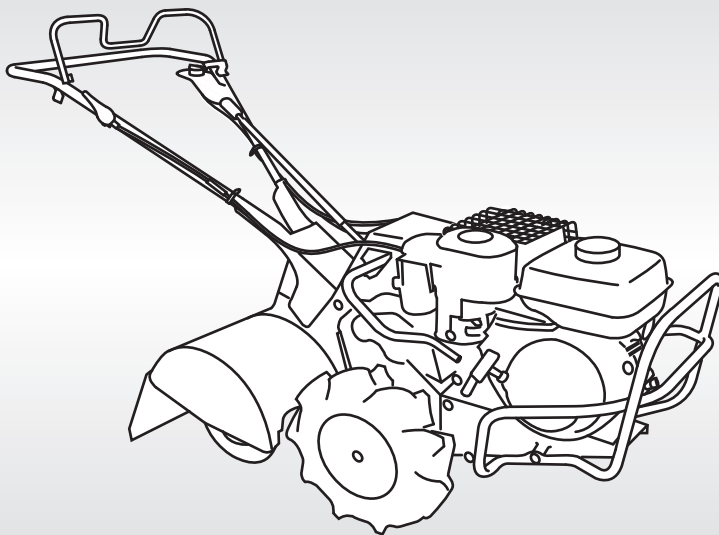


**HONDA**

Owner's Manual  
Manuel de l'utilisateur  
Manual de explicaciones  
**TILLER**  
**FRC800**



**Honda FRC800**

**OWNER'S MANUAL**

**MANUEL DU PROPRIÉTAIRE**

**MANUAL DE EXPLICACIONES**



## **WARNING:**



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

### **California Proposition 65**

This product contains or emits 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 any time. This owner's manual is considered a permanent part of the tiller and should remain with the tiller if resold.

The information and specifications included in this publication were in effect at the time of approval for printing. Honda Motor Co., Ltd. reserves the right, however, to discontinue or change specifications or design at any time without notice and without incurring any obligation whatsoever.

# INTRODUCTION

Congratulations on your selection of a Honda 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.

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 tiller, other property, or the environment.

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

If not, you can obtain a copy from your dealer or download from;

U.S.A <http://powerequipment.honda.com/support/warranty>

Canada <http://powerequipment.honda.ca/parts-service/warranty>

When your tiller needs scheduled maintenance, keep in mind that your Honda servicing dealer is specially trained in servicing Honda tillers and is supported by the parts and service divisions of American Honda. 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

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## A FEW WORDS ABOUT SAFETY

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

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

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

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

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# TILLER SAFETY

## IMPORTANT SAFETY INFORMATION

Honda tillers are designed to cultivate earth outdoors. Other uses can result in injury to the operator or damage to the tiller and other property.

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

### Operator Responsibility

- 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.
- Know how to stop the tiller quickly in case of emergency.
- Understand the use of all tiller controls.
- Be very cautious when operating the tiller in REVERSE, especially if attachments are being used.
- Keep a firm hold on the handlebars. They may tend to lift during clutch engagement.
- Be sure the drag bar is in place and properly adjusted.
- Be sure that anyone who operates the tiller receives proper instruction. Do not let children operate the tiller. Keep children and pets away from the area of operation.
- Before starting the engine, check that the tiller is not damaged and is in good condition.

### Carbon Monoxide Hazards

Your tiller's exhaust contains poisonous carbon monoxide gas, which you cannot see or smell.

Breathing carbon monoxide can KILL YOU IN MINUTES.

For your safety:

- Do not start or operate the engine in any closed or even partially enclosed area, such as a garage.
- Never run the tiller in a closed or even partially closed area where people or pet may be present.
- Never operate the tiller near open doors, windows or vents.
- Get fresh air and seek medical attention immediately if you suspect you have inhaled carbon monoxide.

Early symptoms of carbon monoxide exposure include headache, fatigue, shortness of breath, nausea, and dizziness. Continued exposure to carbon monoxide can cause loss of muscular coordination, loss of consciousness, and then death.



# TILLER SAFETY

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## Fire and Burn Hazards

- The exhaust system gets hot enough to ignite some materials.
  - Keep the tiller at least 3 feet (1 meter) away from buildings and other equipment during operation.
  - Keep flammable materials away from the tiller.
- The muffler becomes very hot during operation and remains hot for a while after stopping the engine.  
Be careful not to touch the muffler while it is hot. Let the engine cool before storing the tiller indoors.

## Refuel With Care

Gasoline is extremely flammable, and gasoline vapor can explode. Never remove the gas cap or add gasoline with the engine running. Allow the engine to cool if it has been in operation. Refuel only outdoors in a well-ventilated area and on a level surface. Never fill containers inside a vehicle or on a truck or trailer bed with a plastic liner. Never smoke near gasoline, and keep other flames and sparks away. Do not overfill the fuel tank. Make sure that any spilled fuel has been wiped up before starting the engine. Always store gasoline in an approved container.

## Avoid Rotating Tines

Rotating tines can cause serious cuts and even amputate body parts. Keep away from the tine area whenever the engine is running. If you need to work around the tines to clear an object accumulation or for any other reason, always shut off the engine. After striking a foreign object, stop the engine, remove the spark plug cap, thoroughly inspect the machine for any damage, and repair the damage before restarting and operating the machine. Wear heavy-duty gloves when you need to clean the tine area or handle the tines.

## Clear Tilling Area

Never attempt to make any adjustments while the engine is running. A tine can throw rocks and other objects with enough force to cause serious injury. Before tilling, carefully inspect the area and remove all stones, sticks, bones, nails, pieces of wire, and other foreign objects. If children get close to the operation area, stop the tiller and shut off the engine. Never operate the tines over gravel.

## Keep Shields in Place

Guards and shields are designed to protect you from being hit by thrown objects and to keep you from touching hot engine parts and moving components. For your safety and the safety of others, keep all shields in place when the engine is running.

## Wear Protective Clothing

Wearing protective clothing will reduce your risk of injury. Do not wear loose clothing, jewelry, short pants, sandals, or go barefoot.

Wear gloves, eye protection, a long-sleeved shirt, and long pants made of heavy material. Keep clothing fastened.

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

## Turn Engine Off When Not Operating the Tiller

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

## Slope Operation

- When tilling on slopes, keep the fuel tank less than half full to minimize fuel spillage.
- Till across the slope (at equally spaced intervals) rather than up and down it.
- Be very careful when changing the direction of the tiller on a slope.
- Do not use the tiller on a slope of more than 10°. For your safety and the safety of others, exercise extreme care when using the tiller on a slope.

## Tilling Conditions

Operate the tiller only in daylight or good artificial light. Do not operate the tiller at night or under poor light conditions.

Never operate the machine at high transport speeds on hard or slippery surfaces.

# TILLER SAFETY

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## **Attachments and Modifications**

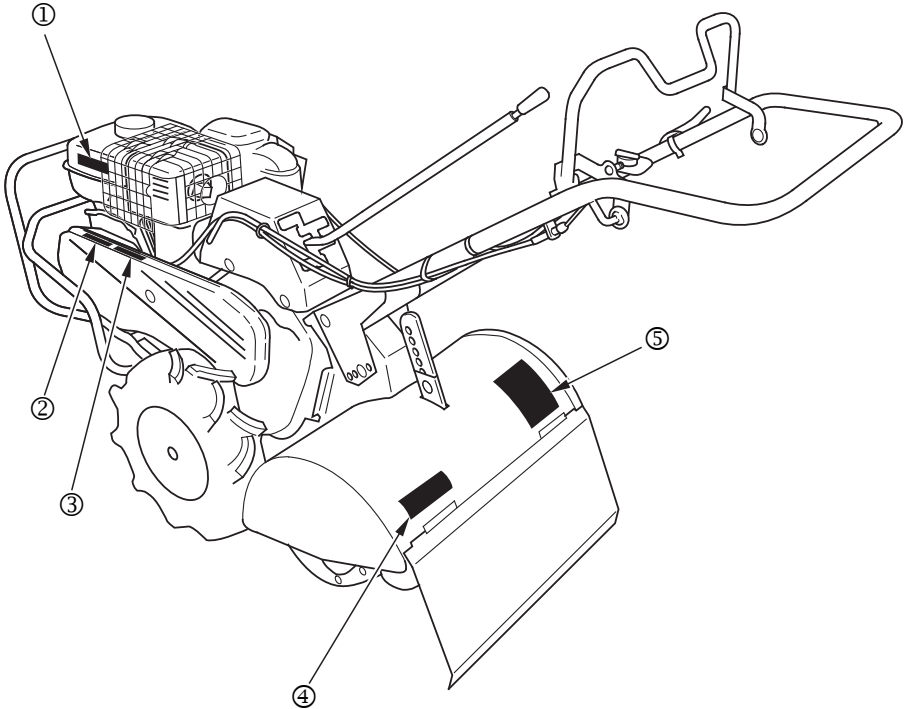
Do not make any modifications to your tiller. Modifying your tiller or installing non-Honda attachments can make your tiller unsafe.

If you need attachments for your tiller, use only Honda Genuine attachments (see page 70). These products have been designed for your tiller.




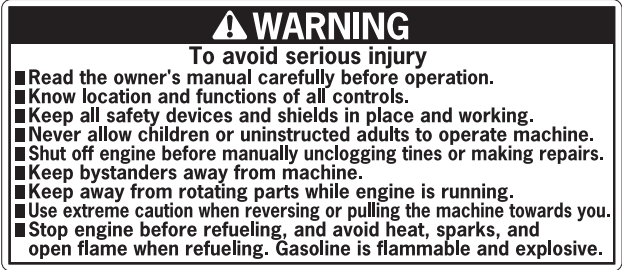

Non-Honda attachments are usually designed for universal applications. Although aftermarket attachments may fit on your tiller, they may not meet factory specifications and could make your tiller unsafe.


## SAFETY LABEL LOCATIONS

These labels warn you of potential hazards that can cause serious injury. Read them carefully. If a label comes off or becomes hard to read, contact your Honda tiller dealer for a replacement.




# TILLER SAFETY

Type	Safety Labels	
A1&C1 &U1	① (A1 type only)	
	②	
	③	
	④	
	⑤	

Type	Safety Labels	
C1	①	
	②	<p>*</p> <div data-bbox="437 379 932 496" style="border: 1px solid black; padding: 5px;"> <p style="text-align: center;"><b>⚠ AVERTISSEMENT</b></p> <p>Il y a risque de blessure au contact de la courroie de transmission et des poulies. Laisser le protecteur en place pendant qu'elles tournent.</p> </div>
	③	<p>*</p> <div data-bbox="437 579 927 703" style="border: 1px solid black; padding: 5px;"> <p style="text-align: center;"><b>⚠ ATTENTION</b></p> <p>Il y a risque de brûlure si le silencieux est chaud. Rester à l'écart si le moteur vient de tourner.</p> </div>
	④	<p>*</p> <div data-bbox="376 775 991 1043" style="border: 1px solid black; padding: 5px;"> <p style="text-align: center;"><b>⚠ AVERTISSEMENT</b></p> <p style="text-align: center;">Pour éviter une blessure grave</p> <ul style="list-style-type: none"> <li>■ Lire attentivement le manuel du propriétaire avant l'utilisation.</li> <li>■ Étudier l'emplacement et les fonctions de toutes les commandes.</li> <li>■ Maintenir tous les dispositifs de sécurité et de protection en place et en bon état.</li> <li>■ Ne jamais permettre à des enfants ou à des adultes non formés d'utiliser l'appareil.</li> <li>■ Couper le moteur avant de débloquent manuellement les fourchons ou de faire des réparations.</li> <li>■ S'assurer que les passants restent loin de l'appareil.</li> <li>■ S'éloigner des pièces rotatives quand le moteur fonctionne.</li> <li>■ Faire preuve de grande prudence lors de la marche arrière ou quand on tire l'appareil vers soi.</li> <li>■ La gazoline est inflammable et peut exploser. couper le moteur, s'assurer que l'appareil est loin de la chaleur, des étincelles et de la flamme nue lors du remplissage.</li> </ul> </div>
	⑤	<p>*</p> <div data-bbox="552 1114 813 1366" style="border: 1px solid black; padding: 5px;"> <p style="text-align: center;"><b>⚠ DANGER</b></p> <div style="text-align: center;">  </div> <p>Il y a risque de blessure grave au contact des dents en rotation. Garder mains, pieds et vêtements à l'écart pendant que le moteur tourne. ©</p> </div>

