

# INTRODUCTION

Congratulations on your selection of a Honda FG110 mini-tiller! We are certain you will be pleased with your purchase of one of the finest tillers on the market.

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

We suggest you read the *DISTRIBUTOR'S LIMITED WARRANTY* (page 21) and *EMISSION CONTROL SYSTEM WARRANTY* (page 22) to fully understand coverage and your responsibilities of ownership.

When your tiller needs scheduled maintenance, keep in mind that an authorized Honda servicing dealer is specially trained in servicing Honda tillers and is supported by the parts and service divisions of American Honda. Your Honda dealer is dedicated to your satisfaction and will be pleased to answer your questions and concerns.

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 tiller and should remain with the tiller if resold.

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## SAFETY MESSAGES

Your safety and the safety of others are very important. We have provided important safety messages in this manual and on the tiller. This information alerts you to potential hazards that could hurt you or others. Please read these messages carefully.

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

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

- **Safety Labels** – on the tiller.
- **Instructions** – how to use this tiller correctly and safely.
- **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.

Each message tells you what the hazard is, what can happen, and what you can do to avoid or reduce injury.

- **Damage Prevention Messages** – You will also see other important messages that are preceded by the word NOTICE. This word means:

**NOTICE**

Your tiller or other property can be damaged if you don't follow instructions.

# HONDA

## OWNER'S MANUAL FG110



### WARNING:



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

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# TILLER SAFETY

This chapter explains what you need to know to operate your tiller safely.

## IMPORTANT SAFETY INFORMATION

### Honda Tiller Usage

Honda tillers are designed to give safe and dependable service if operated according to instructions and intended use.

Honda tillers are intended to be used by an experienced, trained operator who is familiar with the use of power equipment. Do not allow a child or an inexperienced, untrained operator to use this tiller. Operating this equipment requires special effort on your part to ensure your safety and the safety of others. Read and understand this owner's manual.

### Avoid Rotating Tines

The rotating tines can cause injury. Keep away from the tine shield whenever the engine is running. If you need to adjust the tines or work around the tines for any reason, always stop the engine. Disconnect the spark plug cap if you need to clean or handle the tines.

### Clear Tilling Area

The tiller tines can throw rocks and other objects with enough force to cause injury. Before tilling, carefully inspect the area and remove all large debris.

### Keep Shields in Place

Guards and shields are designed to protect you from being hit by thrown objects. They also help protect you from hot engine parts and moving components. For your safety and the safety of others, keep all guards and shields in place when operating the tiller.

### Refuel with Care

Gasoline is extremely flammable and gasoline vapor can explode. Refuel only outdoors, in a well-ventilated area, with the engine off. Never smoke near gasoline, and keep other flames and sparks away. Always store gasoline in an approved container.

### Wear Protective Clothing

Wearing protective clothing will reduce your risk of injury. Long pants and eye protection reduce the risk of injuries from thrown objects. Sturdy shoes with aggressive soles will help protect your feet and give you better traction on slopes or uneven ground. Clothing worn by the operator should be close-fitting. Loose clothing should not be permitted because it may get caught in moving parts. Tie up or restrain long hair.

### Turn Engine Off When Not Tilling

If you need to leave the tiller for any reason, even just to inspect the area ahead, always stop the engine.

## ATTACHMENTS AND MODIFICATIONS

Do not make any modifications to your tiller. Modifying your tiller or installing non-Honda attachments can make your tiller unsafe.

If you need attachments for your tiller, use only Honda Genuine attachments. These products have been designed for your tiller.

Non-Honda attachments are usually designed for universal applications. Although aftermarket attachments may fit on your tiller, they may not meet factory specifications and could make your tiller 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 tiller, you need to determine whether the person is old enough, large enough, and strong enough to safely handle and control the tiller.

If you decide the person is, make sure the employee reads and understands all instructions and warnings in this manual, and on the labels before operating the tiller.

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 tiller.

Also be sure employees wear proper clothing and have eye 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 tiller properly maintained and in safe operating condition.

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

## IMPORTANT MESSAGE TO PARENTS

YOUR CHILD'S SAFETY IS VERY IMPORTANT to Honda. Read this message if you decide to permit your child to operate this tiller. Tillers are tools, not toys. As with any equipment, bad judgements can result in serious injuries. You can prevent injuries or property damage by making good decisions about if, when, and how your child operates this equipment.

The first question you'll need to ask is whether your child is capable of operating this tiller safely. Remember, young people vary widely, and AGE IS NOT THE ONLY FACTOR. Physically, a child must be LARGE ENOUGH AND STRONG ENOUGH to easily start the tiller and control its direction. The child also needs enough size, strength, and coordination to comfortably reach and operate the controls.

Another, tougher question you need to ask is if your child has enough MATURITY AND RESPONSIBILITY to safely operate this tiller. Does the young person think through problems and come to logical solutions? Anyone who takes unnecessary risks and does not obey rules should not operate this tiller.

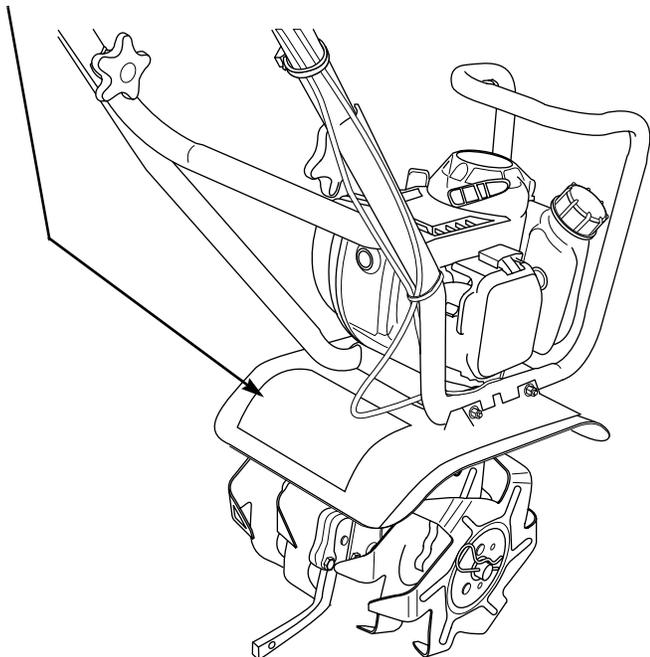
If you decide that your child can handle the tiller safely, carefully read the owner's manual with him or her. Make sure you both understand all instructions and safety information. Also, be sure your child wears sturdy shoes and other protective clothing when operating or handling the tiller.

SUPERVISION is also very important. Walk with your child during the first few minutes of tilling. Even after he or she has become confident with the tiller, do not let the child use the tiller without good adult supervision. An adult should also be present during refueling and maintenance. In fact, it's up to the adult owner to make sure the tiller is properly maintained and kept in safe operating condition.

By always placing safety first, your child will acquire useful skills and a sense of accomplishment. And you'll both get the best results from your tiller.

## SAFETY LABEL LOCATION

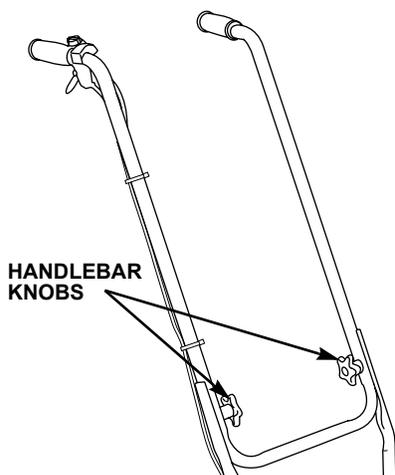
The label shown here contains important safety information. Please read it carefully. This label is considered a permanent part of your tiller. If the label comes off or becomes hard to read, contact your authorized Honda tiller dealer for a replacement.



## SETTING UP YOUR NEW TILLER

### Unpacking

1. Carefully remove the tiller from the carton.
2. Unfold the tiller upper handle to the operating position as shown. Be careful not to crimp or pinch the engine switch wires and throttle cable.
3. Tighten the handlebar knobs to secure the handle in the correct operating position.

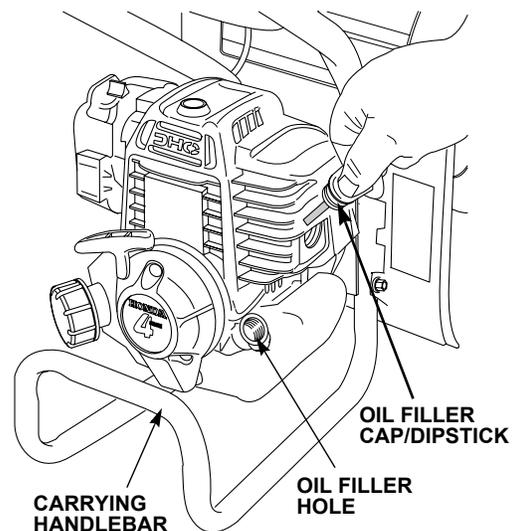


### Engine Oil

The tiller is shipped **WITHOUT OIL** in the engine.

All Honda engines are run at the factory prior to packaging. Most of the oil is removed prior to shipment; however, some oil remains in the engine. The amount of oil left in the engine varies.

1. Working on a level surface, tip the tiller on its carrying handlebar as shown.
2. Remove the oil filler cap/dipstick.
3. Slowly add the recommended oil (included in the box) to the bottom edge of the oil filler hole. Do not overfill, as the engine oil tank capacity is small.



### NOTICE

*Running the engine with too little or too much oil can cause engine damage. This type of damage is not covered by the DISTRIBUTOR'S LIMITED WARRANTY (page 21).*

4. Screw in the oil filler cap/dipstick securely.

### Fuel

Refer to page 12.

