Honda F300

OWNER'S MANUAL

취급 설명서

使用說明書

Keep this owner's manual handy, so that 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.

The illustration may vary according to the type.

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 warranty policy to fully understand its coverage and your responsibilities of ownership.

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

Best Wishes,
Honda Motor Co., Ltd.

INTRODUCTION

A FEW WORDS ABOUT SAFETY

Your safety and the safety of others are very important. And using this 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 Chapter** — 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.

CONTENTS

CONTENTS

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 injuries or property damage can be prevented if you follow all the 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

- Know how to stop the tiller quickly in case of emergency.
- Understand the use of all tiller controls.
- 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 Hazard

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 partially enclosed area, such as a garage.
- Never run the tiller in a closed or even partially closed area where people or pets 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

Fire and Burn Hazards

- The exhaust system gets hot enough to ignite some materials.
  - Keep the tiller at least 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.
Do not refuel during operation.
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 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 and cleaned 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 object accumulation or for any other reason, always shut off the engine. Disconnect the spark plug cap, and wear heavy gloves when you need to clean the tine area or handle the tines.

Clear Tilling Area

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, cement, slab or stony mountain.

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. Long pants and eye protection reduce the risk of injuries from thrown objects. Sturdy shoes with aggressive soles provide better traction.

Turn the 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

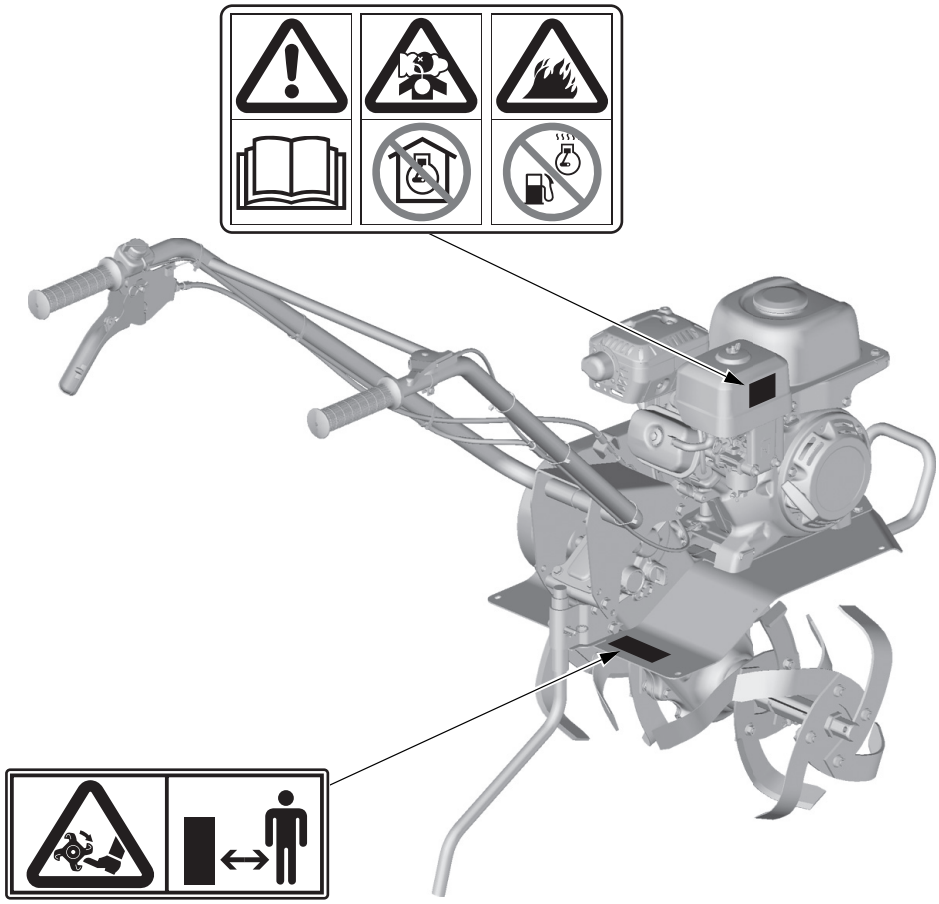
Operate the tiller only in daylight or good artificial light. Do not operate the tiller at night or under poor light conditions.