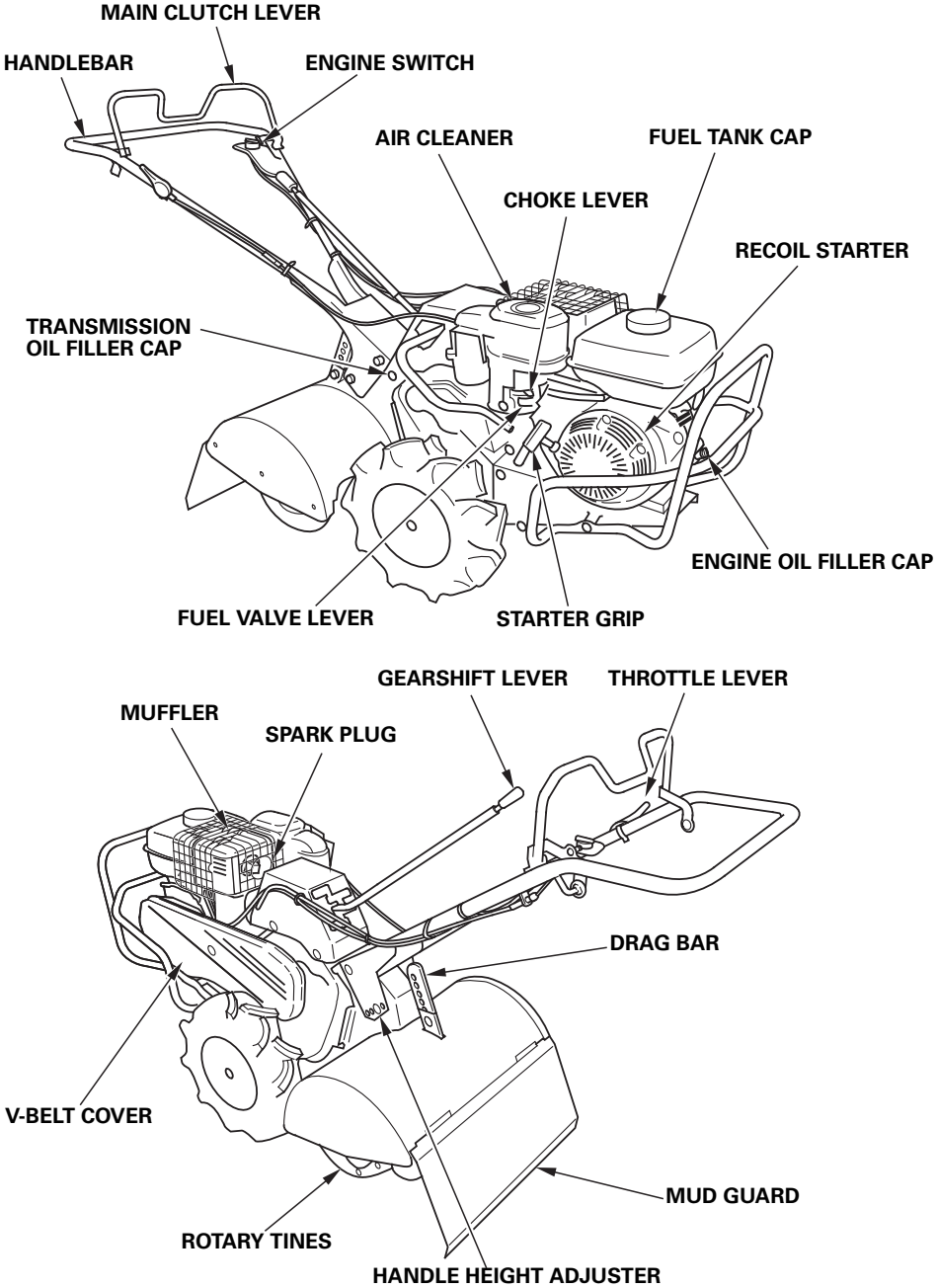
\*: Mark labels come with the tiller.

# TILLER SAFETY

Type	Safety Labels	
MX1	①	
	②	<div data-bbox="434 384 930 501" style="border: 1px solid black; padding: 5px;"> <p style="text-align: center;"><b>⚠ ADVERTENCIA</b> <span style="float: right;">SP</span></p> <p>Las poleas y la correa de transmisión pueden causarle lesiones. Mantenga la cubierta en su sitio durante el funcionamiento.</p> </div>
	③	<div data-bbox="434 568 930 708" style="border: 1px solid black; padding: 5px;"> <p style="text-align: center;"><b>⚠ PRECAUCIÓN</b> <span style="float: right;">SP</span></p> <p>El silenciador caliente puede causar quemaduras. Manténgase alejado si el motor ha estado funcionando.</p> </div>
	④	<div data-bbox="372 775 994 995" style="border: 1px solid black; padding: 5px;"> <p style="text-align: center;"><b>⚠ ADVERTENCIA</b> <span style="float: right;">SP</span></p> <p style="text-align: center;"><b>Para evitar lesiones graves</b></p> <ul style="list-style-type: none"> <li>■ Lea atentamente el manual de usuario antes del manejo.</li> <li>■ Apréndase la ubicación y las funciones de todos los mandos.</li> <li>■ Mantenga en su sitio y en buen funcionamiento todos los protectores y dispositivos de seguridad.</li> <li>■ Nunca deje que niños o adultos no instruidos en el manejo de la máquina la operen.</li> <li>■ Apague el motor antes de desatascar dientes manualmente o hacer reparaciones.</li> <li>■ Mantenga a las demás personas alejadas de la máquina.</li> <li>■ Manténgase alejado de las partes giratorias mientras el motor esté funcionando.</li> <li>■ Tenga mucho cuidado cuando tire de la máquina hacia atrás o hacia usted.</li> <li>■ La gasolina es un líquido inflamable y explosivo. Pare el motor y evite el calor, las chispas y las llamas al llenar el depósito.</li> </ul> </div>
	⑤	<div data-bbox="549 1062 815 1315" style="border: 1px solid black; padding: 5px;"> <p style="text-align: center;"><b>⚠ PELIGRO</b></p> <div style="text-align: center;">  </div> <p>El contacto con los dientes en movimiento causará lesiones graves. Mantenga las manos y los pies alejados mientras el motor está funcionando. <span style="float: right;">SP</span></p> </div>

# CONTROLS

## COMPONENT & CONTROL LOCATIONS





# CONTROLS

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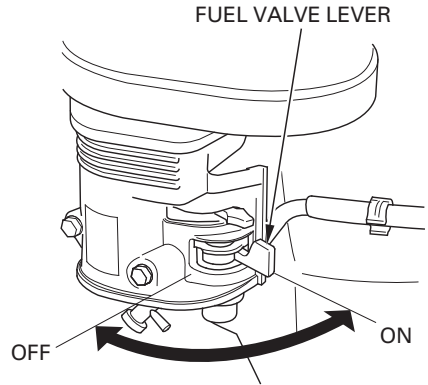
## CONTROLS

### Fuel Valve

The fuel valve opens and closes the connection between the fuel tank and the carburetor.

The fuel valve lever must be in the ON position for the engine to run.

After stopping the engine, turn the fuel valve lever to the OFF position.

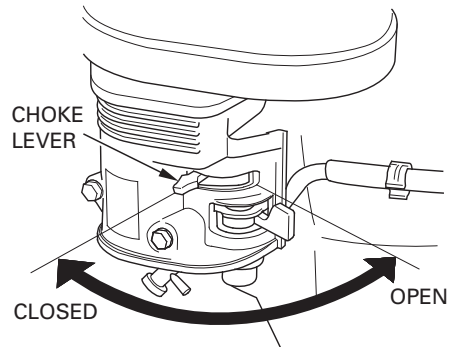


### Choke Lever

The choke lever opens and closes the choke valve in the carburetor.

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.

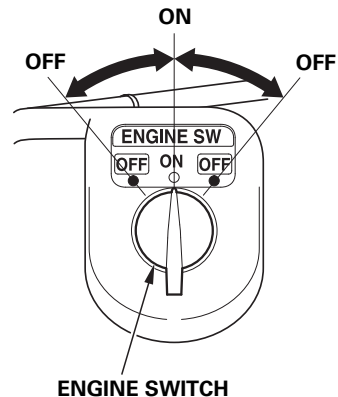


### Engine Switch

The engine switch controls the ignition system.

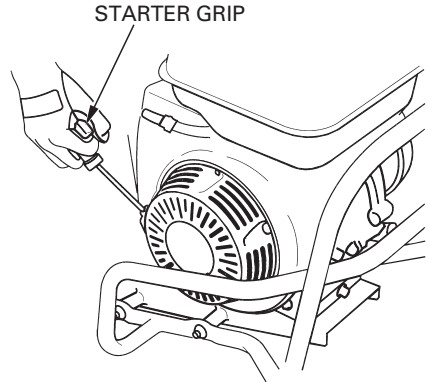
OFF — Stops the engine.

ON — Running position.



## Starter Grip

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

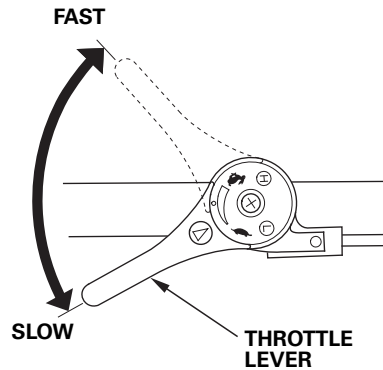


## Throttle Lever

The throttle lever controls engine speed.

Moving the throttle lever in the directions shown makes the engine run faster or slower.

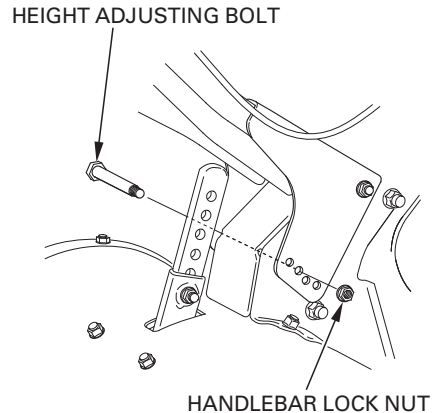
Tine speed is controlled by adjusting the throttle lever. At maximum throttle position, the tines will rotate at the highest speed. Moving the throttle lever toward the idle position will decrease the tine speed.



## Handlebar Height Adjuster

Handlebar height can be adjusted to match operator height. For adjustment, see page 23.

For normal tilling, the most comfortable operator position is with the handlebars at waist height.

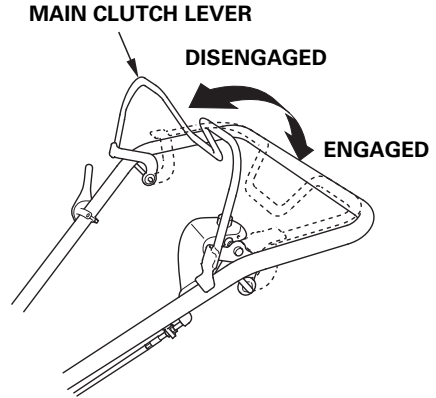


# CONTROLS

## Main Clutch Lever

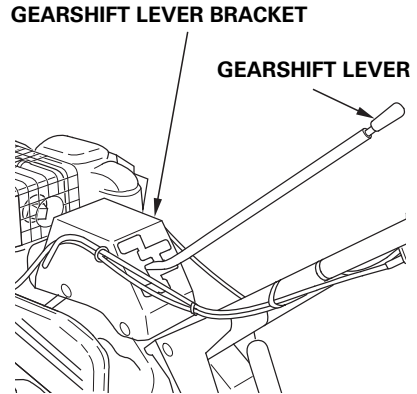
The main clutch lever engages and disengages the transmission that drives the tines.

The tiller tines begin to rotate once the engine is started and the clutch lever is squeezed. The tines may momentarily rotate after clutch lever is released.