### Before Using Your Tiller

Before using the tiller, all tiller operators must read the following chapters and sections:

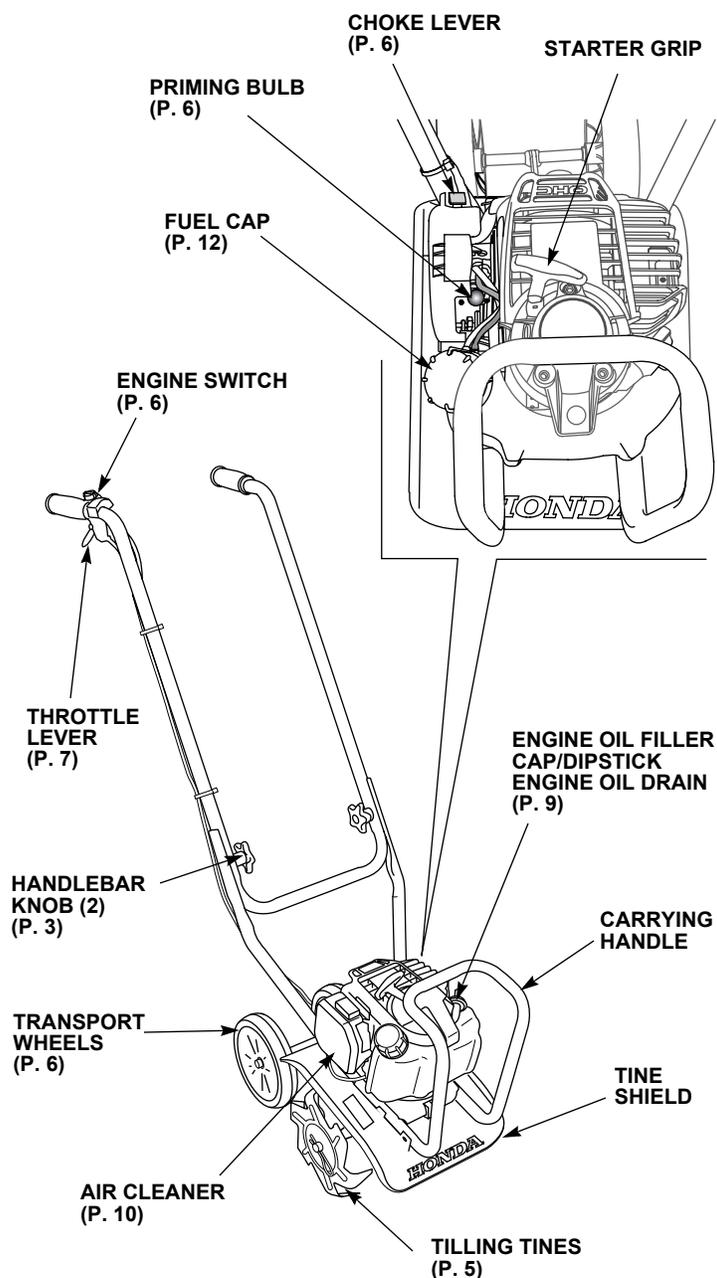
- **TILLER SAFETY** (see page 2).
- **CONTROL LOCATIONS** (see page 4).
- **BEFORE OPERATION** (see page 4).
- **OPERATION** (see page 5).
- **MAINTENANCE SCHEDULE** (see page 8).

### Please Register Your Tiller

If your dealer did not collect registration information from you, please take a few minutes and register your purchase with Honda. This allows us to contact you with any important updates regarding your tiller. Your information will remain confidential. It will not be released to any other company or organization. Please note registration is not required to obtain warranty service.

You can register by completing and mailing the included registration card, or go online to [www.hondapowerequipment.com](http://www.hondapowerequipment.com) and click on Product Registration.

# CONTROL LOCATIONS



# BEFORE OPERATION

## ARE YOU READY TO OPERATE THE TILLER?

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

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

Familiarize yourself with the tiller and its operation before you begin using it. Know how to quickly shut off the engine in case of an emergency.

You must be alert and in good physical condition to operate the tiller. Do not operate the tiller 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 tiller.

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.

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 tiller. Keep clothing fastened.

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

## IS YOUR WORKING AREA READY?

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

Never operate the tiller without good visibility or light.

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

If anyone approaches you while you are operating the tiller, release the throttle lever and stop the engine.

## IS YOUR TILLER 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 tiller 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 tiller.

## ⚠ WARNING

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

Always perform a pre-operation 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.

## Tiller Tine Inspection

- Look for signs of damage to the tilling tines (or any accessory installed). Replace any tiller tines and parts that are worn out, bent, cracked, chipped, or damaged in any way.
- When using an accessory, make sure it is properly installed and securely fastened (see attachment installation instructions).
- Check that the debris shield is securely installed and in good condition.

## Maintenance Inspection

- Check the oil level (page 9). Running the engine with a low oil level can cause engine damage.
- Check the air filter (page 10). A dirty air filter will restrict air flow to the carburetor, reducing engine and tiller performance.
- Check throttle operation (page 12). The throttle must operate smoothly for good throttle control.
- Check the fuel level (page 12). Starting with a full tank will help to eliminate or reduce operating interruptions for refueling.

# OPERATION

## SAFE OPERATING PRECAUTIONS

Before operating the tiller for the first time, please review *IMPORTANT SAFETY INFORMATION* (page 2) and *BEFORE OPERATION* (page 4).

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

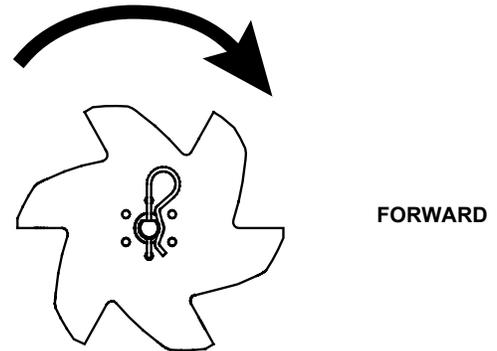
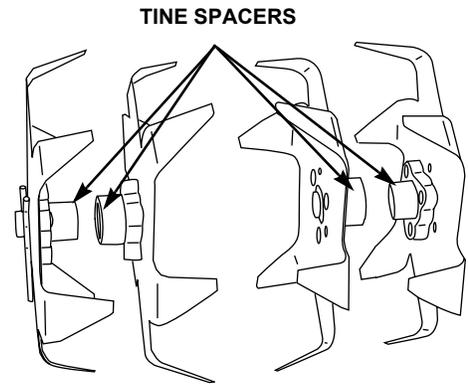
For your safety, do not start or operate the engine in an enclosed area, such as a garage. Your engine's exhaust contains poisonous carbon monoxide gas which can collect rapidly in an enclosed area and cause illness or death.

If the tiller starts to shake or vibrate, stop the engine immediately. After the tiller tines have completely stopped, inspect them to determine the cause of the vibration. Sudden vibration is a sign of a hazardous problem, such as a loose or damaged tilling tines (or tiller attachment), hidden objects in the soil, or the ground that is too hard to till. Do not operate the tiller until the problem is corrected.

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

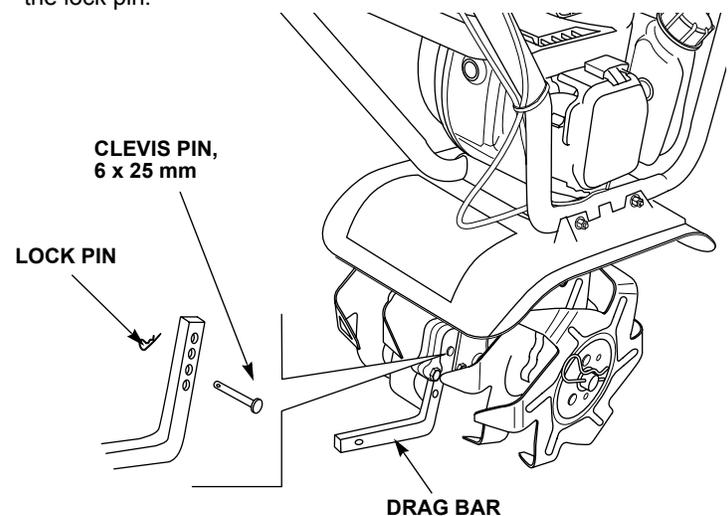
## Tine Installation

Make sure the tines are installed properly with the blades angled inward and the tine spacers facing each other. The leading edge of each blade is slanted.



## Drag Bar Installation

1. Make sure the engine switch is in the OFF position before installing the drag bar.
2. Remove the lock pin and the 6 x 25 mm clevis pin.
3. Install the drag bar angled to the rear. Adjust the height to one of 4 height positions and insert the 6 x 25 mm clevis pin. Secure with the lock pin.



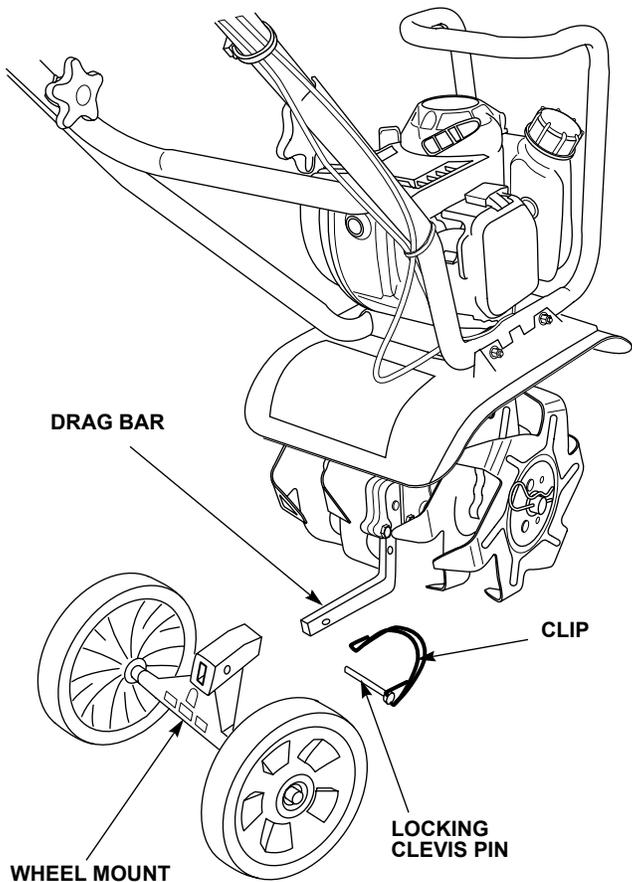
See *TILLER OPERATION* (page 7) for additional information.

When your tilling job is completed, reinstall the transport wheels onto the drag bar.

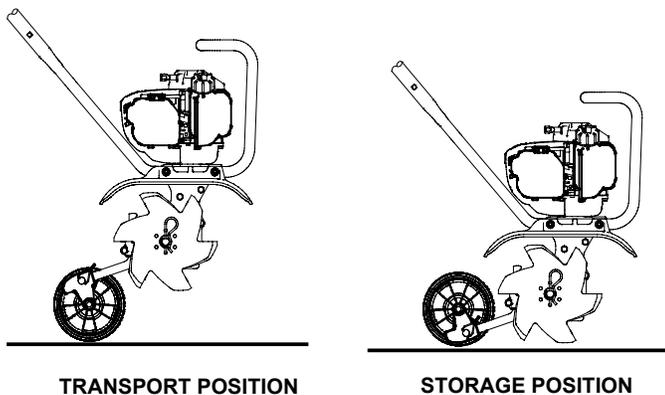
## Moving the Tiller

The tiller has wheels to allow easy maneuvering to and from the work area.

Do not transport the tiller with the engine running.



