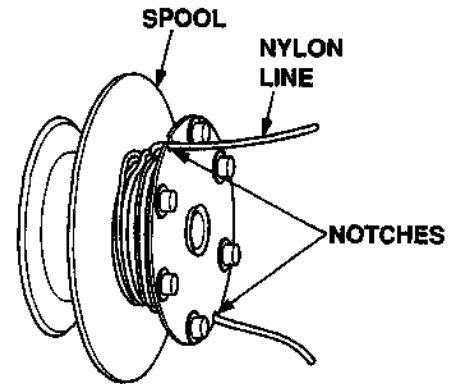
SERVICING YOUR HONDA TRIMMER

Manual-Feed Cutting-Line Head

1. Clean any mud, dirt, debris, etc. from the area around the trimmer head; otherwise, it will make it more difficult to service.
2. Remove the three-sided knob; it has a left-hand thread, so turn it clockwise to remove. Remove the tension spring.
3. Remove the trimmer head from the drive bolt.
4. Clean any debris, dirt, or loose string away from the drive bolt and the gear case.
5. Separate the two halves (drum and spool) of the trimmer head, then remove any remaining nylon line from the spool.
6. Measure about 12 feet (3.7 meters) of new line, then thread one end through the eyelet on the spool. Pull the line until the two lengths are equal.
7. Hold the spool in your hand by the manual-feed grip. Wind both lines together around the spool, turning the spool in the direction shown by the arrow.
8. When winding, it is important not to allow the two lines to cross over each other. Position a finger between the lines as you turn the spool to prevent the lines from becoming crossed.



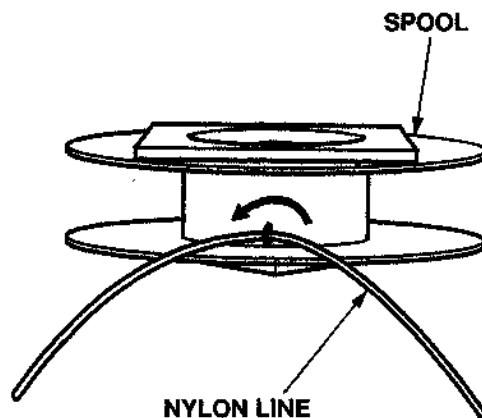
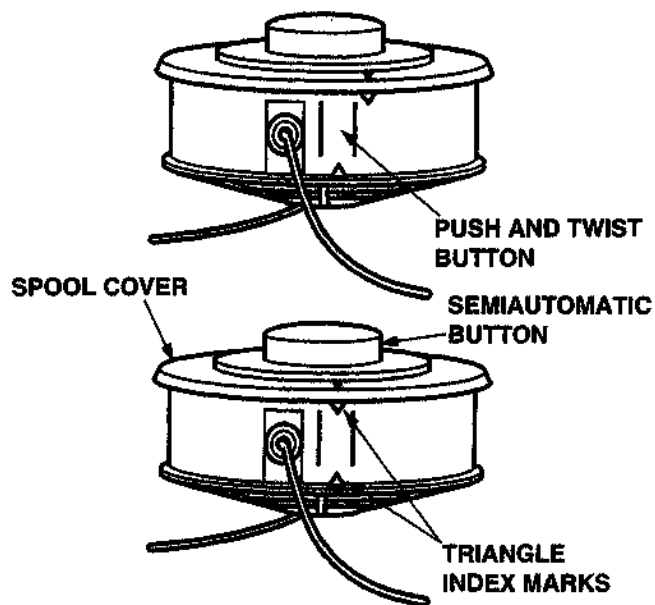
9. When you have about 6 inches (150 mm) of line remaining, press the lines into the two notches on the bottom of the spool as shown. This will hold the line on the spool for reassembly.
10. Guide the ends of the lines through the metal eyelets on the drum. Push the spool into the drum, but be careful not to let any line get trapped outside the edges of the spool.
11. Hold the drum and spool firmly, then pull each line until you hear it snap out of the notch. It is okay if one line is longer than the other. Once each line has snapped out, press the spool all the way into the drum.
12. If you're not sure the line snapped out of the notch, carefully pull the spool away from the drum and inspect the line.
13. Slide the drum/spool assembly back on to the drive bolt, then install the spring. Hand tighten the three-sided knob as tight as you can, then loosen the knob about 1-1/2 turns. Otherwise, it will be difficult to operate the manual feed function of the trimmer head.