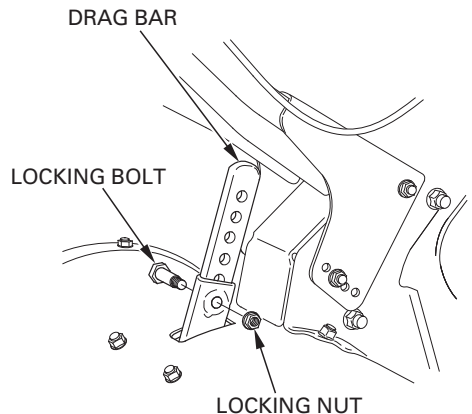
## Gearshift Lever

The transmission offers a choice of three forward speeds, neutral, and one reverse speed. Shift lever positions are indicated on the gearshift lever bracket.



## Drag Bar

The drag bar controls tilling depth and should always be used when tilling. It enables you to compensate for the hardness of the soil. Ideal drag bar height will depend on the type of soil being tilled and soil conditions at the time of tilling. In general, the drag bar should be adjusted so that the tiller is tilted slightly backward.



# BEFORE OPERATION

## ARE YOU READY TO GET STARTED?

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

## 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**

Failure to properly maintain this tiller, or failing to correct a problem before operation, could result in a significant malfunction.

Some malfunctions can cause serious injuries or death.

Always perform a pre-operation inspection before each operation and correct any problems.

# **BEFORE OPERATION**

---

Do not place flammable objects close to the engine.

Before beginning your pre-operation checks, be sure the tiller is on a level surface and the engine switch is in the OFF position.

## **Check the Engine**

- Before each use, look around and underneath the engine for signs of oil or gasoline leaks.
- Check the oil level (see page 34).
- Check the air filter (see page 38). A dirty air filter will restrict air flow to the carburetor, reducing engine and tiller performance.
- Check the fuel level (see page 32). Starting with a full tank will help to eliminate or reduce operating interruptions for refueling.

## **Check the Tiller**

- Check the transmission oil (see page 37).
- Check for looseness in fastened parts. Securely tighten all loose parts.

# OPERATION

## SAFE OPERATING PRECAUTIONS

Before operating the tiller for the first time, please review both the *TILLER SAFETY* chapter and the chapter titled *BEFORE OPERATION*.

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

### **WARNING**

Exhaust contains poisonous carbon monoxide gas that can build up to dangerous levels in closed areas.

Breathing carbon monoxide can cause unconsciousness or death.

Never run this product's engine in a closed, or even partly closed area.

### **WARNING**

Tines are sharp and spin fast.

Spinning tines can cut you severely and can amputate body parts.

- Wear protective footwear.
- Keep your hands and feet away from the tines while the engine is running.
- Stop the engine before performing any adjustment, inspection, or maintenance.

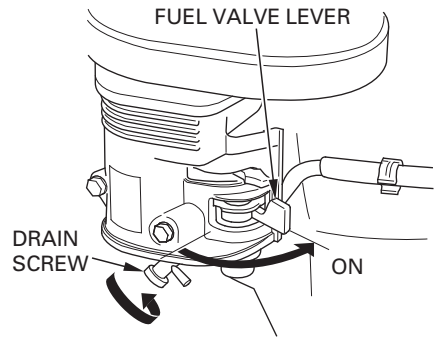
# OPERATION

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## STARTING THE ENGINE

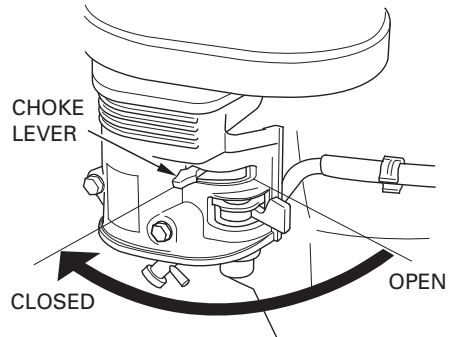
Refer to *Safe Operating Precautions* on Page 19.

1. Turn the fuel valve lever to the ON position. Check that the fuel drain screw is tightened securely.

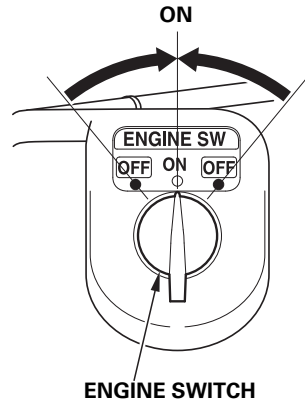


2. Move the choke lever to the CLOSED position to start a cold engine.

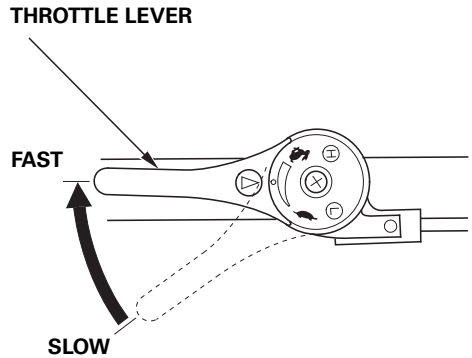
Leave the choke lever in the OPEN position to restart a warm engine.



3. Turn the engine switch to the ON position.



4. Move the throttle lever away from the SLOW position, about 1/3 of the way toward the FAST position.



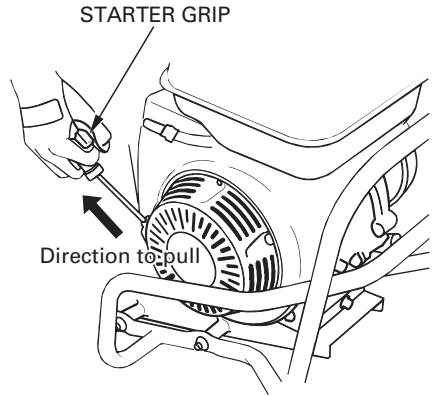


# OPERATION

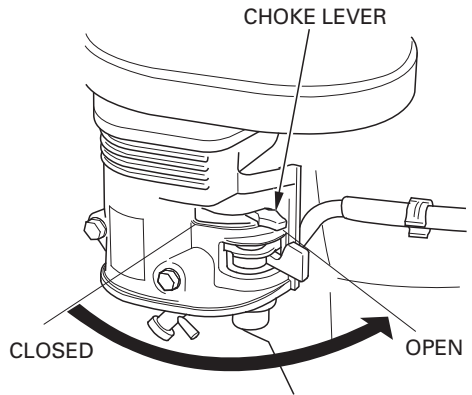
5. Hold the handle and pull the starter grip until you feel resistance, then pull briskly in the direction of the arrow as shown.

**NOTICE**

*Do not allow the starter grip to snap back against the engine. Return it gently to prevent damage to the starter.*



6. 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.



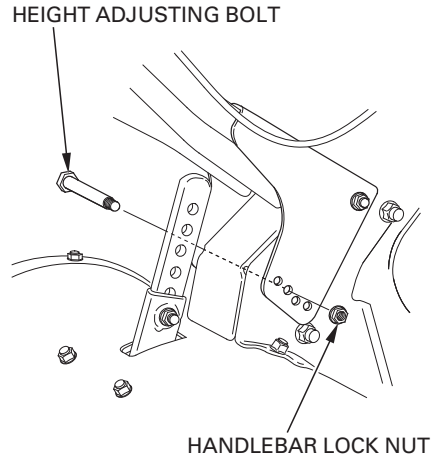
## OPERATING THE CONTROLS FOR TILLING

If the tines dig in but the machine will not move forward, move the handlebars from side to side.

### Handlebar Height Adjustment

Stop the engine before adjusting the handlebar height.

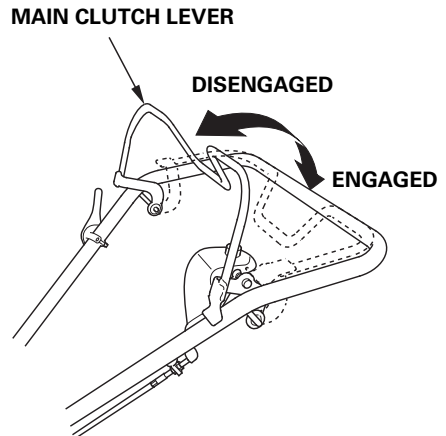
Remove the handlebar height adjusting bolt, adjust the handlebar height, and reinstall the bolt in the appropriate holes.



### Clutch

When the main clutch lever is squeezed, the clutch is engaged, and power is transmitted to the transmission.

When the lever is released, the clutch is disengaged, and power is not transmitted.



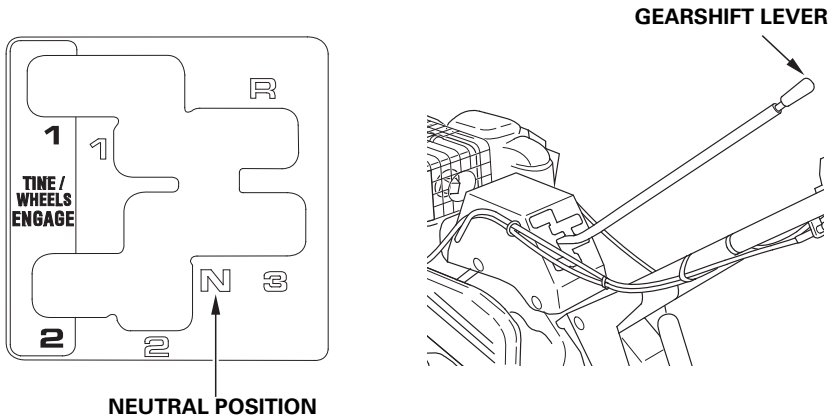
# OPERATION

## Forward Gear Selection

1. Return the throttle lever to the slowest position.
2. Release the clutch lever to disengage the clutch.
3. Move the shift lever to the desired gear position.

The tines will only operate when the shift lever is positioned in the yellow zone.

If the shift lever will not engage the desired gear, squeeze the clutch lever and move the tiller slightly to reposition the gears.



Gear Selection Table (Throttle in FAST position)

Gear position	Tiller speed	*Tine speed	Suitable work
1	0.4 mph	—	Moving tiller, loading tiller onto a truck, taking tiller on or off field
2	0.9 mph	—	Moving tiller, loading tiller onto a truck, taking tiller on or off field
3	2.9 mph	—	Moving tiller
TINE/WHEELS ENGAGE 1	—	219 rpm	Tilling, ground breaking, weeding
TINE/WHEELS ENGAGE 2	—	—	Tilling, ground breaking, weeding
R	0.4 mph	—	Moving tiller, loading/unloading tiller from a truck, taking tiller on or off field

\*Tiller speed applies when standard tires are used.

## Reverse Gear Operation

Use the reverse gear only when it is necessary to move the tiller away from an obstacle.

1. Check the area behind you and make sure it is clear of any obstacles.
2. Move the throttle to the SLOW position.
3. Make sure the main clutch lever is released. Move the shift lever to the REVERSE position.
4. Raise the handlebar slightly and engage the main clutch lever. Carefully walk the tiller backwards. Be prepared to release the main clutch lever quickly.
5. Release the main clutch lever, lower the handlebar, and move the shift lever out of the REVERSE position when done.

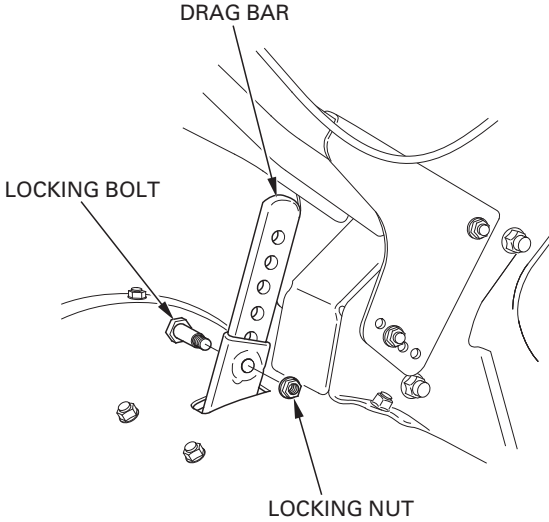
# OPERATION

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## Tilling Depth Adjustment

The drag bar is used to control the tilling depth, which can be adjusted by removing the locking bolt and sliding the drag bar up or down as necessary.

During operation, if the machine jerks forward while tilling, press down on the handlebars. This will cause the drag bar to dig more deeply into the soil.