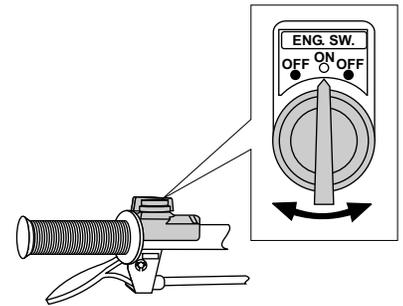
Install the wheels by inserting the wheel mount onto the drag bar. Secure with the locking clevis pin.



Before tilling, remove the wheels from the drag bar.

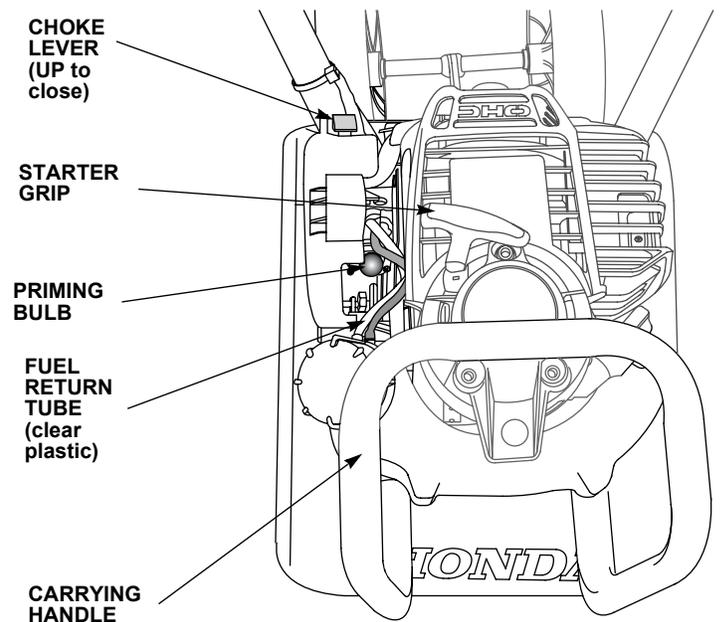
## STARTING THE ENGINE

1. Move the engine switch to the ON position.



2. To start a cold engine, move the choke lever up to the CLOSED (N) position.

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



3. 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.

4. Place your left hand on the carrying handle and hold it firmly. Make sure your feet are away from the tiller tines. With your right hand, pull the starter grip lightly until you feel resistance, then pull briskly. Return the starter grip gently.

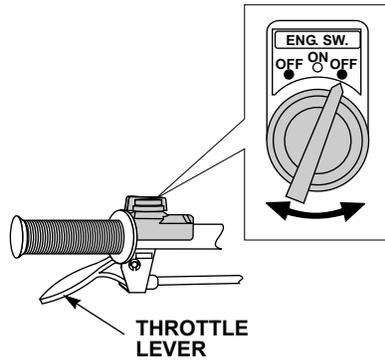
5. If the choke lever was moved to the CLOSED (N) position, gradually move it to the OPEN position as the engine warms up.

Allow the engine to warm up for a few moments after starting a cold engine.

The tiller tines should not rotate with the engine idling. If there is rotation at idle, adjust the idle speed correctly before using the tiller (page 12).

## STOPPING THE ENGINE

1. Release the throttle lever.
2. Move the engine switch to the OFF position.



## TILLER OPERATION

The tiller is designed to operate either with the drag bar installed for depth control in the forward direction or with the drag bar removed for cultivating.

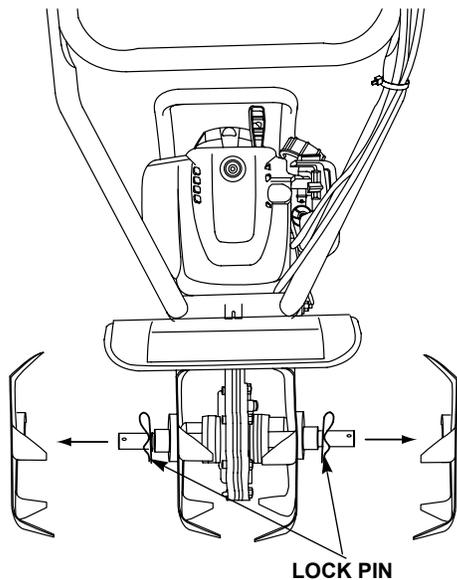
### *Cultivating Without the Drag Bar*

Cultivating can be accomplished by removing the drag bar and repeatedly moving the tiller in a forward/reverse direction. This allows the tines to dig in both directions.

Be aware that the tiller can be difficult to control without the drag bar installed.

### *Narrow Cultivating*

The two outer tines can be removed to give you a narrower cultivating width. This width is approximately 5 inches. This gives you the ability to get between very closely spaced plants.



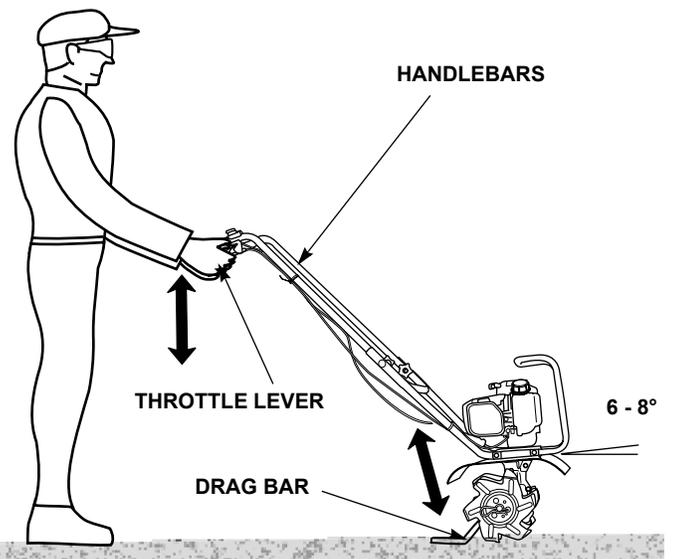
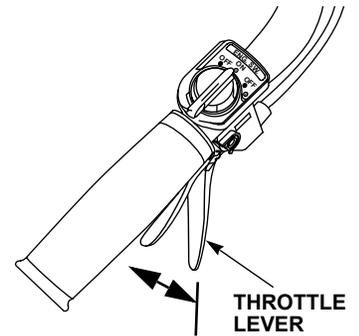
To remove the two outer tines, pull the lock pin out of the hole in the end of the tine shaft. Slide the outside tine set off the tine shaft. Secure the inner set of tines onto the tine shaft by placing the lock pins in the inside set of lock pin holes.

## *Tilling With the Drag Bar Installed*

1. Install the drag bar and set the tilling depth by moving the drag bar up or down into one of 4 height positions (page 5).

The ideal height of the drag bar will depend on the type of soil being tilled and soil conditions at the time of tilling. In general, however, the drag bar should be adjusted so that the tiller is tilted slightly backward.

2. Start the engine (page 6).
3. Tilt the tiller back until the tines are off the ground. Squeeze the throttle lever to full speed position (lever tight against the grip).
4. Lower the front of the tiller until the tines begin to dig into the ground.
5. Lower the handle slightly so the front of the tiller is raised about 6 - 8°. To get the maximum advantage from the tiller, hold the tiller at this angle while you are tilling the ground.



## Operating Tips

- If the tiller tends to move forward rapidly, push down on the handlebars to allow the drag bar to penetrate the soil and slow the forward motion of the tiller. Continue to press down until the tiller tines have dug to a desired depth that allows easy tiller handling.
- If the tines dig in but the tiller will not move forward, ease up on the handlebars and move the handlebars from side-to-side. If the tiller still digs in, but will not move forward, raise the drag bar up one hole.
- When turning, push down on the handlebars to bring the tiller's weight to the rear; this will make turning easier.

# SERVICING YOUR TILLER

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

## ⚠ WARNING

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

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

To ensure the best quality and reliability, use only new, Honda Genuine 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 this 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.**  
Operate outdoors away from open windows or doors.
  - ❑ **Burns from hot parts.**  
Let the engine and exhaust system cool before touching.
  - ❑ **Injury from moving parts.**  
Do not run the engine unless instructed to do so.
- Read the instructions before you begin, and make sure you have the tools and skills required.
- To reduce the possibility of fire or explosion, be careful when working around gasoline. Use only a nonflammable solvent, not gasoline, to clean parts. Keep cigarettes, sparks, and flames away from all fuel-related parts.

## MAINTENANCE SCHEDULE

Interval <sup>1</sup>	Item
Before each use	Check the engine oil level (page 9) Check the air filter (page 10) Check throttle cable (page 12) Check the nuts and bolts for tightness
First month or 10 hours	Change the engine oil (page 9)
Every month or 10 hours	Clean the air filter <sup>2</sup> (page 10)
Every 3 months or 25 hours	Check the transmission grease (page 14)
Every 6 months or 50 hours	Change the engine oil <sup>2</sup> (page 9) Check the cooling fins (page 11) Check the clutch shoes <sup>3</sup>
Every year or 100 hours	Change the engine oil <sup>2</sup> (page 9) Check the spark plug (page 11) Clean the spark arrester (optional) (page 11) Clean the fuel tank and filter (page 13)
Every 2 years or after each 300 hours	Replace the spark plug (page 11) Adjust the valve clearance <sup>3</sup> Adjust the idle speed (page 12) <sup>3</sup> Clean the combustion chamber <sup>3</sup> Check the fuel tubes (page 13)

1. For professional commercial use, log hours of operation to determine proper maintenance intervals.
2. Service more frequently when used in dusty areas.
3. These items should be serviced by an authorized Honda servicing dealer, unless you have the proper tools and are mechanically proficient.

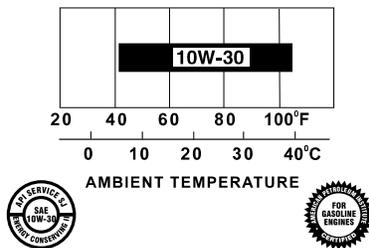
Failure to follow this maintenance schedule could result in non-warrantable failures.

# ENGINE OIL

## Oil Recommendations

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

SAE 10W-30 is recommended for general use. Other viscosities shown in the chart may be used when the average temperature in your area is within the recommended range.



The SAE oil viscosity and service category are in the API label on the oil container. Honda recommends that you use API SERVICE category SJ or later oil with the API “starburst” certification mark displayed on the container.