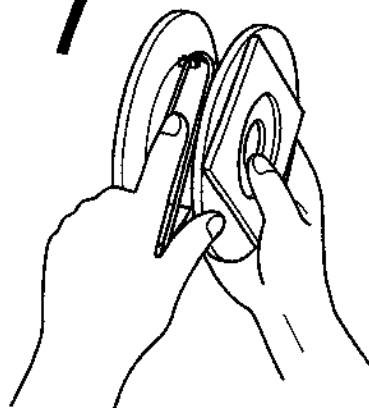
SERVICING YOUR HONDA TRIMMER

Semiautomatic (Bump-Feed) Cutting-Line Head

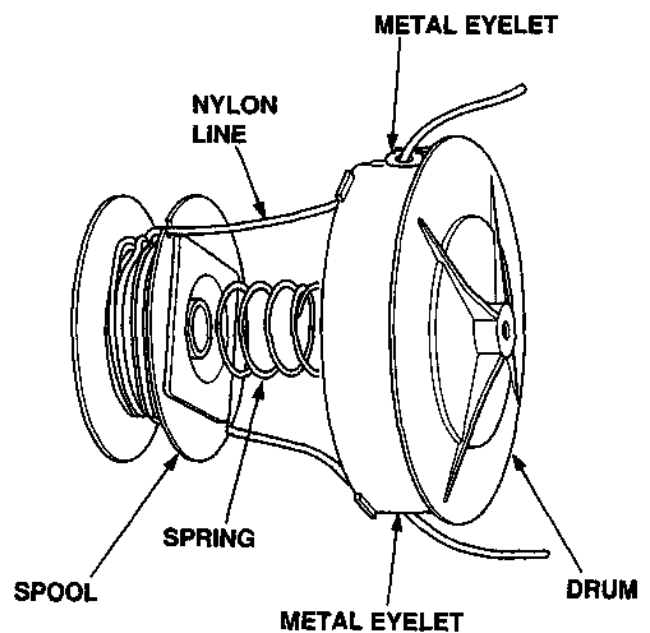
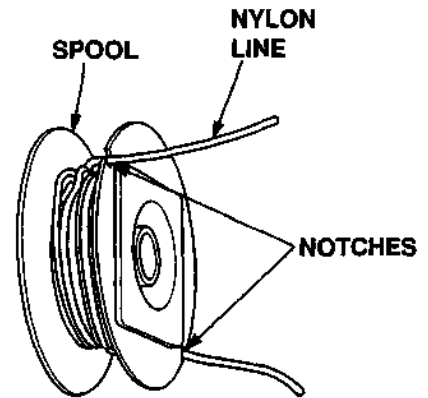
1. Clean any mud, dirt, debris, etc., from the area around the trimmer head; otherwise, it will make it more difficult to service.
2. Locate the square-shaped **"PUSH AND TWIST"** button on the side of the trimmer head.
3. Hold the drum section of the trimmer head firmly, then press the **"PUSH AND TWIST"** button in slightly, then turn the spool cover slightly to line up the triangle index marks. The spool cover and the semiautomatic button will come loose from the drum.
4. Remove the spool and spring from the drum. Remove any remaining nylon line from the spool.
5. Measure about 12 feet (3.7 meters) of new line, then thread one end through the eyelet on the spool. Pull the line until the two lengths are equal.
6. Hold the spool in your hand with the spring side facing away. Wind both lines together around the spool, turning the spool in the direction shown by the arrow.
7. When winding, it is important not to allow the two lines to cross over each other. Position a finger between the lines as you turn the spool to prevent the lines from becoming crossed.



Rotate spool
this direction
to wind line.