TILLER SAFETY

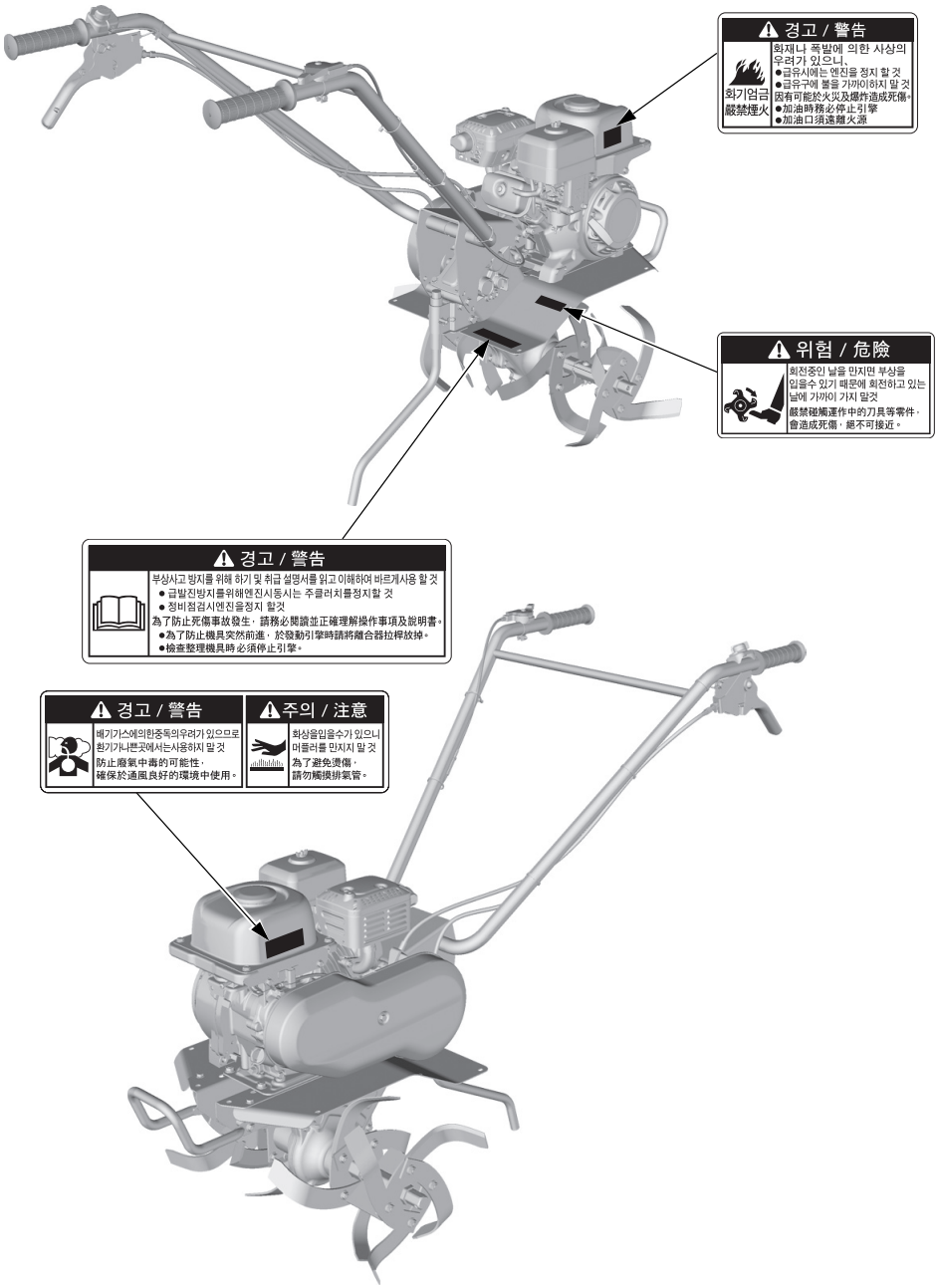
SAFETY LABEL LOCATIONS

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 servicing dealer for a replacement.