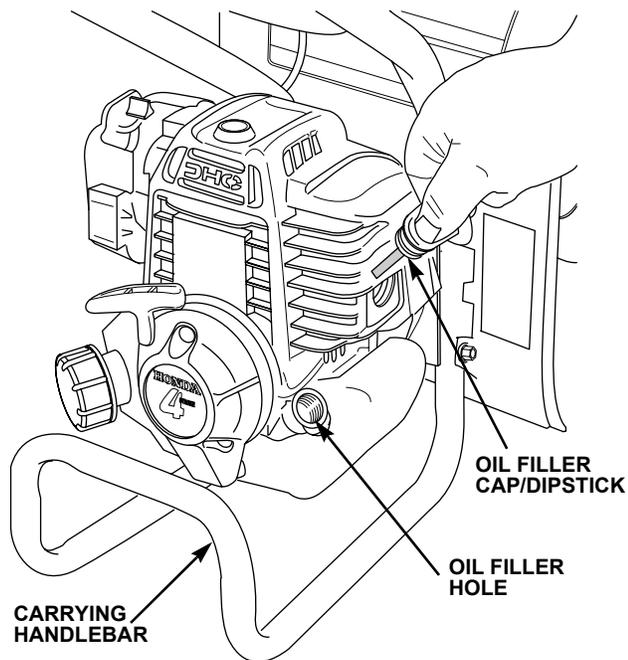
### NOTICE

Using nondetergent oil can shorten the engine's service life, and using 2-stroke oil can damage the engine.

## Oil Level Check

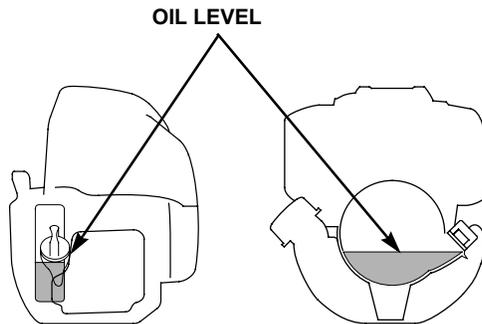
Check the engine oil level before each use, or every 10 hours if operated continuously. Rest the tiller on a level surface with the engine stopped.

1. Tip the tiller on its carry handlebar as shown.
2. Remove the oil filler cap/dipstick and wipe it clean.



3. Insert and remove the dipstick **without screwing it into the filler opening**. Check the oil level shown on the dipstick.
4. If the oil level is low, fill to the edge of the oil filler hole with the recommended oil. Avoid overfilling or underfilling, as the oil

capacity is small. Be sure the engine is in a level position, as shown.



### NOTICE

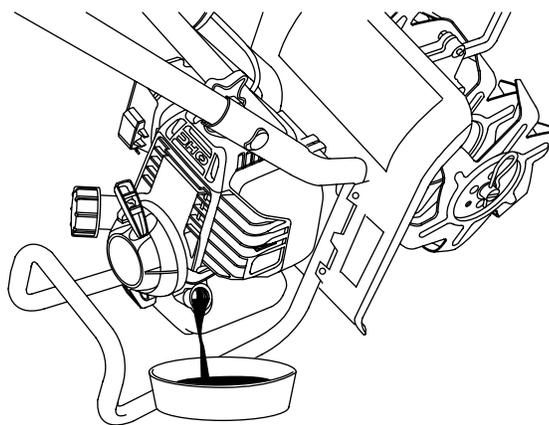
Running the engine with a low oil level can cause engine damage. This type of damage is not covered by the DISTRIBUTOR'S LIMITED WARRANTY (page 21).

5. Screw in the oil filler cap/dipstick securely.

## 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.
2. Remove the oil filler cap/dipstick.
3. Tip the tiller to drain the used oil through the oil filler opening. Allow the used oil to drain completely.



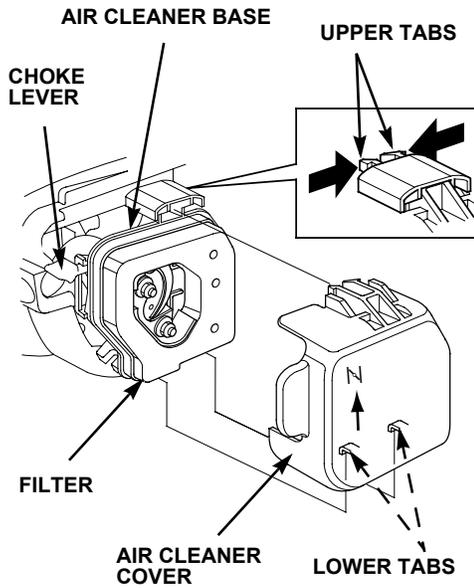
Please dispose of used motor oil in a manner that is compatible with the environment. We suggest you take used oil in a sealed container to your local recycling center or service station for reclamation. Do not throw it in the trash, pour it on the ground, or pour it down a drain.

4. With the engine resting on the carrying handlebar on a level surface, fill with the recommended oil to the edge of the oil filler hole. Do not overfill.
5. Screw in the filler cap/dipstick securely.

# AIR FILTER

## Inspection

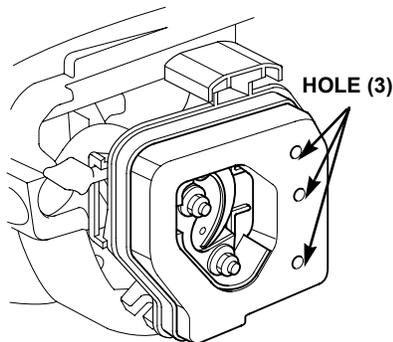
1. Move the choke lever to the CLOSED (N) position to prevent dirt from entering the engine.
2. Squeeze together the air cleaner upper tabs at the top of the air cleaner cover to release it from its catch, then flip the cover down to remove it.
3. Check the air filter to be sure it is clean, properly oiled, and in good condition.
4. If the air filter is dirty, clean it as described under *Cleaning* on this page. Replace the air filter if it is damaged.



### NOTICE

*Operating the engine without an air filter, or with a dry or 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 (page 21).*

5. Align the air filter with the air cleaner base as shown. Reinstall the air filter by locating the three air cleaner base pegs into the three air filter holes. Slide the air filter over the pegs until it is flush with the air cleaner base.



### NOTICE

*An improperly installed air filter will allow dirt to enter the engine, causing rapid engine wear. Make sure the air filter is properly installed and flush with the air cleaner base before installing the air cleaner cover.*

6. Reinstall the air cleaner cover by hooking the two lower tabs on the bottom of the cover and snapping the upper tabs into place.

## Cleaning

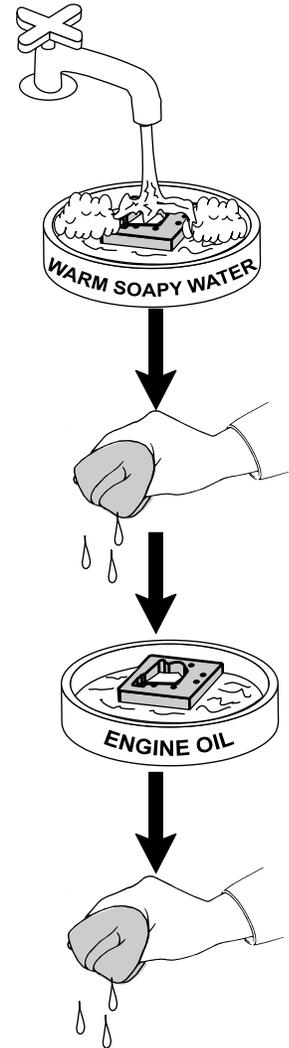
A dirty air filter will restrict air flow to the carburetor, reducing engine performance. If you operate the tiller in very dusty areas, clean the air filter more often than specified in the *MAINTENANCE SCHEDULE* (page 8).

1. Remove the air filter.
2. Clean the air filter in warm soapy water, rinse, and allow it to dry thoroughly. Or, clean in nonflammable solvent and allow it to dry.
3. Dip the air filter in clean engine oil, then squeeze out all excess oil. The engine will be hard to start or will smoke when started if too much oil is left in the air filter.

### NOTICE

*Operating the engine with a dry air filter will allow dust to enter causing engine damage. The air filter must be oiled after cleaning.*

4. Wipe dirt from the air cleaner base and cover using a moist rag. Be careful to prevent dirt from entering the carburetor.
5. Reinstall the air filter and air filter cover.



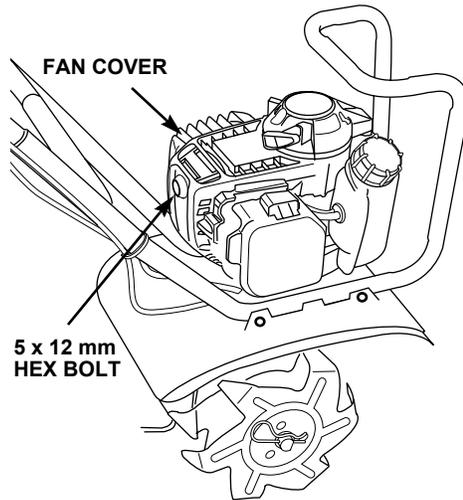
## SPARK PLUG

**Recommended Spark Plug: NGK - CMR5H**

### NOTICE

*An incorrect spark plug can cause engine damage.*

1. Use a 4 mm Allen wrench to loosen the 5 x 12 mm hex bolt and remove the fan cover.
2. Disconnect the spark plug cap, and remove any dirt from around the spark plug area.
3. Remove the spark plug with a 5/8-inch spark plug wrench.



4. Inspect the spark plug. Replace it if the electrodes are worn, or if the insulator is cracked or chipped.
5. Measure the spark plug electrode gap with a suitable gauge.

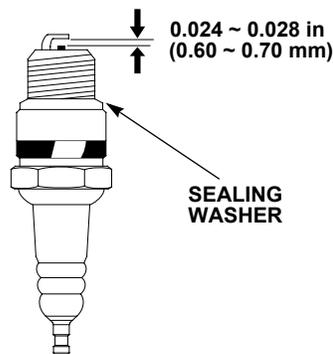
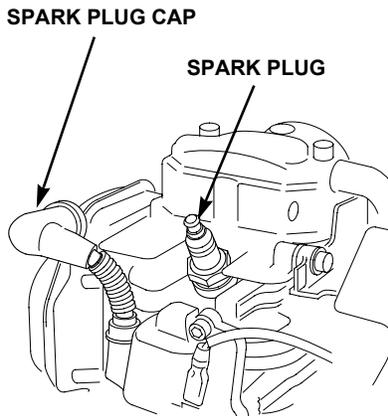
**GAP: 0.024 ~ 0.028 in  
(0.60 ~ 0.70 mm).**

Correct the gap, if necessary, by carefully bending the side electrode.

6. Install the spark plug carefully, by hand, to avoid cross-threading.
7. 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.*

8. Attach the spark plug cap.
9. Install the fan cover and 5 x 12 mm hex bolt and tighten securely.

## SPARK ARRESTER (OPTIONAL EQUIPMENT)

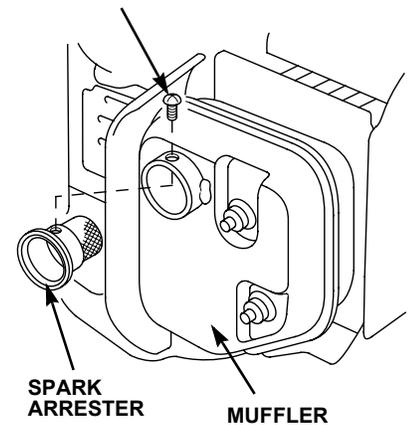
Your tiller engine is not factory-equipped with a spark arrester. In some areas, it is illegal to operate an engine without a spark arrester. Check local laws and regulations. An optional USDA approved spark arrester is available from an authorized Honda servicing dealer. See page 20 for part numbers.