## HANDLING TIPS

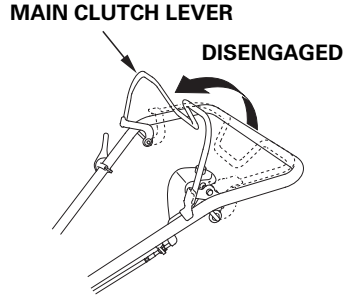
- Adjust the handlebar height to a comfortable position (waist height for normal tilling).
- The drag bar should always be used when tilling. It enables you to compensate for the hardness of the soil. The ideal height of the drag bar will depend on the type of soil being tilled and soil conditions at the time of tilling. In general, however, the drag bar should be adjusted so that the tiller is tilted slightly backward.
- If the machine jerks forward while tilling, press down on the handlebars. This will cause the drag bar to dig more deeply into the soil.
- If tines dig in but the machine will not move forward, move the handlebars from side to side.
- Stop the tines before crossing gravel drives, walks, or roads. Stay alert for hidden hazards or traffic.
- Stop the engine immediately if the tiller vibrates abnormally. Check the tiller for damage or loose parts, and repair or replace them before using the tiller again. Vibration is usually a sign of trouble.

# OPERATION

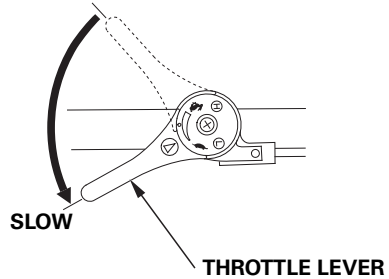
## STOPPING THE ENGINE

To stop the engine in an emergency, simply turn the engine switch to the OFF position. Under normal conditions, use the following procedure.

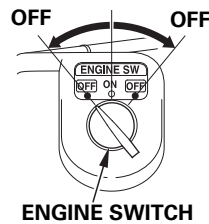
1. Release the main clutch lever to the DISENGAGED position, and move the shift lever to the neutral position. Even if you release the clutch, the tine may not stop immediately.



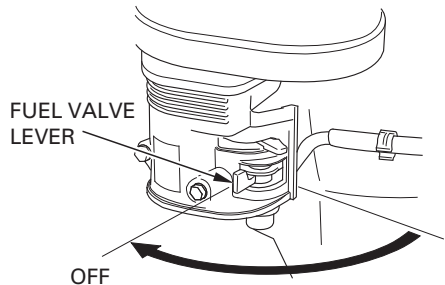
2. Move the throttle lever to the slowest position.



3. Turn the engine switch to the OFF position.



4. Turn the fuel valve lever to the OFF position.



# SERVICING YOUR TILLER

## THE IMPORTANCE OF MAINTENANCE

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

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 unusual conditions, such as sustained high-load or high-temperature operation or use in dusty conditions consult your servicing dealer for recommendations applicable to your individual needs and use.

### **WARNING**

Failure to properly maintain this tiller, or failing to correct a problem before operation, could result in a significant malfunction.

Some malfunctions can cause serious injuries or death.

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

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.**



# SERVICING YOUR TILLER

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## 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**

Improper maintenance can cause an unsafe condition.

Failure to properly follow maintenance instructions and precautions can cause serious injuries or death.

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.**  
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 non-flammable solvent, not gasoline, to clean parts. Keep cigarettes, sparks, and flames away from all fuel-related parts.
- Disconnect the spark plug cap and wear heavy gloves when working near the belts or tine blades.

# SERVICING YOUR TILLER

## MAINTENANCE SCHEDULE

REGULAR SERVICE PERIOD (3) Perform at every indicated month or operating hour interval, whichever comes first.		After Storage	Each use	First month or 20 hrs.	Every 3 months or 50 hrs.	Every 6 months or 100 hrs.	Every year or 300 hrs.	Refer to page
ITEM								
Engine oil	Check level		o					34
	Change	o		o		o		35
Transmission oil	Check level		o					37
	Change							
Air cleaner	Check		o					38
	Clean				o (1)			38
	Replace						o*	38
Tiller outside	Check		o					—
Main clutch lever function	Check		o					23
Bolts and Nuts tightens	Check-tighten		o					—
Wiring and cables	Check		o					—
Engine operation	Check		o					20
Main clutch cable	Adjust			o		o		42
Drive belt tension	Adjust			o (4)		o (4)		44
Sediment cup	Clean					o		48
Spark plug	Check-adjust					o		41
	Replace						o	41
Spark arrester (applicable types)	Clean					o		49
Throttle cable	Adjust						o	43
Idle speed	Check-adjust						o (2)	—
Valve clearance	Check-adjust						o (2)	—
Combustion chamber	Clean			After every 1,000 hrs. (2)				—
Fuel tank and filter	Clean	o (2)				o (2)		—
All fasteners (for tightness)	Check-tighten			Initial 10 hrs.				—
Fuel tube	Check			Every 2 years (Replace if necessary) (2)				—

\*Replace the paper element only.

(1) Service every 10 operation hours or every day 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. See "Honda Publications" on page 70 for ordering information.

(3) For commercial use, log hours of operation to determine proper maintenance intervals.

(4) Check that there are no cracks or abnormal wear in the belt, and replace it if necessary.

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

# SERVICING YOUR TILLER

## REFUELING

With the engine stopped, remove the fuel tank cap and check the fuel level. Refill the tank if the fuel level is low. Do not fill above the fuel level mark.

### **⚠ WARNING**

Gasoline is highly flammable and explosive. You can be burned or seriously injured when handling fuel.

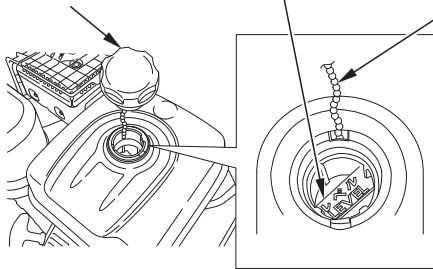
- Stop the engine and let it cool before handling fuel.
- Keep heat, sparks, and flame away.
- Handle fuel only outdoors.
- Keep away from your vehicle.
- Wipe up spills immediately.

**A1 type**

**FUEL FILLER CAP**

**LEVEL MARK**

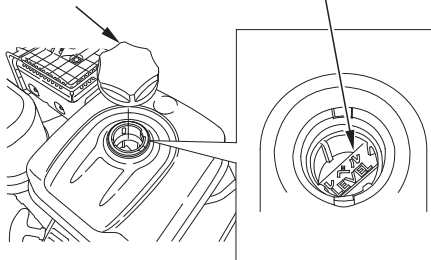
**TETHER**



**Except A1 type**

**FUEL FILLER CAP**

**LEVEL MARK**



Refuel in a well-ventilated area before starting the engine. If the engine has been running, allow it to cool. Refuel carefully to avoid spilling fuel. Do not fill the fuel tank above the fuel level mark. After refueling, tighten the fuel tank cap securely.

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. If fuel is spilled on clothing, change clothing immediately.

If fuel is spilled, do not attempt to start the engine but move the machine away from the area of spillage and avoid creating any source of ignition until fuel vapors have dissipated.

#### 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 under warranty.*

## FUEL RECOMMENDATIONS

### A1 and C1 types

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

### MX1 and U1 types

This engine is certified to operate on unleaded gasoline with a research octane number of 91 or higher.

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 under warranty.

Never use gasoline that is stale, contaminated, or mixed with oil.

Avoid getting dirt or water in the fuel tank.

If your equipment will be used on an infrequent or intermittent basis, please refer to the fuel section of the STORAGE chapter (see page 55) for additional information regarding fuel deterioration.

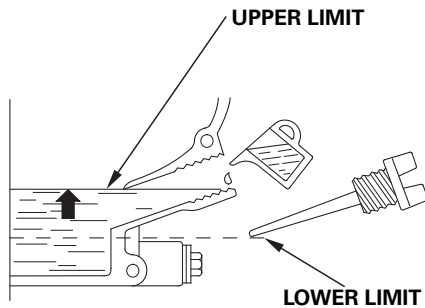
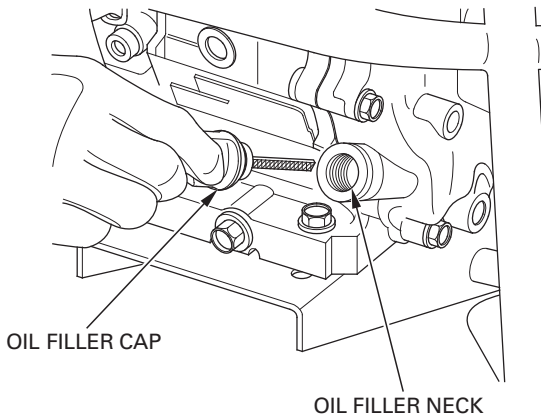
# SERVICING YOUR TILLER

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## ENGINE OIL LEVEL CHECK

Check the engine oil level with the engine stopped and in a level position.

1. Remove the oil filler cap.
2. Check the oil level. If it is below the upper limit, fill with the recommended oil (see page 36) to the upper limit.
3. Reinstall the oil filler cap securely.



## ENGINE OIL CHANGE

Drain the oil while the engine is warm to assure rapid and complete draining.

1. Place a suitable container below the engine to catch the used oil, and then remove the engine oil filler cap, drain plug, and sealing washer.
2. Allow the used oil to drain completely, and then reinstall the drain plug and a new sealing washer. Tighten the plug securely.

### NOTICE

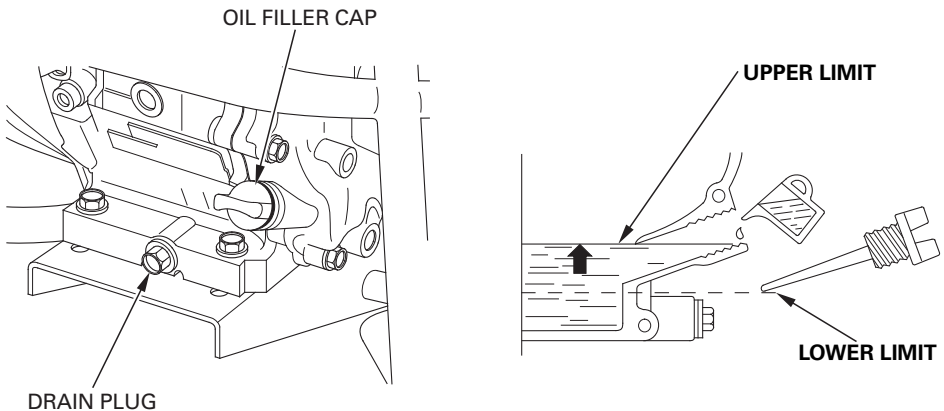
*Improper disposal of engine oil can be harmful to the environment. If you change your own oil, please dispose of the used oil properly. Put it in a sealed container and take it to a recycling center. Do not throw it in the trash, pour it on the ground, or pour it down a drain.*

3. With the tiller in a level position, fill with the recommended oil (see page 36) to the outer edge of the oil filler hole.

### NOTICE

*Running the engine with a low oil level is misuse and can cause engine damage. This type of damage is not covered by the Distributor's Limited Warranty.*

4. Reinstall the engine oil filler cap securely.



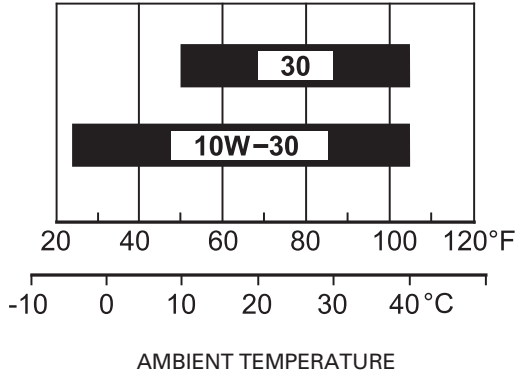
# SERVICING YOUR TILLER

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## ENGINE OIL RECOMMENDATIONS

Oil is a major factor affecting performance and service life. Use a 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.



### A1 and C1 types

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 (or equivalent) oil.