For RD, IN, T types

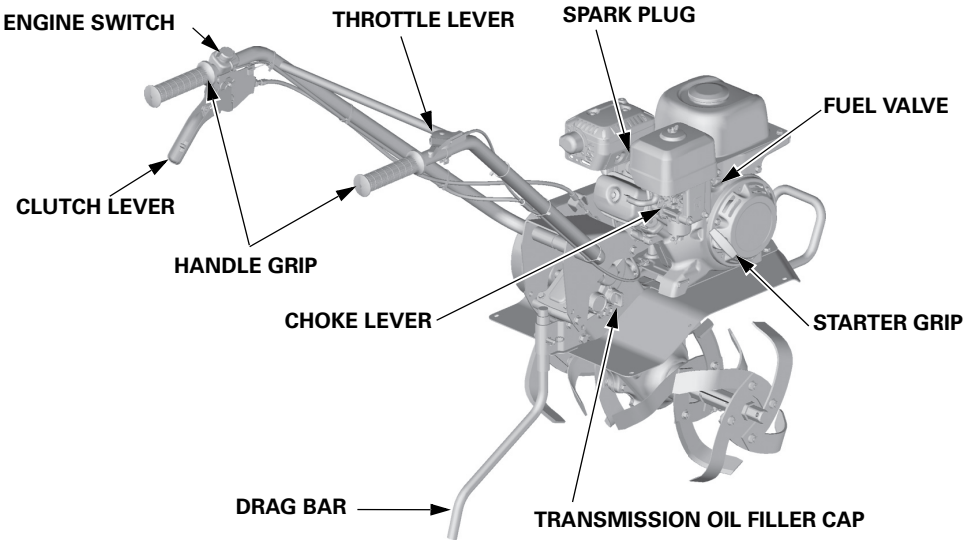


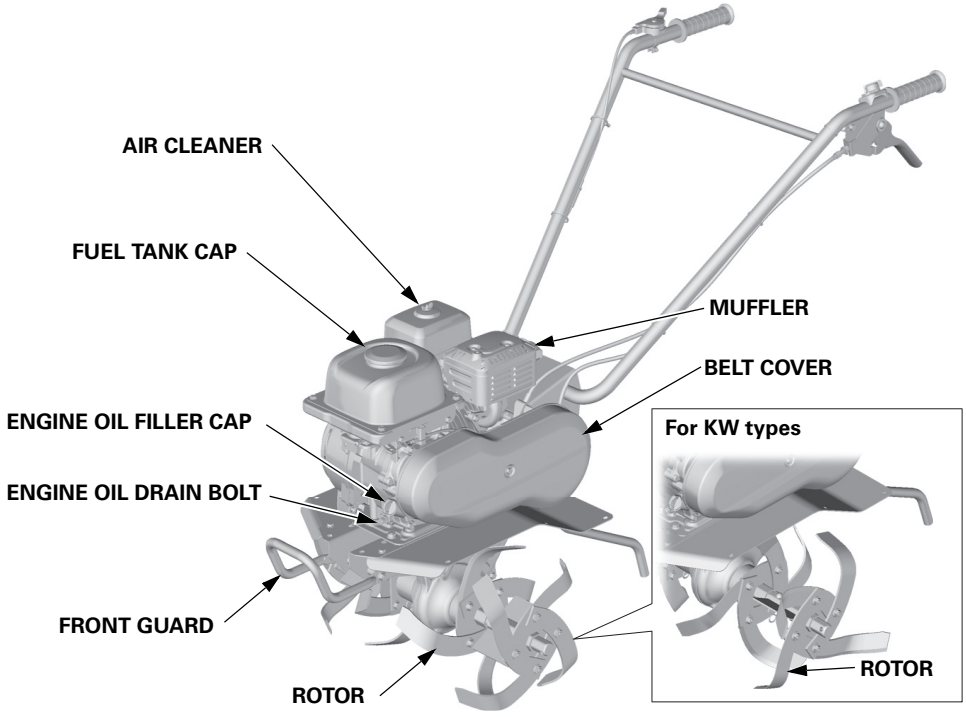
For KW types


⚠ 경고 / 警告
화재나 폭발에 의한 사상의 우려가 있으니,
●급유시에는 엔진을 정지 할 것
●급유구에 불을 가까이하지 말 것
화기엄금
嚴禁煙火
因有可能於火災及爆炸造成死傷。
●加油時務必停止引擎
●加油口須遠離火源
⚠ 위험 / 危險
회전중인 날을 만지면 부상을 입을수 있기 때문에 회전하고 있는 날에 가까이 가지 말것
嚴禁碰觸運作中的刀具等零件，會造成死傷，絕不可接近。
⚠ 경고 / 警告
부상사고 방지를 위해 하기 및 취급 설명서를 읽고 이해하여 바르게사용 할 것
● 급발진방지를위해엔진시동시는 주클러치를정지할 것
● 정비점검시엔진을정지 할것
為了防止死傷事故發生，請務必閱讀並正確理解操作事項及說明書。
●為了防止機具突然前進，於發動引擎時請將離合器拉桿放掉。
●檢查整理機具時必須停止引擎。
⚠ 경고 / 警告
배기가스에의한중독의우려가 있으므로 환기가나쁜곳에서는사용하지 말 것
防止廢氣中毒的可能性，確保於通風良好的環境中使用。
⚠ 주의 / 注意
화상을입을수가 있으니 머플러를 만지지 말 것
為了避免燙傷，請勿觸摸排氣管。

CONTROLS

COMPONENT & CONTROL LOCATIONS





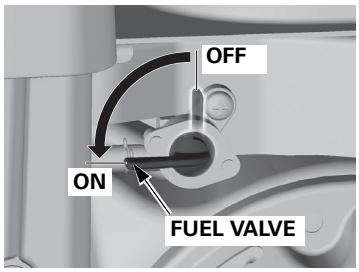
CONTROLS

Fuel Valve

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