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

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

1. Loosen the 5 mm hex bolt, then remove the fan cover.
2. Remove the 3 x 6 mm self-tapping screw from the spark arrester, and remove the spark arrester from the muffler.

**3 x 6 mm SELF TAPPING SCREW**



3. Use a brush to remove carbon deposits from the spark arrester screen. Be careful to avoid damaging the screen.
4. The spark arrester must be free of breaks and holes. Replace the spark arrester if it is damaged.

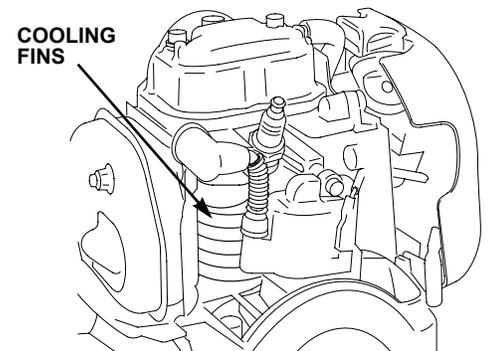


5. Install the spark arrester in the reverse order of disassembly.
6. Install the fan cover, and tighten the 5 mm hex bolt securely.

### Cooling Fin Inspection

Inspect the engine cooling fins. You should clean out any dirt and debris if air is obstructed from flowing across the cooling fins.

1. Loosen the 5 mm hex bolt, then remove the fan cover.
2. Remove all dirt and debris from the cooling fins.
3. Install the fan cover, and tighten the 5 mm hex bolt securely.

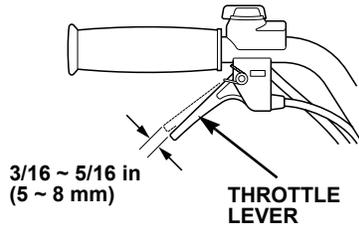


## Throttle Cable Inspection

Verify the throttle trigger operates smoothly, releases properly, and the throttle cable is undamaged. If there is visible damage, or if the throttle lever does not operate smoothly or release properly, take your tiller to your authorized Honda servicing dealer.

Check the freeplay at the end of the throttle lever.

If adjustment is needed, see the *Throttle Cable Adjustment* procedure below.



## Throttle Cable Adjustment

1. Loosen the locknuts with a 10 mm wrench, and move the adjuster in or out as required.

**Throttle Lever Freeplay:**  
3/16 ~ 5/16 in (5 ~ 8 mm)

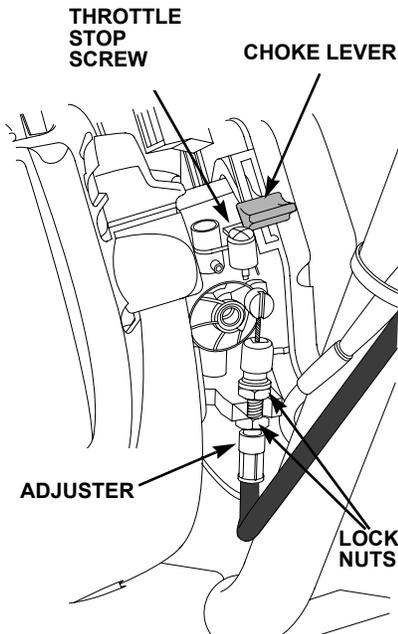
2. Tighten the locknuts and recheck throttle lever freeplay.

## Carburetor Adjustment

A tachometer is required to adjust the idle speed. If you do not have one, take your tiller to an authorized Honda servicing dealer to perform idle speed adjustment.

1. Start the engine outdoors, and allow it to warm up to normal operating temperature.
2. Turn the throttle stop screw to obtain a stable idle, below the speed at which the tiller tines begin to turn.

**Standard Idle Speed: 3,100 ± 200 rpm**



## REFUELING

Honda recommends using a No-Spill<sup>®</sup> gas can, which meets the demanding requirements of the California Air Resources Board (page 20).

This engine is certified to operate on unleaded gasoline with a pump octane rating of 86 or higher.

Refuel in a well-ventilated area with the engine stopped. If the engine has been running, allow it to cool first. Never refuel the engine inside a building where gasoline fumes may reach flames or sparks.

You may use regular unleaded gasoline containing no more than 10% ethanol (E10) or 5% methanol by volume. In addition, methanol must contain cosolvents and corrosion inhibitors. Use of fuels with content of ethanol or methanol greater than shown above may cause starting and/or performance problems. It may also damage metal, rubber, and plastic parts of the fuel system. Engine damage or performance problems that result from using a fuel with percentages of ethanol or methanol greater than shown above are not covered by warranty.

If your equipment will be used on an infrequent or intermittent basis, please refer to the fuel section of the *STORAGE* chapter (page 15) for additional information regarding fuel deterioration.

### ⚠ WARNING

Gasoline is highly flammable and explosive.

You can be burned or seriously injured when handling fuel.

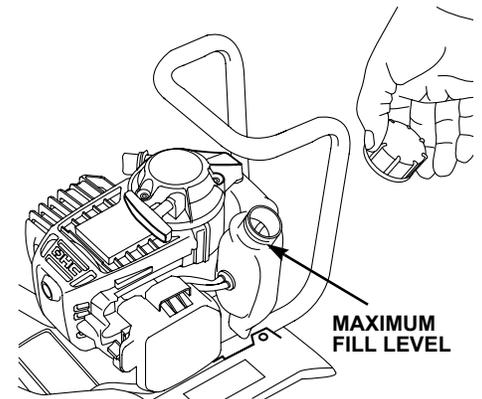
- Stop the engine and keep heat, sparks, and flame away.
- Handle fuel only outdoors.
- Wipe up spills immediately.

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

1. To refuel, set the tiller on level ground and remove the fuel tank cap.
2. Fill the tank with gasoline to the shoulder of the filler neck.

Refuel carefully to avoid spilling fuel. Do not overfill.

3. After refueling, tighten the fuel tank cap securely.



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

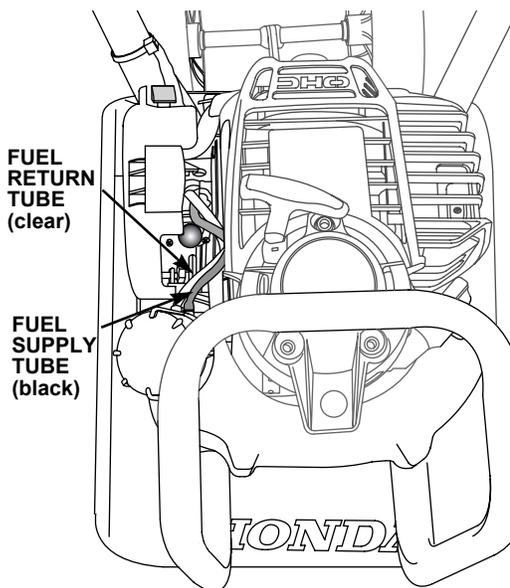
### NOTICE

Fuel can damage paint and plastic. Be careful not to spill fuel when filling your fuel tank. Damage caused by spilled fuel is not covered by the DISTRIBUTOR'S LIMITED WARRANTY (page 21).

## Fuel Tube Inspection

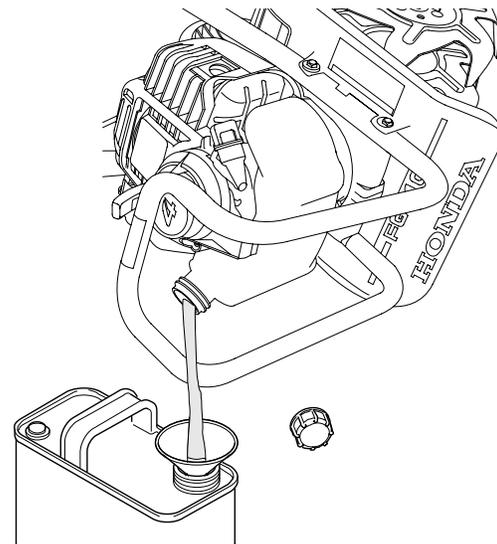
Check the fuel supply and return tubes, and replace any tube that is damaged, cracked, or leaking.

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

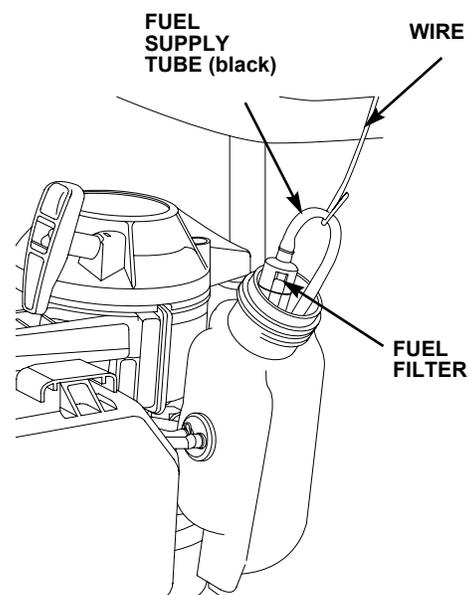


## Fuel Filter and Fuel Tank Cleaning

1. Remove the fuel tank cap.
2. Tip the tiller as shown and empty the fuel tank into an approved gasoline container. Use a funnel to avoid spilling gasoline.



3. 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.
4. Inspect the fuel filter. If the fuel filter is dirty, wash it with nonflammable solvent. Be careful to avoid damaging the filter.
5. Replace the filter if it is damaged or excessively dirty.
6. Rinse sediment from the fuel tank with nonflammable solvent.
7. Insert the fuel filter in the fuel tank, and install the fuel tank cap.