8. When you have about 6 inches (150 mm) of line remaining, press the lines into the two notches on the bottom of the spool. This will hold the line on the spool for reassembly.
9. Guide the ends of the lines through the metal eyelets on the drum. Push the spool into the drum; be careful not to let any loose line get trapped outside the edges of the spool. Hold the spool inside the drum, then place the semiautomatic button and spool cover on top of the spool.
10. Hold the spool cover, semiautomatic button and drum together firmly, then pull each line until you hear it snap out of the notch. It is okay if one line is longer than the other.
11. If you're not sure if either line snapped out of the notch, carefully lift the spool cover away from the upper section and inspect the line.
12. Locate the index triangle mark on the drum and line it up with the other triangle mark on the "**PUSH AND TWIST**" button on the spool cover. Press the cover against the drum, then slightly turn the cover counter-clockwise until it clicks in place. It is not necessary to press the "**PUSH AND TWIST**" button during reassembly.

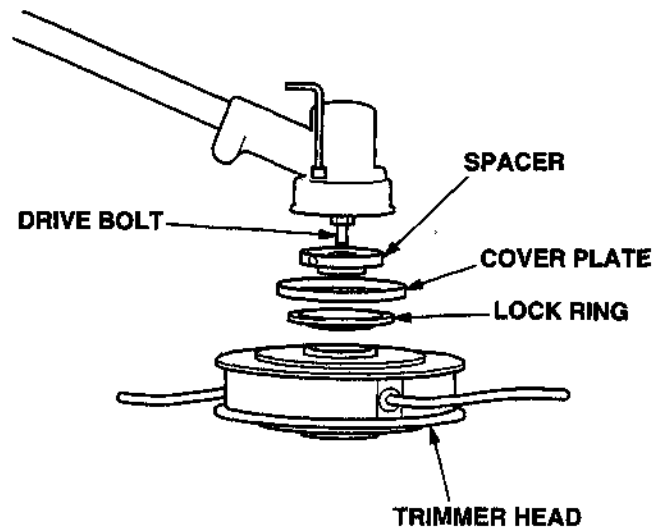
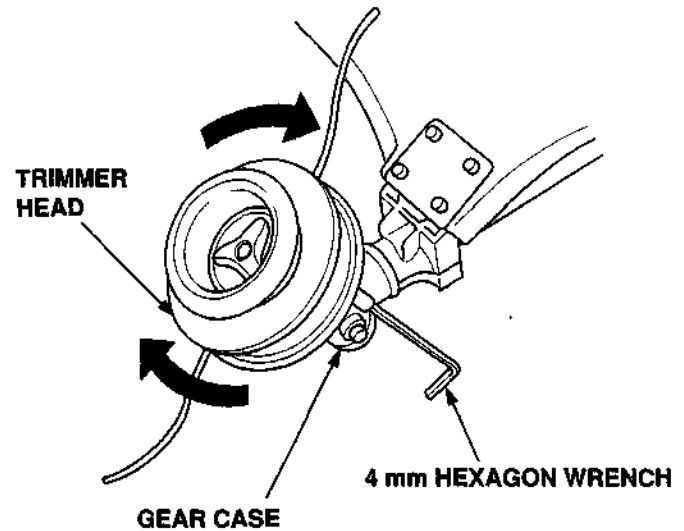


SERVICING YOUR HONDA TRIMMER

Removal & Installation

This section shows you how to remove (and install) either style trimmer head from your trimmer.

1. Insert the tip of the 4 mm hexagon wrench fully into the hole on the gear case.
2. Turn the trimmer head until you feel the tool drop into the hole in the internal locking ring. Verify the trimmer head does not turn.
3. All drive bolts use left-hand threads. Make sure the tool remains in the hole, then grasp the trimmer head and turn it clockwise (as viewed from the bottom of the trimmer head) to remove.
4. Remove the remaining parts (spacer, cover plate and lock ring) from the drive bolt. Note the order and orientation of each part as you remove them.
5. Installation is the reverse of removal. Always clean debris, dirt, loose string, etc. from the trimmer head and drive bolt before installation. Tighten the trimmer head securely.