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

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

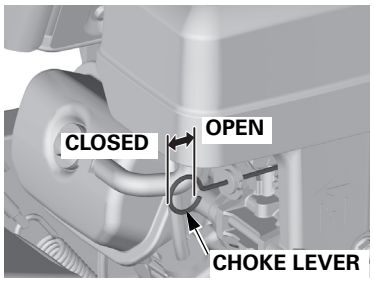


Choke Lever

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

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

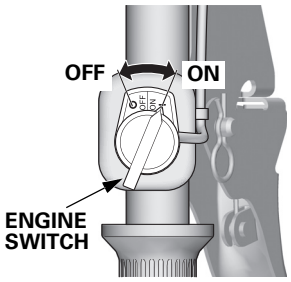
The OPEN position provides the correct fuel mixture for operation after starting and for restarting a warm engine.



Engine Switch

The engine switch controls the ignition system.

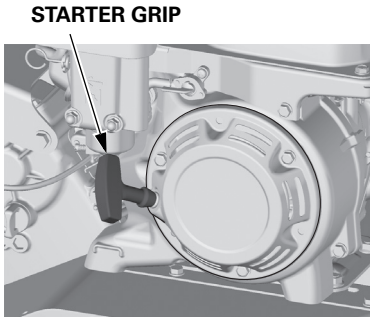
OFF – Stops the engine.
ON – Running position.



CONTROLS

Starter Grip

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

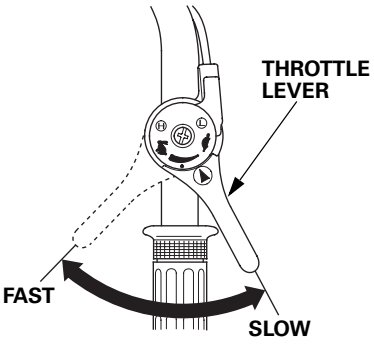


Throttle Lever

The throttle lever controls engine speed.