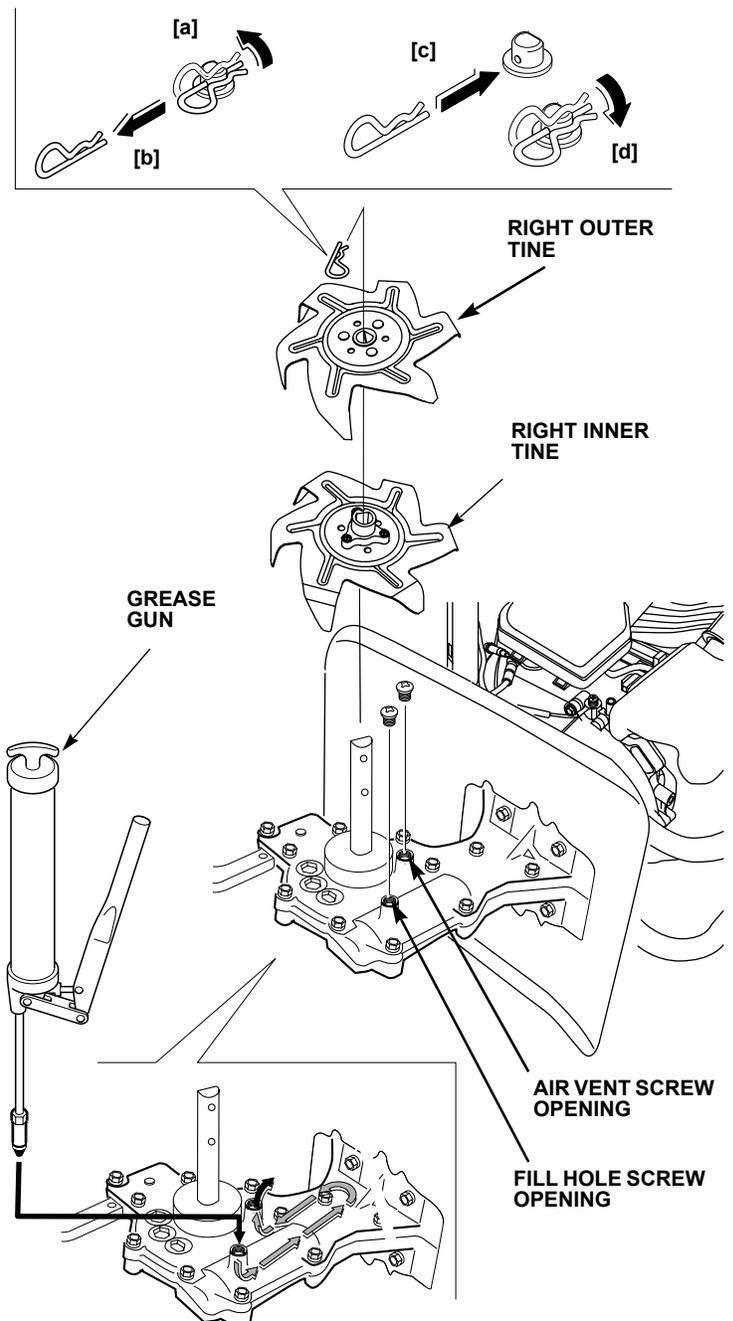
## TRANSMISSION LUBRICATION

The transmission is pre-lubricated at the factory.

At the beginning of each tilling season, or after every 25 hours of use during the season, the transmission should be filled with grease.

Replacement grease should be a high quality petroleum based NLGI #2 general purpose grease usually available in disposable tubes at most hardware or automotive parts stores.

1. Place the tiller on the left side as shown.
2. Remove the lock pin from the right side tine shaft by turning it UP [a] and pulling it out [b] as shown. Wearing heavy gloves, remove both right side tines.
3. Remove the air vent screw and fill hole screw from the transmission.
4. Fill the transmission by using a grease gun or grease applicator at the fill hole screw opening. Push the gun or applicator against the opening so as to seal the nozzle of the gun or applicator against the casting embossment. Apply grease until grease begins to come out of the top air vent hole.
5. Reinstall the air vent screw and fill hole screw.
6. Clean the tine shaft and place a few drops of oil on the tine shaft before installing the tines.
7. Wear heavy gloves and reinstall the tines in the reverse order of removal.
8. Install the lock pin [c] through the round side of the tine shaft hole then turn it over [d] to lock it in place.

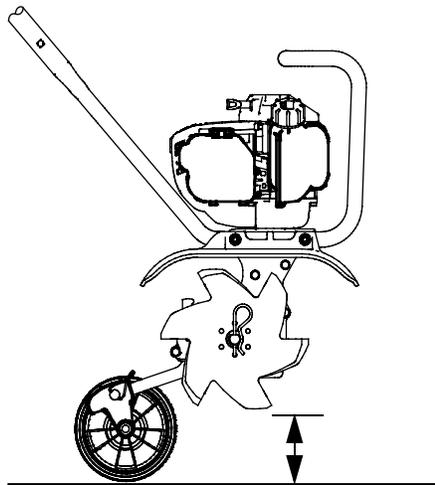


# TRANSPORTING

## BEFORE LOADING

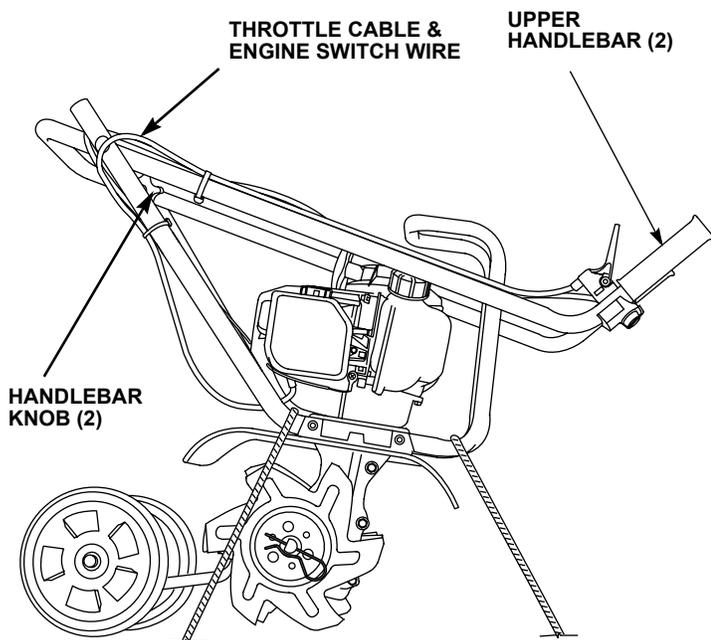
If the engine has been running, allow it to cool for at least 15 minutes before loading the tiller on the transport vehicle. A hot engine and exhaust system can burn you and can ignite some materials.

1. Turn the engine switch to the OFF position.
2. Make sure the fuel cap is securely tightened.
3. Install the wheels in the transport position for greater ground clearance and ease of movement.



## LOADING

If necessary, loosen the handlebar knobs so that the tiller upper handlebar can be collapsed. Be careful that the throttle cable and engine switch wire are not pinched or bent when collapsing the upper handlebar.



Secure the tiller by tying around the lower handlebars just in front and back of the engine as shown.

# STORAGE

## STORAGE PREPARATION

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

Install the wheels in the storage position to allow the tiller to be stored in an upright position.

### Cleaning

1. Wash the tiller, including the area around the tiller tines.
2. Wash the engine by hand, and be careful to prevent water from entering the air cleaner.

#### NOTICE

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

3. 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.
4. If using a garden hose or pressure washing equipment to clean the tiller, be careful to avoid getting water into controls and cables, or anywhere near the engine air cleaner or muffler opening.
5. After washing the tiller, wipe dry all accessible surfaces.
6. Start the engine outdoors, and let it run until it reaches normal operating temperature to evaporate any water remaining on the engine.
7. Stop the engine and allow it to cool.
8. After the tiller is clean and dry, touch up any damaged paint, and coat other areas that may rust with a light film of oil.

### FUEL

#### NOTICE

*Depending on the region where you operate your equipment, fuel formulations may deteriorate and oxidize rapidly. Fuel deterioration and oxidation can occur in as little as 30 days and may cause damage to the carburetor and/or fuel system. Please check with your servicing dealer for local storage recommendations.*

Gasoline will oxidize and deteriorate in storage. Old gasoline will cause hard starting, and it leaves gum deposits that restrict the fuel system. If the gasoline in your tiller 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, 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 *DISTRIBUTOR'S LIMITED WARRANTY* (page 21) does not cover fuel system damage or engine performance problems resulting from neglected storage preparation.

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

## Adding Fuel Stabilizer To Extend Fuel Storage Life

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

Add fuel stabilizer following the manufacturer's instructions.

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

## Draining the Fuel Tank and Carburetor

1. Drain the fuel from the fuel tank to a suitable container (page 13).
2. Start the engine and allow it to run until the engine stops.

### **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 flames away.
- Handle fuel only outdoors.
- Wipe up spills immediately.

## Engine Oil

Change the engine oil (page 9).

## Carburetor & Air Cleaner

Clean the air filter (page 10) and move the choke lever to the CLOSED () position.

## Engine Cylinder

Remove the spark plug (page 11). Pour 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 tiller 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 tiller 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 nonporous cover will trap moisture, promoting rust and corrosion.

## REMOVAL FROM STORAGE

Check your tiller as described in the *BEFORE OPERATION* chapter (see page 4). 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.

# TAKING CARE OF UNEXPECTED PROBLEMS

## Engine Will Not Start

Possible Cause	Correction
Engine switch OFF.	Turn the engine switch ON (page 6).
Choke lever not in CLOSED (N) position (cold engine).	Move the lever to the CLOSED (N) position (page 6).
Out of fuel.	Add fuel and press the priming bulb to fill the carburetor (page 6).
Bad fuel, tiller stored without treating or draining gasoline, refueled with bad gasoline.	Drain the fuel tank. Refuel with fresh gasoline (page 16).
Spark plug faulty, fouled, or has incorrect gap.	Gap or replace the spark plug (page 11).
Fuel filter restricted, carburetor malfunction, ignition malfunction, valves stuck, etc.	Have an authorized Honda servicing dealer replace or repair faulty components as needed.

## Loss of Power or Engine Speed Won't Increase

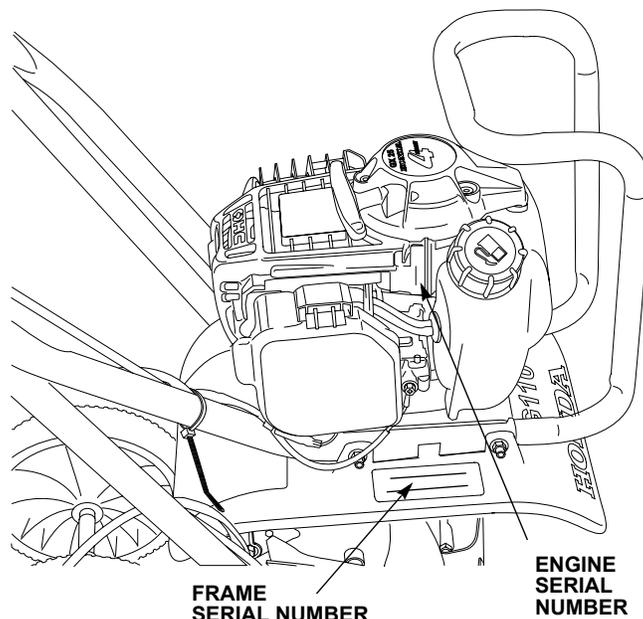
Possible Cause	Correction
Air filter dirty or restricted.	Clean or replace the air filter (page 10).
Fuel filter dirty or restricted.	Clean or replace the fuel filter (page 13).
Throttle cable out of adjustment, broken, or bent.	Adjust or replace the cable if necessary (page 12).
Spark plug faulty, fouled, or has incorrect gap.	Gap or replace the spark plug (page 11).