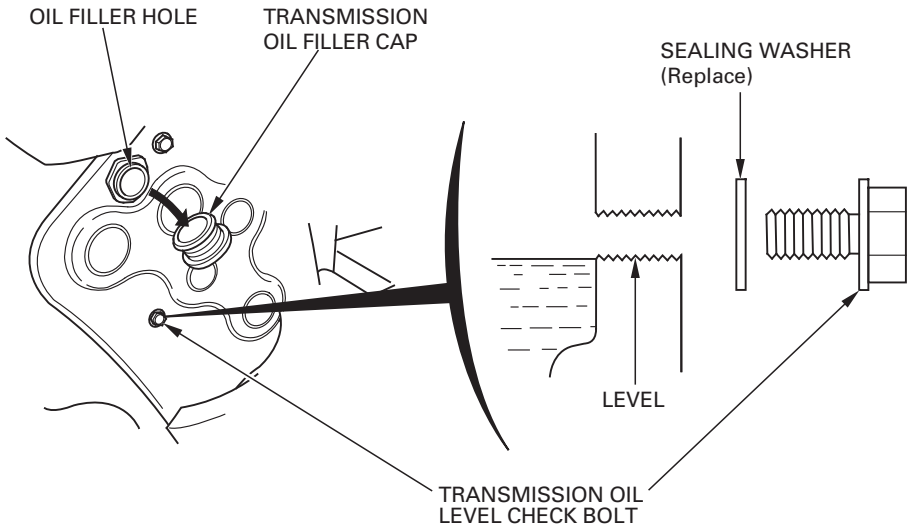
### MX1 and U1 types

The SAE oil viscosity and service category are in the API label on the oil container. Honda recommends that you use API SERVICE category SE or later (or equivalent) oil.

## TRANSMISSION OIL LEVEL CHECK

Check the transmission oil level with the tiller on a level surface and the engine stopped.

1. Remove the transmission oil level check bolt and sealing washer. The oil should be level with the lower edge of the oil level check hole.
2. If the oil level is low, remove the transmission oil filler cap and add the same type of oil recommended for the engine (see page 36).
3. Reinstall the oil filler cap. Reinstall the oil level check bolt and a new sealing washer, and tighten the bolt securely.

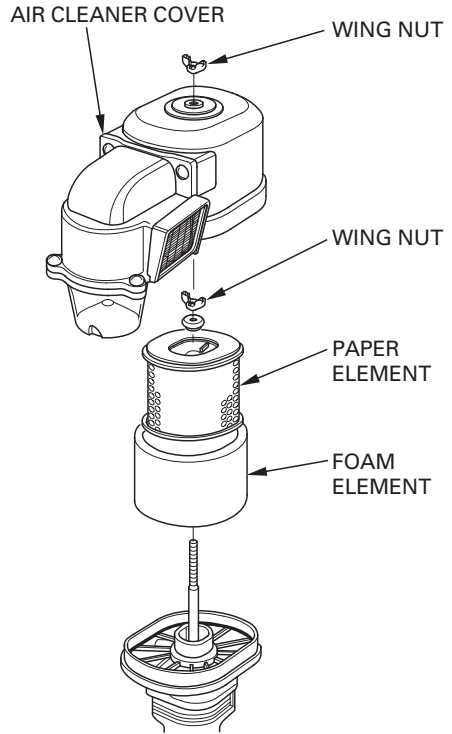




# SERVICING YOUR TILLER

## AIR FILTER INSPECTION

1. Unscrew the wing nut, and remove the air cleaner cover. Check the air filter elements to be sure they are clean and in good condition.
2. If the air filter elements are dirty, clean them as described on page 39. Replace the air filter elements if they are damaged.
3. Reinstall the air cleaner cover, and tighten the wing nut securely.



### 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 tiller in very dusty areas, clean the air filter more frequently than specified in the *Maintenance Schedule*.

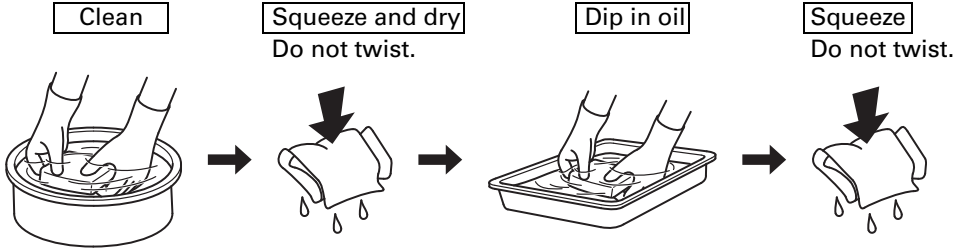
1. Remove the wing nut and air cleaner cover.
2. Remove the wing nut and grommet, remove the air filter elements and separate them.
3. Carefully check both filter elements for holes or tears and replace if necessary.

# SERVICING YOUR TILLER

4. Clean both filter elements if they are to be reused.

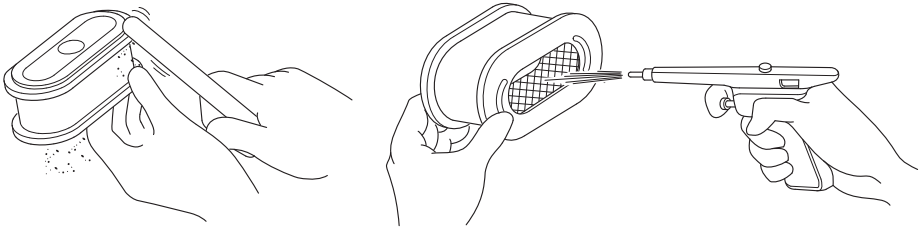
## Foam element:

Clean in warm soapy water, rinse and allow to dry thoroughly, or clean with a high flash point solvent and allow to dry. Dip the element in clean engine oil and squeeze out all the excess oil. Excess oil will restrict air flow through the foam element and may cause the exhaust to smoke when the engine starts.



## Paper element:

Tap the filter element several times to remove dirt or blow compressed air not exceeding 30 psi (207 kPa, 2.1 kgf/cm<sup>2</sup>) through the filter from the clean side that faces the engine. Never try to brush off dirt; brushing will force dirt into the fibers.



5. Install the foam element onto the paper element.

# SERVICING YOUR TILLER

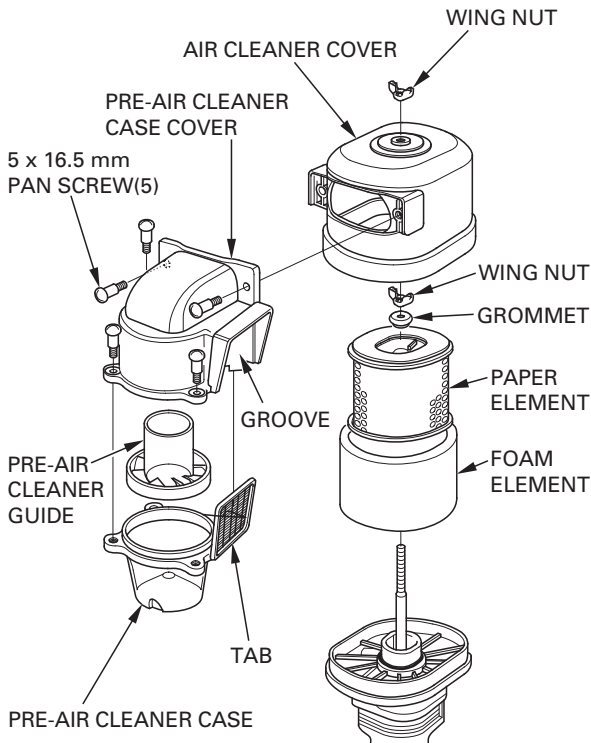
6. Wipe dirt from the inside of the air cleaner cover using a moist rag.

Remove the five 5 × 16.5 mm pan screws, and remove the pre-air cleaner guide and case.

Clean the air cleaner cover and case.

Assemble the pre-air cleaner case and guide by aligning the tab of the case with the groove of the case cover.

7. Reinstall the filter elements and grommet, and tighten the wing nut. Install the air cleaner cover, and tighten the wing nut.



## SPARK PLUG SERVICE

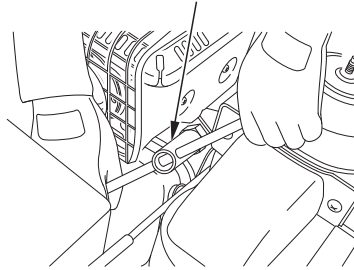
**Recommended spark plug:** BPR6ES (NGK) W20EPR-U (DENSO)

**NOTICE**

*An incorrect spark plug can cause engine damage.*

1. Unscrew the wing nut, and remove the air cleaner cover.
2. Disconnect the spark plug cap, and remove any dirt from around the spark plug area.
3. Remove the spark plug with a 13/16-inch spark plug wrench.

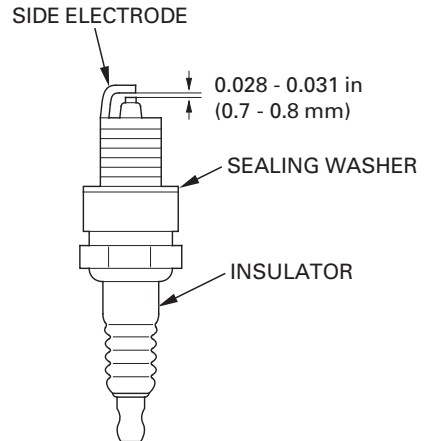
**SPARK PLUG WRENCH**



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 wire-type feeler gauge. Correct the gap, if necessary, by carefully bending the side electrode.

The gap should be:  
0.028 – 0.031 in  
(0.7 – 0.8 mm)

6. Install the spark plug carefully, by hand, to avoid cross-threading.
7. After the spark plug seats, tighten with a 13/16-inch spark plug wrench to compress the washer.



# SERVICING YOUR TILLER

If reinstalling a 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.*

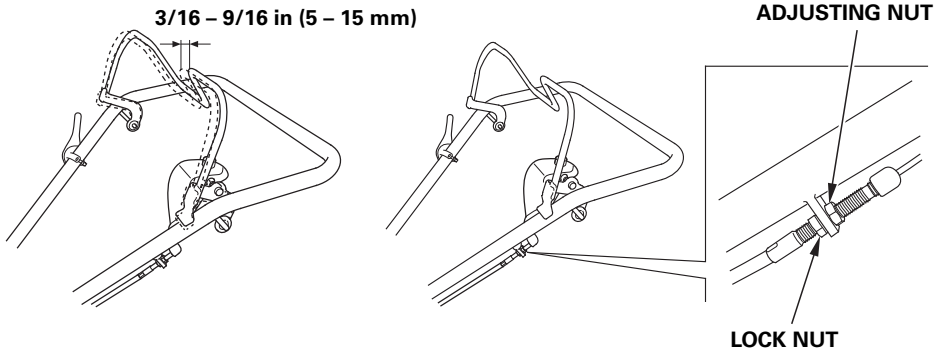
8. Attach the spark plug cap.

9. Reinstall the air cleaner cover, and tighten the wing nut securely.

## MAIN CLUTCH CABLE ADJUSTMENT

Adjust the handlebar height to the third hole from the bottom (see page 23).

There should be  $3/16$  —  $9/16$  inches (5—15 mm) of free play at the lever end. If lever adjustment is incorrect, loosen the lock nut and turn the adjusting nut in or out just enough to eliminate free play. Do not overtighten.

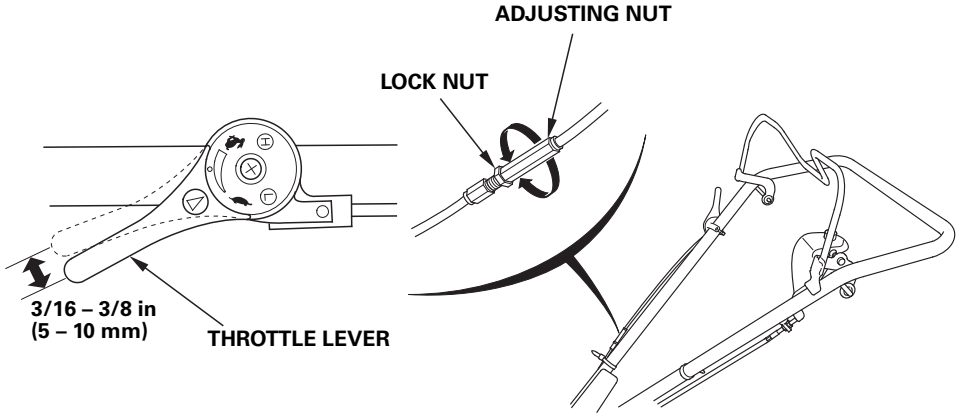


## THROTTLE CABLE ADJUSTMENT

Measure the free play at the lever tip.