Blades

Blade Inspection

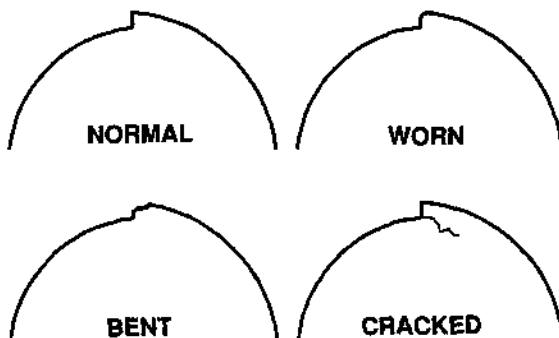
Always wear gloves when working around the blade. Before each use, check the blade for wear and damage, and check the tightness of the blade nut. Examine the entire head area, including the debris shield, and clear or clean it free from dirt, debris, loose string, wire, or any other foreign materials.

⚠ WARNING

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

A dull blade is more likely to snag and thrust (kickback).

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



A dull blade can be sharpened, but a blade that is worn out, bent, cracked, chipped, or otherwise damaged must be replaced.

When a blade needs sharpening or replacement, take the trimmer to a Honda trimmer servicing dealer. Or, if you have a torque wrench, you can remove and install a blade yourself.

Blade Removal & Installation (UMK431UNBA only)

For models other than the UMK431UNBA, a special **Blade Installation Kit** must be installed before a blade can be used. Refer to the instructions provided with that kit for blades installed on other (loop handle) models.

Always wear gloves when working around the blade. Always install the blade cover on the blade.

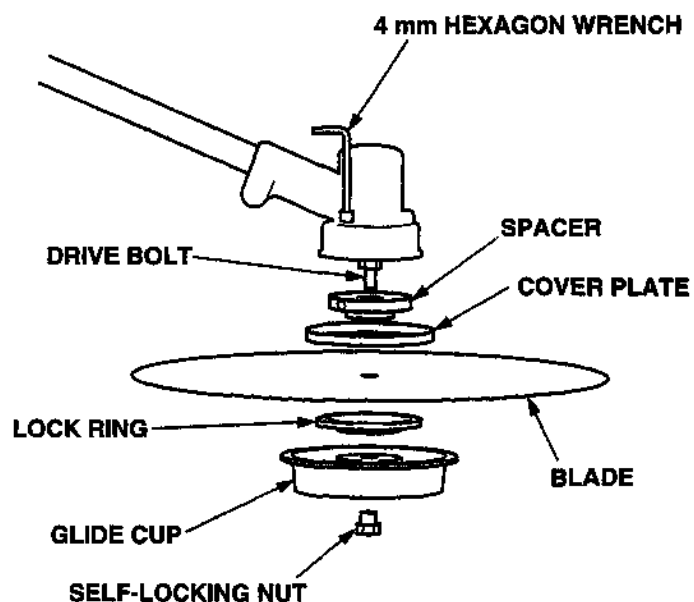
A torque wrench is required to install a blade; if you do not have one, have a Honda trimmer servicing dealer tighten the blade nut for you. If the blade nut is tightened too much, the blade bolt can break. If it is not tightened enough, the blade could come off. In either case, it would be possible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

BLADE SHARPENING: To avoid weakening the blade, or causing imbalance or poor cutting, the blade should be sharpened by trained staff at a Honda trimmer servicing dealer.

BLADE REPLACEMENT: Your Honda trimmer servicing dealer has cutting attachments that have been designed and approved for your trimmer and are covered by a warranty. Non-Honda attachments are usually designed for universal applications. Although aftermarket attachments may fit on your trimmer, they may not meet factory specifications and could make your trimmer unsafe.