## Tiller Tines (or attachment) Won't Stop Turning When the Throttle is at SLOW Position

Possible Cause	Correction
Faulty throttle control or cable; throttle cable out of adjustment or bent.	Check throttle control parts, adjust or replace cable if necessary (page 12).
Idle speed is too high.	Adjust the idle speed (page 12) or have an authorized Honda servicing dealer adjust idle speed.
Clutch springs worn or clutch system faulty.	Have an authorized Honda servicing dealer replace clutch springs or replace or repair other clutch system parts.

# TECHNICAL INFORMATION

## SERIAL NUMBER LOCATIONS



There are two serial numbers, one for the engine and one for the frame. Record the engine and frame serial numbers and date of purchase in the space below. You will need this information when ordering parts and when making technical or warranty inquiries.

Engine serial number: \_\_\_\_\_

Frame serial number: \_\_\_\_\_

Date of purchase: \_\_\_\_\_

## CARBURETOR MODIFICATION FOR HIGH ALTITUDE OPERATION

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

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

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

### NOTICE

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

## EMISSION CONTROL SYSTEM

### 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 appropriate air/fuel ratios and other emission control systems to reduce the emissions of carbon monoxide, oxides of nitrogen, and hydrocarbons. Additionally, Honda fuel systems utilize components and control technologies to reduce evaporative emissions.

### The U.S., California Clean Air Act, and Environment Canada

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

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

### Tampering and Altering

Tampering with or altering the emission 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 emission control systems on your new Honda engine were designed, built, and certified to conform with EPA, California, and Canadian emission regulations. We recommend the use of Honda Genuine 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 emission 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 emission regulations.

### Maintenance

Follow the *MAINTENANCE SCHEDULE* on page 8. Remember this schedule is based on the assumption that your machine will be used for its designed purpose. Sustained high-load or high-temperature operation, or use in unusually wet or dusty conditions, will require more frequent service.

## AIR INDEX

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

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

The durability description is intended to provide you with information relating to the engine's emission durability period. The descriptive term indicates the useful life period for the engine's emission control system. See your *EMISSION CONTROL SYSTEM WARRANTY* (page 22) for additional information.

Descriptive Term	Applicable to Emission Durability Period
Moderate	50 hours (0–80 cc inclusive) 125 hours (greater than 80 cc)
Intermediate	125 hours (0–80 cc inclusive) 250 hours (greater than 80 cc)
Extended	300 hours (0–80 cc inclusive) 500 hours (greater than 80 cc) 1000 hours (225 cc and greater)

## SPECIFICATIONS

ENGINE	
Model	GX25
Type	4-stroke, overhead cam, single cylinder
Description code	GCALT
Displacement	1.5 cu in (25 cc)
Bore & stroke	1.4 x 1.0 in (35 x 26 mm)
Compression ratio	8.0:1
Cooling system	Forced-air
Ignition system	Transistorized magneto
Ignition timing	30° B.T.D.C. (Fixed)
Spark plug	CMR5H (NGK)
Carburetor	Diaphragm type
Air cleaner	Semi-dry type
Lubrication system	Oil mist
Oil capacity	2.7 US oz (80 cc)
Recommended operating ambient temperature	41°F ~ 104°F (5°C ~ 40°C)
Starting system	Recoil starter
Stopping system	Ignition primary circuit ground
Fuel tank capacity	0.15 US gal (0.57 ℓ)
PTO shaft rotation	Counterclockwise (from PTO shaft side)

TILLER			
Model		FG110K1	
Description code		FAAA	
Length x width x height		40.8 x 14.4 x 39.4 in (1038 x 365 x 1000 mm)	
Weight	Dry	w/drag bar	24.9 lb (11.3 kg)
		w/wheels	26.9 lb (12.2 kg)
	Wet	w/drag bar	25.8 lb (11.7 kg)
		w/wheels	27.8 lb (12.6 kg)
Drive clutch		Centrifugal mechanical	
Drive clutch engagement speed		4,200 ± 200 rpm	
Tilling width		9 in (230 mm)	
Tilling depth		8 in (203 mm)	
Transmission drive		Worm gear	
Tine number		4 (6 teeth per tine)	

## Maintenance

Fuel	Unleaded gasoline with a pump octane rating of 86 or higher	See page 12
Engine oil	SAE 10W-30 API SJ or later	See page 9
Spark plug type	NGK— CMR5H	See page 11
Standard idle speed	2,900 ~ 3,300 rpm	Shop manual

## Tune-up

Spark plug gap	0.024 ~ 0.028 in (0.6 ~ 0.7 mm)	See page 11
Valve clearance (cold)	Intake: 0.08 ± 0.02 mm Exhaust: 0.11 ± 0.02 mm	See your authorized Honda servicing dealer
Other specifications	No other adjustments needed	

# CONSUMER INFORMATION

## REPLACEMENT PARTS, OPTIONAL EQUIPMENT, AND SERVICE ITEMS

Contact an authorized Honda servicing dealer to purchase any of these (or other) Honda Genuine items for your tiller.

### Replacement Parts

Item	Part Number	Notes
Spark plug	31915-Z0H-003	NGK (brand) CMR5H
Air filter	17211-Z0H-800	

### Optional Equipment

Item	Part Number	Notes
Spark arrester	18310-Z0H-840	Muffler
	18350-Z0H-820	Arrester
	93901-22010	Screw
Digging Tines Attachment	06726-V25-010	Four digging tines that are designed to cut through sod and hard compacted soil or grass covered areas.
Aerator Attachment	06727-V25-000	Four 10-tooth, 8-1/2 inch heavy gauge, tempered steel aerating tines that make slits in the soil. These slits allow water, air, and the proper nutrients to reach the grass roots.
Border/Edger Attachment	06728-V25-000	A 10-tooth, 8-1/2 inch edger tine of heavy gauge tempered steel blade that neatly edges your garden, patio, walkways, driveways, and flower beds
De-Thatcher Attachment	06729-V25-013	Two de-thatching assemblies containing 3 gangs of 12 spring steel combing fingers cleanly de-thatch your lawn for healthier turf.

### Service Items

Item	Part Number	Notes
SAE 10W-30 engine oil	08207-10W30	Honda Genuine recommended oil 1 qt.
Fuel stabilizer	08732-0001	For long term storage 8 oz.
No-Spill <sup>®</sup> gas can	06176-1450 06176-1405 06176-1415	5 gallon 2 1/2 gallon 1 1/4 gallon

## DEALER LOCATOR INFORMATION

To find an Authorized Honda Servicing Dealer anywhere in the United States:

Visit our website:

[www.hondapowerequipment.com](http://www.hondapowerequipment.com) and click on Dealer Locator.

## CUSTOMER SERVICE INFORMATION

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

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

### American Honda Motor Co., Inc.

Power Equipment Division  
Customer Relations Office  
4900 Marconi Drive  
Alpharetta, GA 30005-8847

Or telephone: (770) 497-6400 M-F, 8:30 a.m. - 7:00 p.m. ET

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

- Model and serial numbers (page 17)
- Name of the dealer who sold the tiller to you
- Name and address of the dealer who services your tiller
- Date of purchase
- Your name, address, and telephone number
- A detailed description of the problem

### Honda Publications

These publications give you additional information for maintaining and repairing your tiller.

**Shop Manual**—This manual covers complete maintenance and overhaul procedures. It is intended to be used by a skilled technician. Available through your Honda dealer or through Helm Inc. at (888) 292-5395 or visit [www.hondapowerequipment.com](http://www.hondapowerequipment.com) and click on Product Manuals.

**Parts Catalog**—This manual provides complete illustrated parts lists and is available through your Honda dealer.

**Frequently Asked Questions**—The Honda Power Equipment web site provides additional information for users of Honda equipment. Visit [www.hondapowerequipment.com](http://www.hondapowerequipment.com) and click on FAQs.

## DISTRIBUTOR'S LIMITED WARRANTY

This warranty is limited to the following Honda Power Equipment products when distributed by:

American Honda Motor Co., Inc., Power Equipment Division,  
4900 Marconi Drive, Alpharetta, Georgia 30005-8847.

PRODUCTS COVERED BY THIS WARRANTY	LENGTH OF WARRANTY (from date of original retail purchase)	
	Noncommercial/ Nonrental	Commercial/ Rental
FG110 Mini-Tiller * (Limited lifetime warranty for tine breakage on the FG110K1)	24 months	3 months

\* Limited lifetime warranty for tine breakage on the FG110K1 is valid for the original purchaser only.

### To Qualify For This Warranty:

The product must be purchased in the United States, Puerto Rico, or the U.S. Virgin Islands from American Honda or a dealer authorized by American Honda to sell those products. This warranty applies to first retail purchaser and each subsequent owner during the applicable warranty time period.

### What American Honda Will Repair Or Replace Under Warranty:

American Honda will repair or replace, at its option, any part that is proven to be defective in material or workmanship under normal use during the applicable warranty time period. Warranty repairs and replacements will be made without charge for parts or labor. Anything replaced under warranty becomes the property of American Honda Motor Company, Inc. All parts replaced under warranty will be considered as part of the original product and any warranty on those parts will expire coincident with the original product warranty.

### To Obtain Warranty Service:

You must take the Honda Power Equipment product, accessory, replacement part, apparel or the power equipment on which the accessory or replacement part is installed, and proof of purchase, at your expense, to any Honda Power Equipment dealer in the United States, Puerto Rico, or the U.S. Virgin Islands who is authorized to sell that product, during the dealer's normal business hours. If you are unable to obtain warranty service, or are dissatisfied with the warranty service you receive, take the following steps: First, contact the owner of the dealership involved; normally this will resolve the problem. However, if you should require further assistance, write or call the Power Equipment Customer Relations Department of American Honda Motor Co., Inc.

American Honda Motor Co., Inc.  
Power Equipment Customer Relations Dept.  
4900 Marconi Drive  
Alpharetta, GA 30005-8847 Telephone: (770) 497-6400

### Exclusions:

This warranty does not extend to parts affected or damaged by collision, normal wear, fuel contamination or deterioration, use in an application for which the product was not designed or any other misuse, neglect, incorporation or use of unsuitable attachments or parts, unauthorized alteration, or any causes other than defects in material or workmanship of the product.

Any product that has ever been declared a total loss or sold for salvage by a financial institution or insurer.

Tiller tines are specifically not warranted against impact damage, including but not limited to, abrasive damage.