Free play: 3/16—3/8 in (5—10 mm)

If the free play is incorrect, loosen the lock nut and turn the adjusting nut in or out as required.



# SERVICING YOUR TILLER

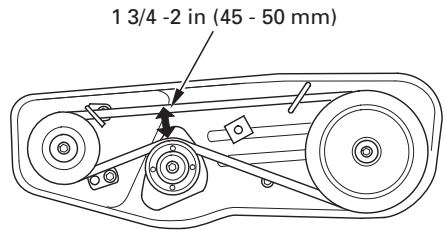
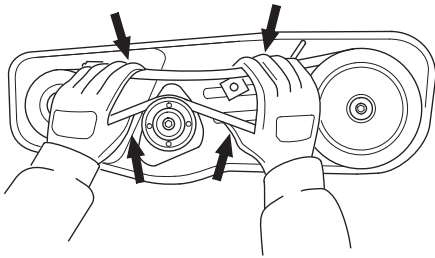
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## DRIVE BELT ADJUSTMENT

1. Stop the engine, and remove the spark plug cap.
2. Adjust the handlebar height to the third hole from the bottom (see page 23).
3. Adjust the clutch cable (see page 42).

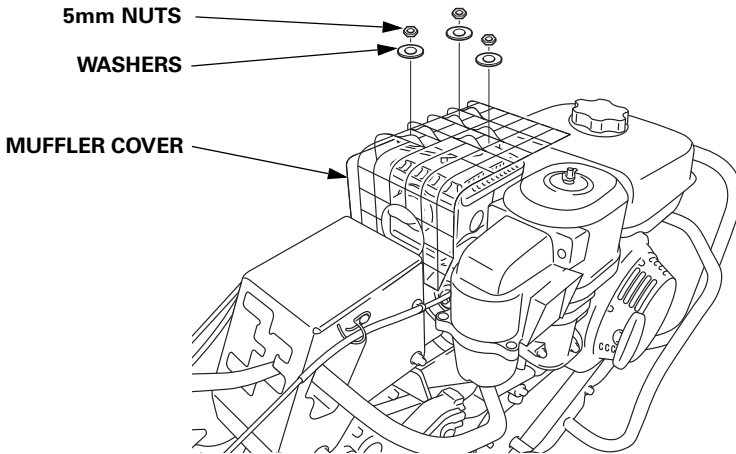
Remove the belt cover. Hold the clutch lever in the ENGAGED position. Pinch the upper and lower parts of the belt together with both hands five or six times.

Belt tension is correct when the distance from the top of the belt to the top of the tension roller is  $1\frac{3}{4}$ –2 in (45–50 mm) when the clutch is engaged.

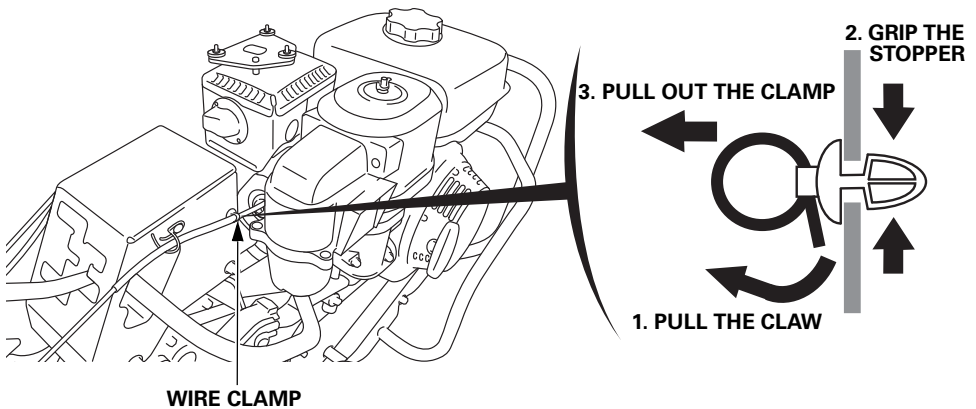


# SERVICING YOUR TILLER

4. Remove the three 5 mm nuts from the muffler cover, and remove the muffler cover, washers.



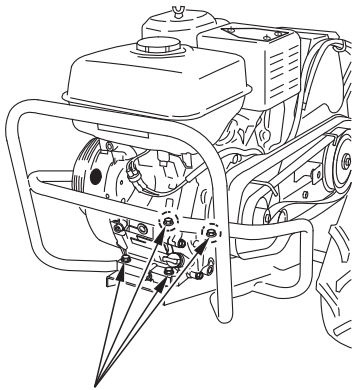
5. Remove the wire clamp.





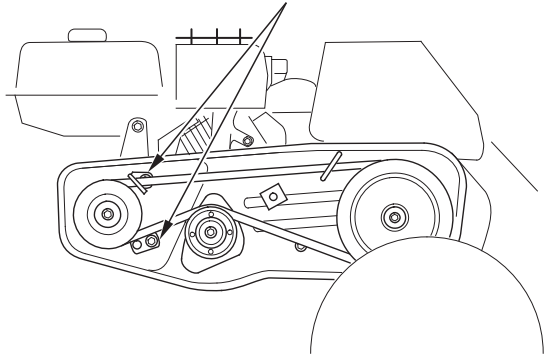
# SERVICING YOUR TILLER

6. To adjust, loosen the four engine mounting bolts and the two belt stopper attaching bolts (front side), and move the engine forward or backward to get proper tension on the belt.



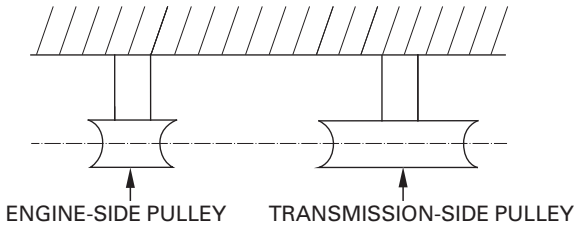
ENGINE MOUNTING BOLTS

BELT STOPPER ATTACHING BOLTS

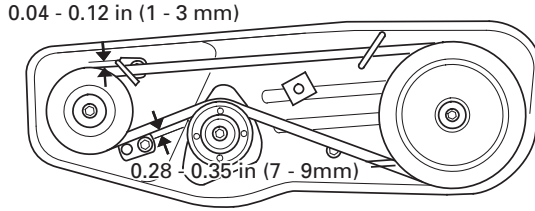


## NOTICE

*During adjustment, line up the groove of the engine-side pulley and that of the transmission-side pulley. If they are not aligned, the belt may come off or will wear prematurely.*



7. Squeeze the clutch lever, and adjust the clearance between the belt stoppers, as illustrated.



8. After adjustment has been completed, fasten the belt stopper bolts and engine mounting bolts securely.
9. Install the wire clamp, and the muffler cover.
10. Install the belt cover.

After checking or adjusting the drive belt, be sure to reinstall the belt cover. The cover is designed to help shield you from the moving belt and pulleys.

## **⚠ WARNING**

Contact with the moving belt or pulleys may cause you or your clothing to get caught in the moving parts, resulting in serious accident or injury.

Always keep the belt cover installed when operating the tiller.

# SERVICING YOUR TILLER

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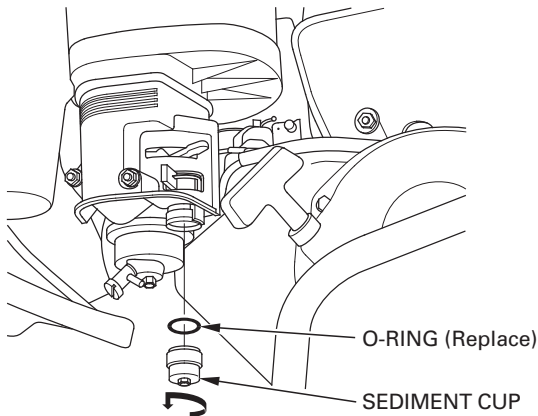
## SEDIMENT CUP CLEANING

1. Turn the fuel valve to the OFF position.
2. Remove the sediment cup with a 10 mm wrench.
3. Empty the sediment cup, and clean it in non-flammable or high flash point solvent.
4. Reinstall a new O-ring and the sediment cup.
5. Turn the fuel valve to the ON position, and check for leaks.

### **⚠ WARNING**

Gasoline is highly flammable and explosive. You can be burned or seriously injured when handling fuel.

- Stop the engine and let it cool before handling fuel.
- Keep heat, sparks, and flame away.
- Handle fuel only outdoors.
- Keep away from your vehicle.
- Wipe up spills immediately.



## **SPARK ARRESTER SERVICE (applicable types)**

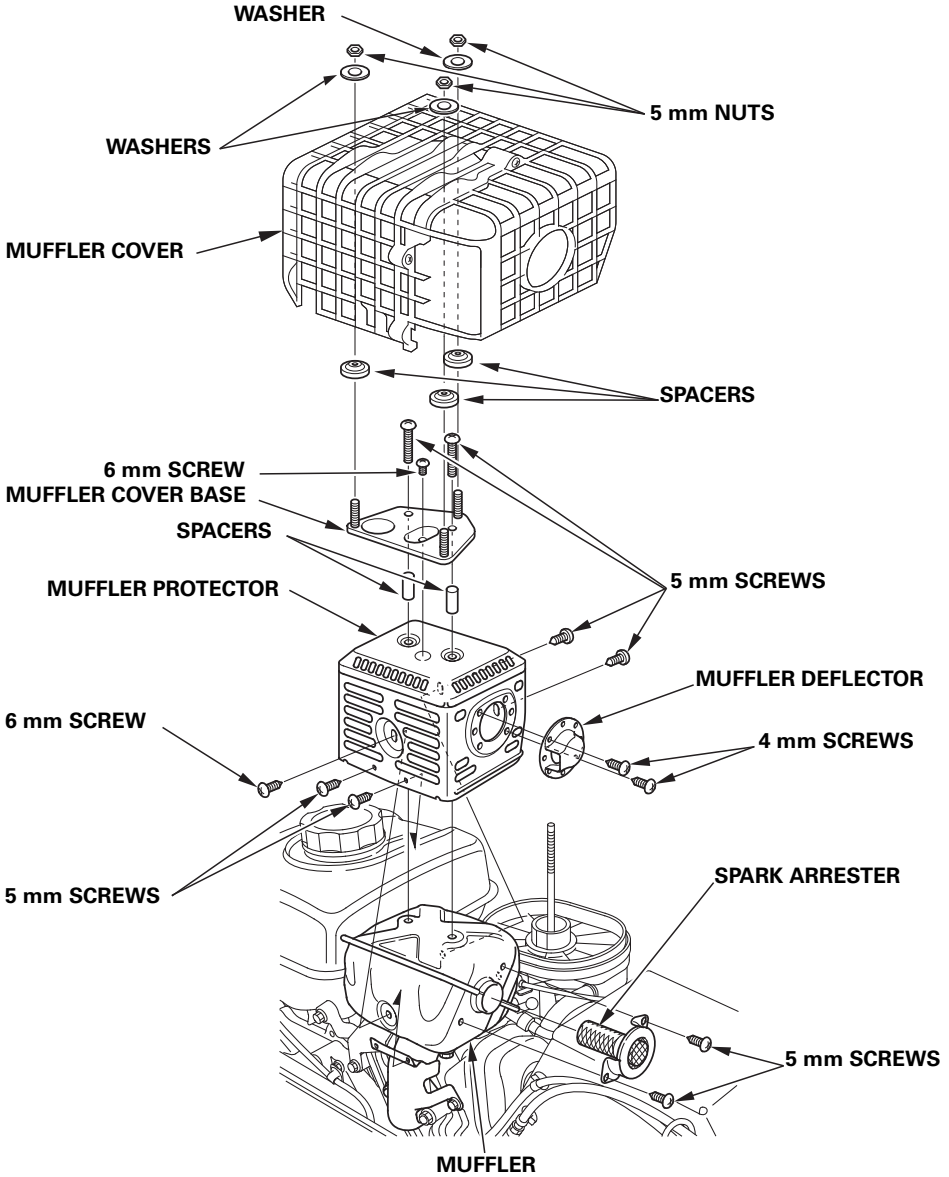
Your engine is not factory-equipped with a spark arrester. In some areas, it is illegal to operate an engine without a spark arrester. Check local laws and regulations. A spark arrester is available from authorized Honda servicing dealers.