SERVICING YOUR HONDA TRIMMER

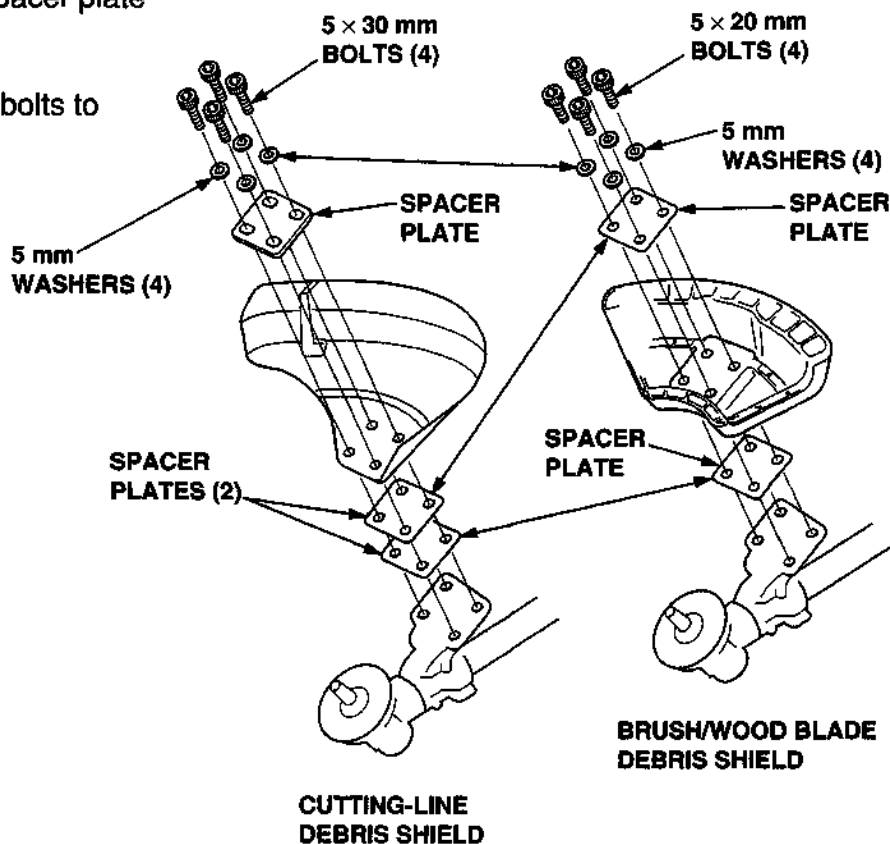
1. Install the protective plastic cover (that came with the blade) on the blade.
2. Insert the tip of the 4 mm hexagon wrench (supplied with your trimmer) fully into the hole on the gear case.
3. Turn the blade until you feel the tool drop into the hole in the internal locking ring. Verify the blade does not turn. The drive bolt and blade nut use left-handed threads. Make sure the universal tool remains in the hole, then loosen (turn clockwise) the self-locking nut. Pay attention to the order and orientation of the parts as they are removed.
4. Installation is the reverse of removal. Make sure you install the blade with the cutting edges in the direction of rotation. Torque the blade nut to 14 ft-lb (19 N·m, 14 kg·m).



Changing the Debris Shield

Refer to the applicable illustration for removing and installing the debris shields. Note that the cutting-line shield uses an additional spacer plate and the longer 5 × 30 mm bolts.

Tighten the bolts securely. Torque the bolts to 2.5 ft-lb (3.4 N·m, 0.34 kg·m).



STORAGE

STORAGE PREPARATION

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

Cleaning

Wash the trimmer, including the area around the trimmer 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 filters 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 trimmer, be careful to avoid getting water into controls and cable, or anywhere near the engine air cleaner or muffler opening.

Before washing the trimmer head area, disconnect the spark plug cap.

After washing the trimmer, wipe dry all accessible surfaces.

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 trimmer is clean and dry, touch up any damaged paint, and 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 trimmer 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.

STORAGE

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 engine switch is in the STOP position. Drain the fuel from the fuel tank to a suitable container. Pull the starter grip 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 26).

Carburetor & Air Cleaner

Clean the air filter (see page 27) and move the choke lever to the CLOSED position.

Blade

If a blade is installed, put the blade cover on the blade.