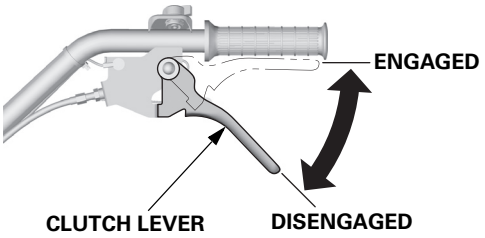
Moving the throttle lever in the directions shown makes the engine run faster or slower.

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



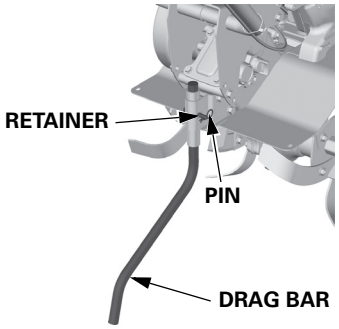
Clutch Lever

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



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 shut off the tiller in case of an emergency.

IS YOUR TILLER READY TO GO?

For your safety, to ensure compliance with environmental regulations, 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 seriously hurt or kill you.

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

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 32).
- Check the air filter (see page 36). A dirty air filter will restrict air flow to the carburetor, reducing engine and tiller performance.
- Check the fuel level (see page 29). Starting with a full tank will help to eliminate or reduce operating interruptions for refueling.
- Check the transmission oil (see page 35).

Check the Tiller

Tiller outside
Make sure that there are no flammable materials (dust, straw, etc.) near the engine.

Clutch lever function
Check that the lever operates smoothly.

Wiring and cables
- Check the insulation of each wire and cable for tears and cuts.
- Check if there is any wire or cable pinched by the neighboring parts.

Bolts and nuts tightens
Check for looseness in fastened parts. Securely tighten all loose parts.

Tines
Check for excessive wear, damage, or looseness.

Engine operation
- Start the engine. Check for abnormal sounds. (See pages 17 through 18 for starting procedure.)
- Check that the engine stops securely by operating the engine switch. (See page 25 for stopping procedure.)
- If you notice any other abnormal symptoms, consult with your authorized Honda dealer promptly.

OPERATION

SAFE OPERATING PRECAUTIONS

Before operating the tiller for the first time, please review both the *TILLER SAFETY* chapter (see page 5) and the chapter titled *BEFORE OPERATION* (see page 14).

For your safety, do not start or operate 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 where people may be present.

⚠WARNING

Tines are sharp and spin fast.

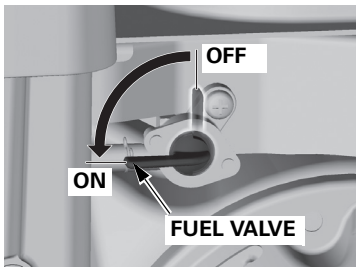
Spinning tines can cut you severely and can amputate body parts.

- 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.

STARTING THE ENGINE

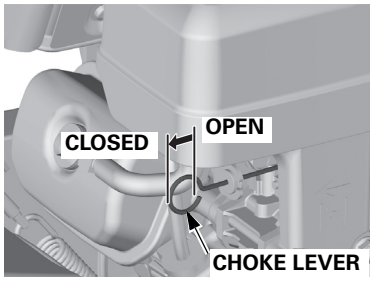
Refer to *Safe Operating Precautions* on page 16.