The spark arrester must be serviced every 6 months or 100 hours to keep it functioning as designed.

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

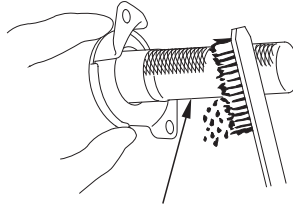
1. Remove the air filter elements (see page 38).
2. Remove the three 5 mm nuts from the muffler cover, and remove the muffler cover, washers and spacers.
3. Remove the two 4 mm screws from the muffler deflector, and remove the muffler deflector.
4. Remove the two 5 mm screws and one 6 mm screw from the muffler cover base, and remove the muffler cover base and spacers.
5. Remove the four 5 mm screws and one 6 mm screw from the muffler protector, and remove the muffler protector.
6. Remove the two 5 mm screws from the spark arrester, and remove the spark arrester from the muffler.

# SERVICING YOUR TILLER



# SERVICING YOUR TILLER

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



SPARK ARRESTER SCREEN

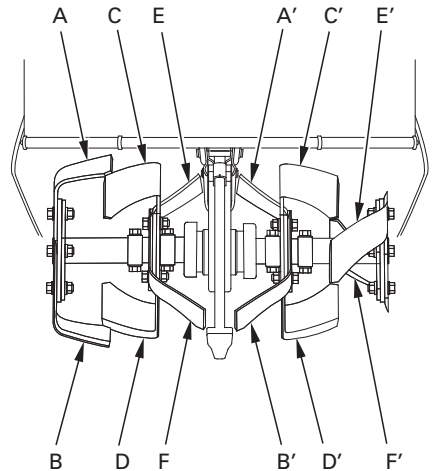
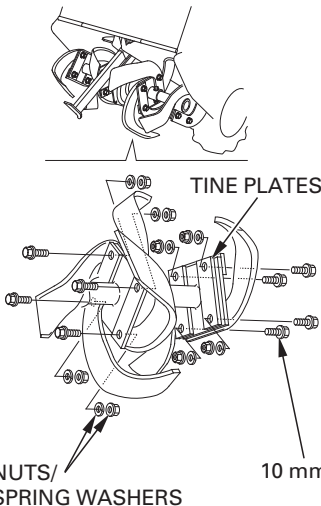
8. Install the spark arrester, muffler protector, and muffler deflector in the reverse order of disassembly.
9. Install the air filter elements (see page 38).

## TINE REPLACEMENT

Use Honda Genuine replacement tines or their equivalent. Wear heavy gloves to protect your hands.

Nut and bolt positions  
Tighten the bolts from outside in.  
Make sure to install the tine plates.

Tine positions  
Rotary tines C/D and C'/D':  
Toward outside.  
Others: Toward inside.



# SERVICING YOUR TILLER

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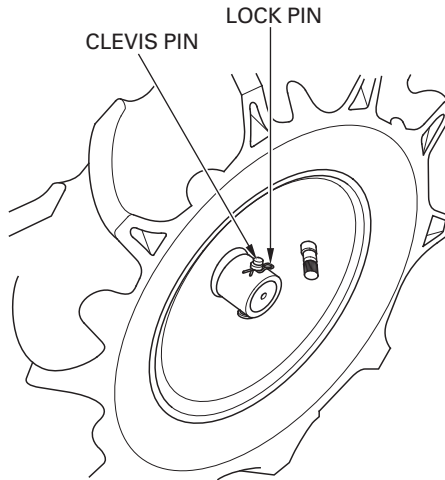
## TIRE PRESSURE CHECK

Check the tire pressure. Improper inflation can reduce both tire life and load carrying capacity.

Make sure the clevis pin and lock pin are securely installed.

Tire size: 4.00-7

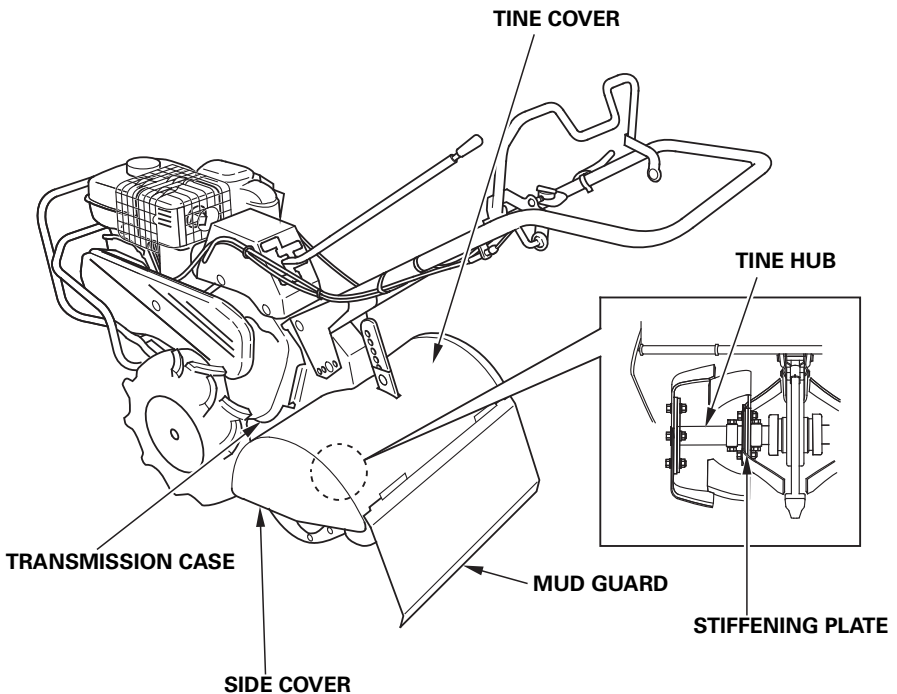
Tire pressure: 17.1 psi (120 kPa , 1.2 kgf/cm<sup>2</sup>)



## TINES AND FASTENERS CHECK

Be sure to check the tightness of fasteners at the following places:

- Tine cover and transmission case
- Tine cover and side cover
- Tine cover and mud guard
- Stiffening plate and tine hub





# 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.

### Cleaning

1. Wash the tiller, including the underside.

#### Engine

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 elements and can enter the carburetor or engine cylinder, causing damage.*
- *Water contacting a hot engine can cause damage. If the engine has been running, allow it to cool for at least half an hour before washing.*

#### Tiller

If using a garden hose or pressure washing equipment to clean the tiller, be careful to avoid getting water on the belts.

##### NOTICE

*Spraying water on hot tine shaft bearings can cause them to be damaged from cooling too quickly.*

2. After washing the tiller, wipe dry all accessible surfaces.
3. Start the engine outdoors, and let it run until it reaches normal operating temperature to evaporate any water remaining on the engine.
4. While the engine is running, operate the clutch lever to expel water from the pulleys, belts, and other moving items.
5. Stop the engine and allow it to cool.
6. After the tiller is clean and dry, touch up any damaged paint and coat other areas with a light film oil. Lubricate the throttle cable core with a silicone spray lubricant.

## 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 clog 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, 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.

# STORAGE

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

A1 and C1 types

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 a Gasoline Stabilizer to Extend Fuel Storage Life (A1 and C1 types)***

When adding a gasoline 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 or gasoline for refueling, be sure that it contains only fresh gasoline.

1. Add gasoline stabilizer following manufacturer's instructions.
2. After adding a gasoline stabilizer, run the engine outdoors for 10 minutes to be sure that treated gasoline has replaced the untreated gasoline in the carburetor.
3. Stop the engine, and turn the fuel valve to the off position.

## *Draining the Fuel Tank and Carburetor*

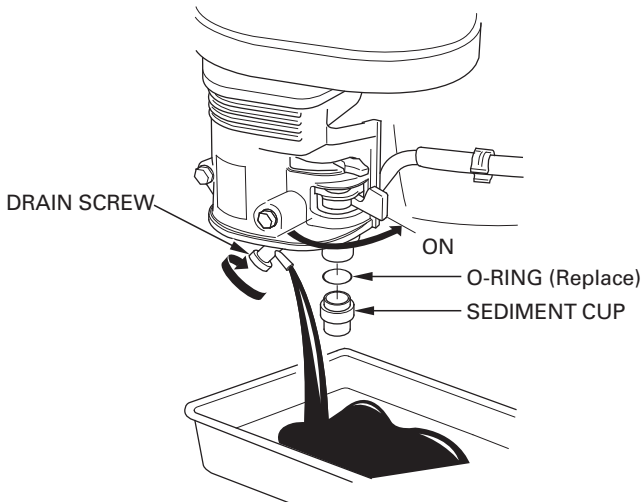
1. Place an approved gasoline container below the carburetor, and use a funnel to avoid spilling fuel.
2. Loosen the carburetor drain screw, and then move the fuel valve to the ON position.

### **⚠ WARNING**

Gasoline is highly flammable and explosive.

You can be burned or seriously injured.

Never use gasoline to clean engine parts.  
Use a nonflammable solvent.



3. After all the fuel has drained into the container, tighten the drain screw securely.
4. Remove and empty the sediment cup, and then reinstall a new O-ring and the sediment cup.
5. Tighten the sediment cup securely.

# STORAGE

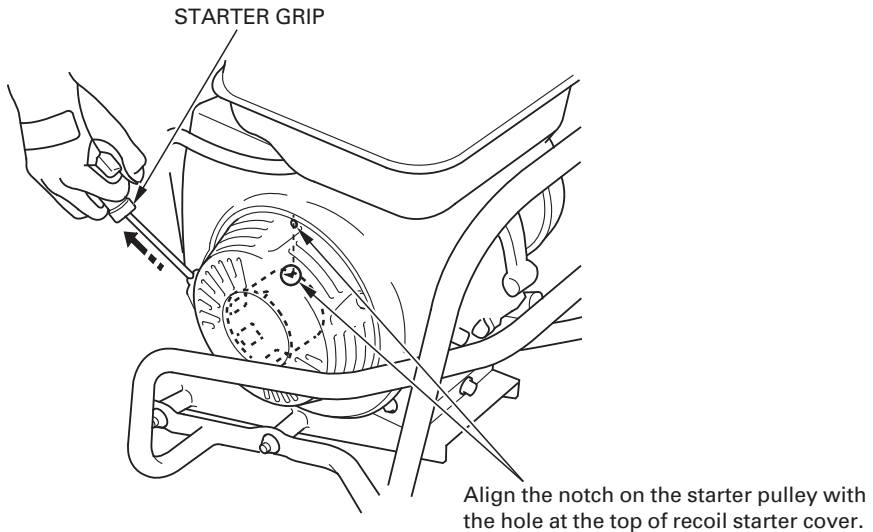
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## Engine Oil

Change the engine oil (see page 35).

## Engine Cylinder

1. Remove the spark plug (see page 41).
2. Pour a teaspoon (5 cc) of clean engine oil into the cylinder.
3. Pull the starter rope several times to distribute the oil in the cylinder.
4. Reinstall the spark plug.
5. Pull the starter grip slowly until resistance is felt and the notch on the starter pulley aligns with the hole at the top of the recoil starter cover. This will close the valves so that moisture cannot enter the engine cylinder. Return the starter rope gently.



## STORAGE PRECAUTIONS

Follow Honda's recommendations for safe storage of your tiller. 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.

Unless all fuel has been drained from the fuel tank, leave the fuel valve in the OFF position to reduce the possibility of fuel leakage.

Place the tiller on a level surface. Tilting can cause fuel or oil leakage. Allow the engine to cool before storing in any enclosure.

When the engine and exhaust system is cool, cover the tiller to keep out dust. A hot engine and exhaust system can ignite or melt some materials. Do not use a plastic sheet as a dust cover. A nonporous cover will trap moisture around the tiller, promoting rust and corrosion.