Engine Cylinder

Remove the spark plug (see page 28). 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 trimmer 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 trimmer 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 trimmer 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

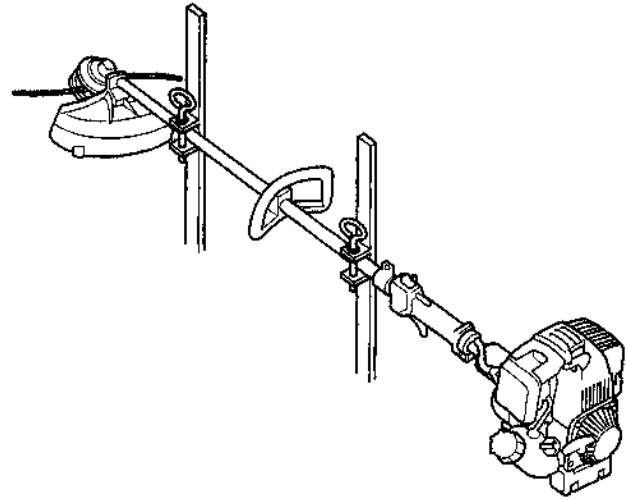
If the engine has been running, allow it to cool for at least 15 minutes before loading the trimmer on the transport vehicle. A hot engine and exhaust system can burn you and can ignite some materials.

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

LOADING

The trimmer may be secured by suitable clamps, hangers or straps. Secure the trimmer by at least two points along the metal section of the drive shaft tube. Avoid securing the trimmer by the engine, cutting head/gearbox or handle area. The trimmer should be secured in a horizontal position, with the engine turned up.

Don't hang the trimmer by the gearbox or cutting head, or they may be damaged.



TAKING CARE OF UNEXPECTED PROBLEMS

STARTING PROBLEMS

Engine Will Not Start	Possible Cause	Correction
Check control positions.	Ignition switch OFF.	Turn ignition switch ON.
	Choke not in CLOSED (cold engine).	Move choke to the CLOSED position.
Check fuel.	Out of fuel.	Add fuel.
	Bad fuel, trimmer 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 trimmer 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

CUTTING HEAD PROBLEMS

Blade or Cutting-line head won't stop turning when throttle is at 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.
	Idle speed is too fast.	Adjust idle speed.
Check clutch.	Clutch springs broken or worm, or clutch system faulty.	Replace clutch springs or replace or repair other clutch system parts.

Blade or Cutting-Line Head 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 Cutting-line head or blade nut.	Cutting-Line head or blade nut loose.	Tighten Cutting-line head or blade nut securely.
Check blade.	Blade damaged.	Replace blade.

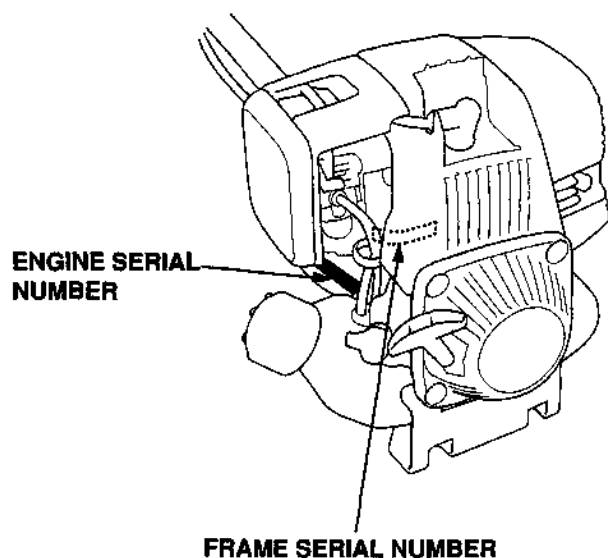
TECHNICAL & CONSUMER INFORMATION

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 trimmer 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 inquiries (page 51).



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.

High altitude performance can be improved by specific modifications to the carburetor. If you always operate your trimmer at altitudes above 5,000 feet (1,500 meters), have your servicing dealer perform this carburetor modification.

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.

TECHNICAL & CONSUMER INFORMATION

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 California 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 25. 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.