1. Turn the fuel valve to the ON position.

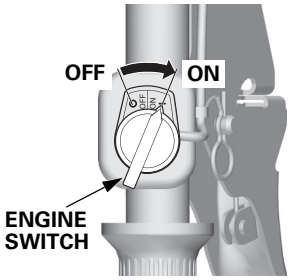


2. Move the choke lever to the CLOSED position to start a cold engine.

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

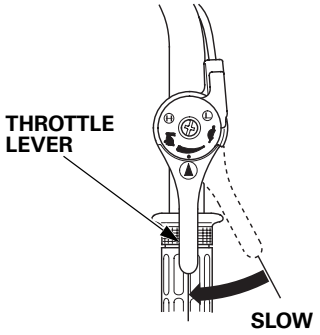


3. Turn the engine switch to the ON position.



OPERATION

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

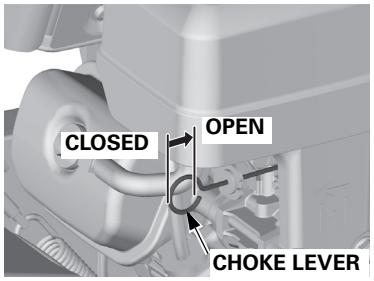


5. Pull the starter grip lightly until you feel resistance, and then pull briskly in the direction of the arrow as shown.

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.



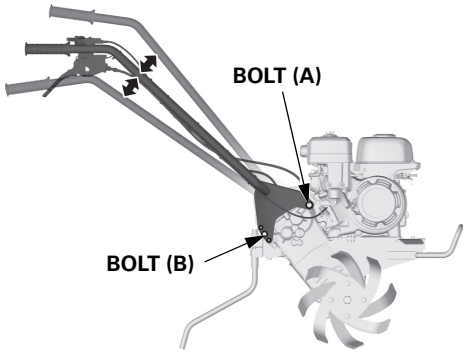
OPERATING THE CONTROLS FOR TILLING

If the tines dig in but the machine will not move forward, move the handlebars from side-to-side. When turning, push down on the handlebars to bring the tiller's weight to the rear; this will make turning easier.

Handlebar Height Adjustment

Before adjusting the handlebar, stop the engine and place the tiller on the firm level ground to prevent the handle from collapsing accidentally.

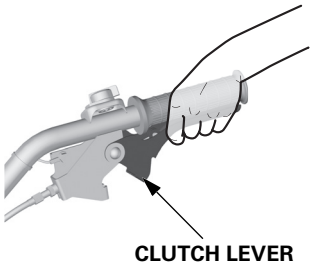
1. Loosen the bolt (A).
2. Remove the bolt (B), select the appropriate hole and reinstall the bolt (B) securely.
3. Tighten the bolt (A) securely.



Clutch

When the 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.

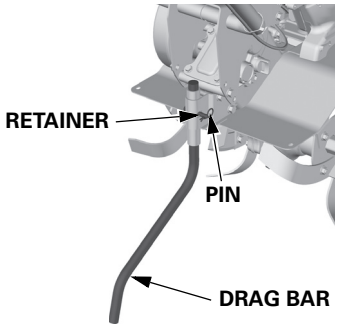


OPERATION

Tilling Depth Adjustment

The drag bar is used to control the tilling depth, which can be adjusted by removing the pin and retainer and sliding the drag bar up and 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.

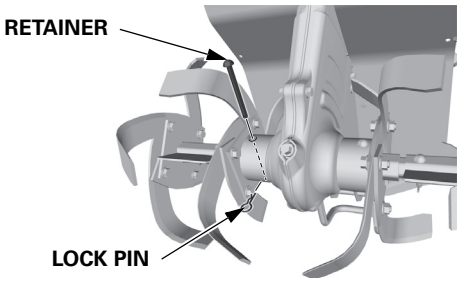


Rotor Removal

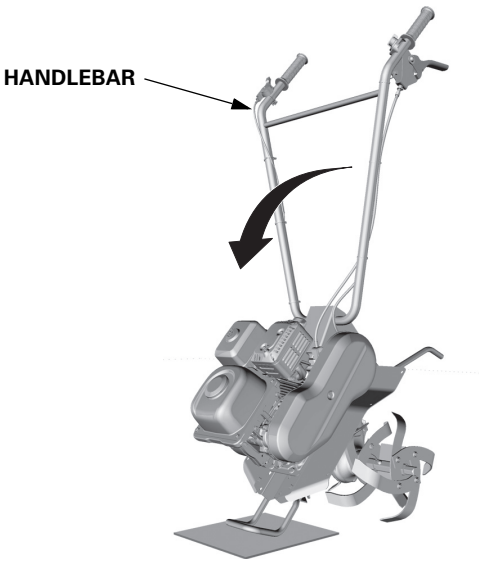
Wear heavy gloves to protect your hands.