## REMOVAL FROM STORAGE

Check your tiller as described in the *BEFORE OPERATION* chapter of this manual (see page 17).

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 may smoke briefly at start-up. This is normal.

# TRANSPORTING

Follow Honda's recommendations for safe loading, unloading, and transporting your tiller.

## **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.

Always turn the ignition switch to the OFF position. Make sure to turn the fuel valve OFF.

## **LOADING AND UNLOADING**

If a suitable loading ramp is not available, two people should lift the tiller on and off the transport vehicle while holding the tiller level.

Position the tiller so it sits flat on the bed of the transport vehicle. Tie the tiller down with rope or straps. Keep the tie-down rope or straps away from the controls, adjustment levers, cables, and the carburetor.

# TAKING CARE OF UNEXPECTED PROBLEMS

## ENGINE WILL NOT START

Possible Cause	Correction
Fuel valve OFF.	Turn valve ON.
Choke OPEN.	Move to CLOSED unless engine is warm.
Engine switch OFF.	Turn engine switch to ON.
Out of fuel.	Refuel (p. 32).
Bad fuel; tiller stored without treating or draining gasoline, or refueled with bad gasoline.	Drain fuel tank and carburetor (p. 57). Refuel with fresh gasoline (p. 32).
Spark plug faulty, fouled, or improperly gapped.	Gap or replace spark plug (p. 41).
Spark plug wet with fuel (flooded engine).	Dry and reinstall spark plug. Start engine with throttle lever in FAST position and the choke open.
Fuel filter clogged, carburetor malfunction, ignition malfunction, valves stuck, etc.	Replace or repair faulty components as necessary. Take tiller to an authorized Honda servicing dealer, or refer to the shop manual.

## ENGINE LACKS POWER

Possible Cause	Correction
Air filter clogged.	Clean or replace air filter (p. 38).
Bad fuel; tiller stored without treating or draining gasoline, or refueled with bad gasoline.	Drain fuel tank and carburetor (p. 57). Refuel with fresh gasoline (p. 32).
Fuel filter clogged, carburetor malfunction, ignition malfunction, valves stuck, etc.	Replace or repair faulty components as necessary. Take tiller to an authorized Honda servicing dealer, or refer to the shop manual.



# TAKING CARE OF UNEXPECTED PROBLEMS

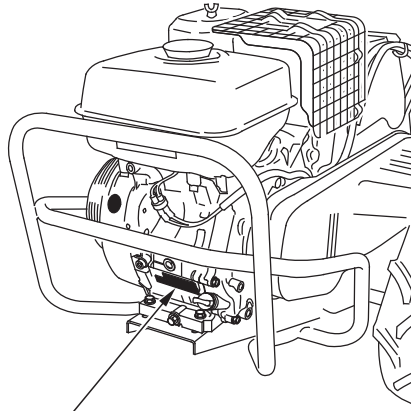
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## TILLING PROBLEMS

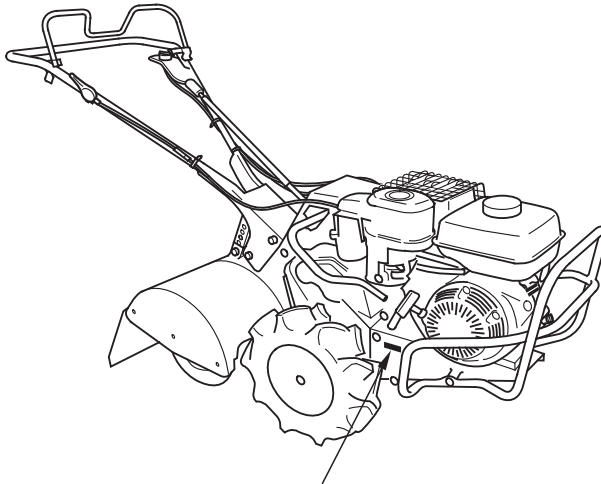
<b>Possible Cause</b>	<b>Correction</b>
Engine speed is too slow to till well.	Move the throttle to the FAST position (p. 15).
Tiller is moving too fast for soil conditions.	Shift to slower speed (p. 24).
Drag bar set too high.	Lower the drag bar (p. 26).
Tines dull, worn, or damaged.	Replace tines if necessary (p. 51).
Wrong tines installed.	Install correct tines (p. 51).
Tines installed incorrectly.	Install tines correctly (p. 51).

# TECHNICAL INFORMATION

## Serial Number Locations



**ENGINE SERIAL NUMBER**



**FRAME SERIAL NUMBER**

Record the engine and frame serial numbers and date of purchase in the spaces below. You will need this serial number when ordering parts, and when making technical or warranty inquires (see page 71).

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

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

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

# TECHNICAL INFORMATION

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## 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 specification.*

## Emission 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 appropriate air/fuel ratios and other emissions 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 Canadian Environmental Protection Act***

U.S. 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***

#### **NOTICE**

*Tampering is a violation of federal and California law.*

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 intake, fuel, or exhaust system.
- Altering or defeating the governor linkage or speed-adjusting mechanism to cause the engine to operate outside its design parameters.

# TECHNICAL INFORMATION

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## ***Problems That May Affect Emissions***

If you are aware of any of the following symptoms, have your engine inspected and repaired by your authorized Honda 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, California, and Canadian emissions 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.

Honda cannot deny coverage under the emission warranty solely for the use of non-Honda replacement parts or service performed at a location other than an authorized Honda dealership; you may use comparable EPA certified parts, and have service performed at non-Honda locations. However, 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***

As the power equipment engine owner, you are responsible for completing all 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.

Follow the *MAINTENANCE SCHEDULE* on page 31.

Remember that this schedule is based on the assumption that your power equipment engine will be used for its designed purpose. Sustained high-load or high-temperature operation, or use in dusty conditions, will require more frequent service.

## ***Air Index (Models certified for sale in California)***

An Air Index Information 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 Warranty* for additional information.

Descriptive Term	Applicable to Emissions 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) 1,000 hours (225 cc and greater)

# TECHNICAL INFORMATION

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## **Emission Control System Warranty**

Your new Honda complies with both the U.S. EPA and State of California emission regulations. American Honda provides the same emission warranty coverage for Honda Power Equipment engines sold in all 50 states. In all areas of the United States, your Honda Power Equipment engine is designed, built, and equipped to meet the U.S. EPA and California Air Resources Board emission standard for spark ignited engines.

### ***Warranty Coverage***

Honda Power Equipment engines certified to CARB and EPA regulations are covered by this warranty to be free from defects in materials and workmanship that may keep it from meeting the applicable EPA and CARB emissions requirements for a minimum of 2 years or the length of the Honda Power Equipment Distributor's Limited Warranty, whichever is longer, from the original date of delivery to the retail purchaser. 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, and labor. Information about how to make a warranty claim, as well as a description of how a claim can be made and/or how service can be provided, can be obtained by contacting an authorized Honda Power Equipment dealer or by contacting American Honda at the following:

Email: [powerequipmentemissions@ahm.honda.com](mailto:powerequipmentemissions@ahm.honda.com)  
Telephone: (888) 888-3139

The covered components include all components whose failure would increase an engine's emissions of any regulated pollutant or evaporative emissions. A list of specific components can be found in the separately included emissions warranty statement.

Specific warranty terms, coverage, limitations, and manner of seeking warranty service are also set forth in the separately included emissions warranty statement. In addition, the emission warranty statement can also be found on the Honda Power equipment website or at the following link:  
<http://powerequipment.honda.com/support/warranty>

# TECHNICAL INFORMATION

## Specifications

Model	FRC800K1
Description code	FAHJ
Type	A1 type, C1 type, U1 type, MX1 type
Dry mass [weight]	271 lbs (123 kg)
Length	65.4 in (1,660 mm)*
Width	24.0 in (610 mm)
Height	49.0 in (1,245 mm)*
Engine model	GX240T2
Engine type	4-stroke, Single cylinder, OHV, forced air cooled
Displacement	16.5 cu-in (270 cm <sup>3</sup> )
Bore x Stroke	3.03 x 2.28 in (77.0x58.0 mm)
Ignition system	CDI magneto
Spark plug	BPR6ES (NGK), W20EPR-U (DENSO)
Oil capacity	1.2 US qt (1.1 L)
Fuel tank capacity	1.16 US gal ( 4.4 L)
Clutch	Belt tension
Transmission oil capacity	5.3 US qt (5.0 L)

\*: When the handlebar height adjustment point is in the second position from the top.

Specifications may vary according to the types, and are subject to change without notice.

## Tune-up Specifications

ITEM	SPECIFICATION	MAINTENANCE
Spark plug gap	0.028—0.031 in (0.7—0.8 mm)	Refer to page: 41
Valve clearance	IN: 0.15 ± 0.02 mm cold EX: 0.20 ± 0.02 mm cold	See your authorized Honda dealer
Other specifications	No other adjustments needed.	



# CONSUMER INFORMATION

## Dealer Locator Information (For USA and Canada)

To find an authorized Honda Servicing Dealer

For USA:

Visit our website: <http://powerequipment.honda.com/dealer-locator>

For Canada:

Call 1-888-946-6329 or visit our website: [www.honda.ca](http://www.honda.ca)

## Honda Publications (For USA and Canada)

### ***Shop Manual***

This manual covers complete maintenance and overhaul procedures. It is intended to be used by a skilled technician.

For USA:

Available through your Honda dealer or visit <http://powerequipment.honda.com/support/shop-manuals>

For Canada:

Contact your dealer for information on the Shop Manual.

### ***Parts Catalog***

This manual provides complete, illustrated parts lists. Available through your Honda dealer.

### ***Accessories Catalog***

Your authorized Honda power equipment dealer offers a selection of accessories (optional equipment) to make your Tiller even more useful.

For USA:

Visit <http://powerequipment.honda.com/tillers/accessories> and click on Tillers to see the entire catalog of accessories.

For Canada:

Check with your dealer or visit [www.honda.ca](http://www.honda.ca) and select the Accessories tab under the Tiller segment to view the range of accessories available for your model.

# CONSUMER INFORMATION

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## Customer Service Information (For USA and Canada)

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 to:

American Honda Motor Co., Inc  
Power Equipment Division  
Customer Relations Office  
4900 Marconi Drive  
Alpharetta, Georgia 30005-8847  
Telephone: (770) 497-6400 M-F, 8:30 am to 7:00 pm ET

In Canada:  
Honda Canada, Inc.  
Customer Relation Department  
180 Honda Boulevard  
Markham, Ontario L6C 0H9  
Tel: 1-888-946-6329 (Toll free)  
Fax: 1-877-939-0909 (Toll free)  
E-mail: honda\_cr@ch.honda.com

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

- Model and serial numbers (see page 63)
- 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

# CONSUMER INFORMATION

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## Mexico Distributor Information

NAME OF FIRM (COMPANY)	ADDRESS	TEL: FAX:
Honda de Mexico, S.A. de C.V.	Carr. a El Castillo No. 7250 El Salto, Jalisco C.P. 45680	Tel: 01-800-368-8500
Honda Australia Motorcycle and Power Equipment Pty. Ltd.	1954-1956 Hume Highway Campbellfield Victoria 3061	Tel: (03) 9270 1111 Fax: (03) 9270 1133

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**MEMO**

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**MEMO**

# QUICK REFERENCE INFORMATION

Fuel	Type	<p>A1 and C1 types: Regular unleaded gasoline with an ethanol content of no more than 10% and a pump octane rating of 86 or higher (see page 33)</p> <p>MX1 and U1 types: Unleaded gasoline with a research octane number of 91 or higher (page 33)</p>
Engine Oil	Type	<p>A1 and C1 types: SAE 10W-30, API SJ or later, for general use (page 36)</p> <p>MX1 and U1 types: SAE 10W-30, API SE or later, for general use (page 36)</p>
Spark Plug	Type	<p>NGK: BPR6ES DENSO:W20EPR-U</p>
	Gap	0.028—0.031 in (0.7—0.8 mm)
Maintenance	Before each use	<p>Engine oil level Transmission oil Air filter Tiller outside Clutch lever function Bolt and nut torque Wiring and cable Engine operation</p>
	First 20 hours	<p>Change engine oil Adjust clutch cable Adjust belt tension</p>
	Subsequent	Refer to maintenance schedule (see page 31)

# HONDA

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