TECHNICAL & CONSUMER INFORMATION

Specifications

FEATURES					
	UMK422LNA	UMK422LTA	UMK431LNA	UMK431LTA	UMK431UNBA
GX22 1 hp	•	•			
GX33 1.5 hp			•	•	•
Loop handle	•	•	•	•	
U-type handle					•
Manual feed head	•	optional	•	optional	•
Semiautomatic feed head	optional	•	optional	•	optional
Saw blade			optional; requires Blade Installation Kit		•

DIMENSIONS			
	Handle installed	UMK422	UMK431
Length	loop	Manual feed head: 6.15 feet (1.875 m)	
		Semiautomatic feed head: 6.20 feet (1.89 m)	
	U-type ¹	—	6.27 feet (1.91 m)
Width	loop	13.6 in (345 mm)	
	U-type	—	23.8 in (605 mm)
Height	loop	10.4 in (265 mm)	
	U-type ¹	—	16.3 in (415 mm)
Dry weight	loop	13.9 lb. (6.3 kg)	14.8 lb. (6.7 kg)
	U-type ¹	—	16.1 lb. (7.3 kg)

¹ with saw blade installed

TECHNICAL & CONSUMER INFORMATION

ENGINE		
	UMK422	UMK431
Model	GX22	GX31
Engine type	4-stroke, overhead valve, single cylinder	
Displacement	1.3 cu-in (22 cm ³)	1.9 cu-in (31 cm ³)
Bore& stroke	1.3 × 1.0 in (33 × 26 mm)	1.5 × 1.0 in (39 × 26 mm)
Max. output	1 hp (0.74 kW) at 7,000 rpm	1.5 hp (1.1 kW) at 7,000 rpm
Max. torque	0.8 ft-lbs (1.09 N·m) at 4,500 rpm	1.23 ft-lbs (1.64 N·m) at 4,500 rpm
Ignition system	Transistorized magneto	
Spark plugs	NGK: CR5HSB, DENSO: U16FSR-UB	
Starting system	Recoil	
Fuel	Unleaded gasoline (86 octane or higher)	
Fuel tank capacity	0.48 US qt/15.2 fl. oz (0.45 ℓ)	0.69 US qt/22.0 fl. oz (0.65 ℓ)
Fuel consumption	0.55 lb/hph (340 g/kWh, 250 g/psh)	
Oil capacity	0.11 US qt/3.38 fl. oz (0.1 ℓ)	
Carburetor type	Diaphragm type (overflow return) with fuel pump	
Air cleaner	single element, semi-dry	
Idle speed	3,100 ±200 rpm	

FRAME		
	UMK422	UMK431
Engine switch	Slide type	
Throttle control	Two motion trigger style	
Main pipe diameter	0.94 in (24 mm)	1.02 in (26 mm)
Main pipe thickness	0.07 in (1.7 mm)	0.08 in (2.0 mm)
Drive shaft	solid 0.28 in. (7 mm)	
Shaft support bushings	5	7
Gearbox ratio	1.31	1.33
Gearbox type	Sealed ball bearings, helical cut gears, no shims required	
Clutch engagement	4,400 rpm	
Clutch type	2-1/8 inch, 7 spline	3-1/16 inch, 7 spline

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 lists.

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 Service Office
4900 Marconi Drive
Alpharetta, GA 30005

Or telephone: (770) 497-6400

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

- Model and serial numbers (see page 46)
- Name of the dealer who sold the trimmer to you
- Name and address of the dealer who services your trimmer
- Date of purchase
- Your name, address, and telephone number
- A detailed description of the problem

QUICK REFERENCE SECTION

		UMK422	UMK431
Fuel	Type	Unleaded gasoline with pump octane rating of 86 or higher (page 31)	
	Capacity	0.48 US qt/15.2 fl. oz (0.45 ℓ)	0.69 US qt/22.0 fl. oz (0.65 ℓ)
Engine oil	Type	SAE 10W-30, API SF or SG (page 27)	
	Capacity	0.11 US qt/3.38 fl.oz (0.1 ℓ)	
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 26) Check air filter (page 27) Check throttle cable (page 30) Check cutting attachment (pages 33 and 39) Check debris shield (pages 33 and 39) Check nuts, bolts, fasteners Check shoulder harness, quick release (page 19)	
	First 10 hours	Change engine oil	
	Subsequent	Refer to the Maintenance Schedule on page 25.	

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