### Disclaimer of Consequential Damage and Limitation of Implied Warranties:

American Honda disclaims any responsibility for loss of time or use of the product, transportation, commercial loss, or any other incidental or consequential damage. Any implied warranties are limited to the duration of this written limited warranty. Some states do not allow limitations on how long an implied warranty lasts and/or do not allow the exclusion or limitation of incidental or consequential damages, so the above exclusions and limitations may not apply to you.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

## ACCESSORIES, REPLACEMENT PARTS, AND APPAREL WARRANTY

This warranty is limited to Honda Power Equipment parts, accessories and apparel when distributed by American Honda Motor Co., Inc.,  
4900 Marconi Drive, Alpharetta, Georgia 30005-8847.

PRODUCTS COVERED BY THIS WARRANTY	LENGTH OF WARRANTY (from date of original retail purchase)	
	Noncommercial/Nonrental	Commercial/Rental
Accessories	12 months	3 months
Replacement Parts	6 months	3 months
Apparel	6 months	3 months

### To Qualify for this Warranty:

1. The accessories, replacement parts, or apparel must be purchased from American Honda, or a dealer, distributor or distributor's dealer authorized by American Honda to sell those products in the United States, Puerto Rico, and the U.S. Virgin Islands. Parts and Accessories must be purchased for installation on original Honda equipment or engines to be eligible for warranty coverage. Installing Parts and Accessories on non-Honda products or engines voids this warranty.
2. You must be the first retail purchaser. This warranty is not transferable to subsequent owners.

### What American Honda will Repair or Replace Under Warranty:

American Honda will repair or replace, at its option, any power equipment accessories, replacement parts, or apparel that are proven to be defective in material or workmanship under normal use during the applicable warranty time period. Anything replaced under warranty becomes the property of American Honda Motor Company, Inc. All parts replaced under warranty will be considered as part of the original product and any warranty on those parts will expire coincident with the original product warranty.

Accessories and replacement parts, installed by a dealer who is authorized by American Honda to sell them, will be repaired or replaced under warranty without charge for parts or labor. If installed by anyone else, accessories and replacement parts will be repaired or replaced under warranty without charge for parts, but any labor charges will be the responsibility of the purchaser. Apparel will be repaired or replaced under warranty without any charge.

### To Obtain Warranty Service:

You must take the Honda Power Equipment accessory, replacement part, apparel or the power equipment on which the accessory or replacement part is installed, and proof of purchase, at your expense, to any Honda Power Equipment dealer in the United States, Puerto Rico, or the U.S. Virgin Islands who is authorized to service that product, during the dealer's normal business hours. If you are unable to obtain warranty service, or are dissatisfied with the warranty service you receive, take the following steps: First, contact the owner of the dealership involved; normally this will resolve the problem. However, if you should require further assistance, write or call the Power Equipment Customer Relations Department of American Honda Motor Co., Inc. Refer to page 20 for contact information.

### Exclusions:

This warranty does not extend to accessories, parts, or apparel affected or damaged by collision, normal wear, use in an application for which the product was not designed, or any other misuse, neglect, incorporation or use of unsuitable attachments or parts, unauthorized alteration, improper installation, or any causes other than defects in material or workmanship of the product. Installing Parts and Accessories on non-Honda products or engines voids this warranty.

Tiller tines are specifically not warranted against impact damage, including but not limited to, abrasive damage.

### Disclaimer of Consequential Damage and Limitation of Implied Warranties:

American Honda disclaims any responsibility for loss of time or use of the product, or the power equipment on which the product is installed, transportation, commercial loss, or any other incidental or consequential damage. Any implied warranties are limited to the duration of this written warranty. Some states do not allow limitations on how long an implied warranty lasts and/or do not allow the exclusion or limitation of incidental or consequential damages, so the above exclusions and limitations may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

## EMISSION CONTROL SYSTEM WARRANTY

Your new Honda Power Equipment engine complies with the U.S. EPA, Environment Canada, and State of California emission regulations (models certified for sale in California only). American Honda Motor Co., Inc. provides the emission warranty coverage for engines in the United States and its territories. Honda Canada Inc. provides the emission warranty for engines in the 13 provinces and territories of Canada. In the remainder of this Emission Control System Warranty, American Honda Motor Company Inc. and Honda Canada Inc. will be referred to as Honda.

### Your Warranty Rights And Obligations:

#### California

The California Air Resources Board and Honda are pleased to explain the emission control system warranty on your Honda Power Equipment engine. In California, new utility and lawn and garden equipment engines must be designed, built, and equipped to meet the State's stringent anti-smog standards.

#### Other States, U.S. territories, and Canada

In other areas of the United States and in Canada, your engine must be designed, built, and equipped to meet the U.S. EPA and Environment Canada emission standards for spark-ignited engines at or below 19 kilowatts. Specific Honda products that do not meet the California emissions regulations can be identified by "Not for sale in California" decal.

#### All of the United States and Canada

Honda must warrant the emission control system on your power equipment engine for the period of time listed below provided there has been no abuse, neglect or improper maintenance of your power equipment engine. Where a warrantable condition exists, Honda will repair your power equipment engine at no cost to you including diagnosis, parts and labor.

Your emission control system may include such parts as the carburetor or fuel injection system, the ignition system, and catalytic converter. Also included may be hoses, connectors and other emission-related assemblies. Products can be identified by "Not for sale in California" decal.

#### Manufacturer's Warranty Coverage:

The 1995 and later power equipment engines are warranted for two years or the length of the Honda Distributor's Limited Warranty, whichever is longer. If any emission-related part on your engine is defective, the part will be repaired or replaced by Honda.

#### Owner's Warranty Responsibility:

As the power equipment engine owner, you are responsible for the performance of the required maintenance listed in your owner's manual. Honda recommends that you retain all receipts covering maintenance on your power equipment engine, but Honda cannot deny warranty coverage solely for the lack of receipts or for your failure to ensure the performance of all scheduled maintenance.

As the power equipment engine owner, you should however be aware that Honda may deny you warranty coverage if your power equipment engine or a part has failed due to abuse, neglect, improper maintenance, or unapproved modifications.

You are responsible for presenting your power equipment engine to a Honda Power Equipment dealer as soon as a problem exists. The warranty repairs should be completed in a reasonable amount of time, not to exceed 30 days.

If you have any questions regarding your warranty rights and responsibilities, you should write or call the Honda office in your region.

American Honda Motor Co., Inc.  
Power Equipment Customer  
Relations  
4900 Marconi Drive  
Alpharetta, Georgia 30005-8847  
Telephone: (770) 497-6400

Honda Canada Inc.  
Power Equipment Customer  
Relations  
715 Milner Avenue  
Toronto, ON M1B 2K8  
Telephone: (888) 946-6329

#### Warranty Coverage:

Honda power equipment engines manufactured after January 1, 1995 and sold in the State of California, and U.S. EPA certified engines manufactured on or after September 1, 1996 and sold in all of the United States, and Canadian certified engines manufactured on or after January 1, 2005 are covered by this warranty for a period of two years from the date of delivery to the original retail purchaser or the length of the Honda Distributor's Limited Warranty, whichever is longer. This warranty is transferable to each subsequent purchaser for the duration of the warranty period.

Warranty repairs will be made without charge for diagnosis, parts or labor. All defective parts replaced under this warranty become the property of Honda. Warranted parts are listed under *Emission Control System Warranty Parts*.

Normal maintenance items, such as spark plugs and filters, that are on the warranted parts list are warranted up to their required replacement interval only.

Honda will also replace other engine components damaged by a failure of any warranted part during the warranty period.

Only Honda approved replacement parts may be used in the performance of any warranty repairs and must be provided without charge to the owner. The use of replacement parts not equivalent to the original parts may impair the effectiveness of your engine emission control system. If such a replacement part is used in the repair or maintenance of your engine, and an authorized Honda dealer determines it is defective or causes a failure of a warranted part, your claim for repair of your engine may be denied. If the part in question is not related to the reason your engine requires repair, your claim will not be denied.

#### To Obtain Warranty Service:

You must take your Honda Power Equipment engine or the product on which it is installed, along with your warranty registration card or other proof of original purchase date, at your expense, to any Honda Power Equipment dealer who is authorized by Honda to sell and service that Honda product during his normal business hours. Claims for repair or adjustment found to be caused solely by defects in material or workmanship will not be denied because the engine was not properly maintained and used.

If you are unable to obtain warranty service, or are dissatisfied with the warranty service you received, contact the owner of the dealership involved. Normally this should resolve your problem. However, if you require further assistance, write or call the Power Equipment Customer Relations Department of American Honda Motor Co., Inc. Refer to page 20 for contact information.

#### Exclusions:

Failures other than those resulting from defects in material or workmanship are not covered by this warranty. This warranty does not extend to emission control systems or parts which are affected or damaged by owner abuse, neglect, improper maintenance, misuse, misfueling, improper storage, collision, the incorporation of, or any use of, any add-on or modified parts, unsuitable attachments, or the unauthorized alteration of any part.

This warranty does not cover replacement of expendable maintenance items made in connection with required maintenance services after the item's first scheduled replacement as listed in the maintenance section of the product owner's manual, such as: spark plugs and filters.

#### Disclaimer of Consequential Damage and Limitation of Implied Warranties:

American Honda Motor Co., Inc. and Honda Canada Inc. disclaim any responsibility for incidental or consequential damages such as loss of time or the use of the power equipment, or any commercial loss due to the failure of the equipment; and any implied warranties are limited to the duration of this written warranty. This warranty is applicable only where the California, U.S. EPA, or Environment Canada Emission Control System Warranty regulation is in effect.

#### Emission Control System Warranty Parts:

SYSTEMS COVERED BY THIS WARRANTY:	PARTS DESCRIPTION:
Fuel Metering	Carburetor assembly, (includes starting enrichment system), Engine temperature sensor, Engine control module, Fuel regulator, Intake manifold
Evaporative	Fuel tank, Fuel cap, Fuel hoses, Vapor hoses, Carbon canister, Canister mounting brackets, Fuel strainer, Fuel cock, Fuel pump, Fuel hose joint, Canister purge hose joint
Exhaust	Catalyst, Exhaust manifold
Air Induction	Air filter housing, Air filter element *
Ignition	Flywheel magneto, Ignition pulse generator, Crankshaft position sensor, Power coil, Ignition coil assembly, Ignition control module, Spark plug cap, Spark plug *
Crankcase Emission Control	Crankcase breather tube, oil filler cap
Miscellaneous Parts	Tubing, fittings, seals, gaskets, and clamps associated with these listed systems.
Note: This list applies to parts supplied by Honda and does not cover parts supplied by the equipment manufacturer. Please see the original equipment manufacturer's emission warranty for non-Honda parts.	

\* Covered up to the first required replacement only.  
See the *MAINTENANCE SCHEDULE* on page 8.

## NOTES

# **HONDA**

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