When removing the rotor park the tiller on level ground, stop the engine and disconnect the spark plug cap from the spark plug. Turn the fuel valve lever to the OFF position.

1. Remove the retainer and lock pin.



2. Pull up the handlebar while holding it to contact the front end of the tiller to the ground.

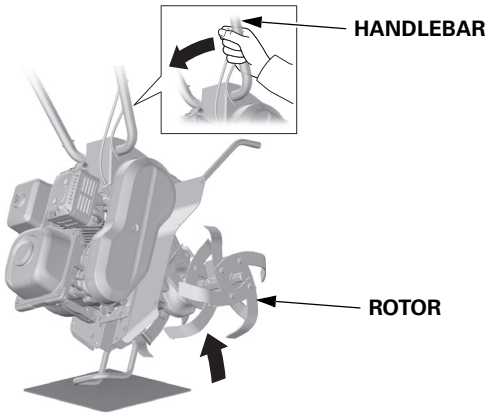


OPERATION

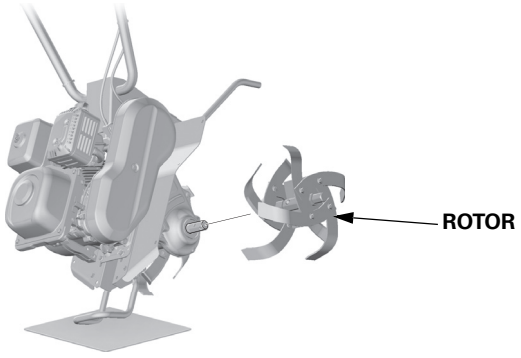
3. Grip the handlebar and push it in the direction of the arrow to lift the nearest rotor off the ground. Keep this condition.

   Do not pull the cables while gripping the handlebar.

   Pay attention, when tilting the tiller. The gasoline may leak if the tilting angle is more than necessary.



4. Remove the rotor.



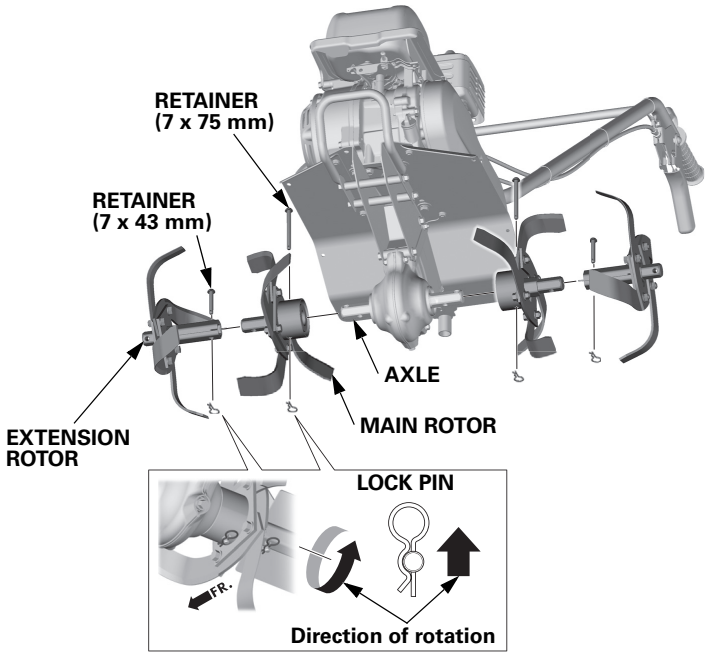
   Store the removed rotor, retainer and lock pin to prevent losing them.

Rotor Installation

Pay attention, when tilting the tiller. The gasoline may leak if the tilting angle is more than necessary.

1. Install the main rotor to the axle.
   Insert the retainer (7 x 75 mm) and set the lock pin so that the ring of the lock pin is in the direction of rotation.

2. Install the extension rotor to the main rotor.
   Insert the retainer (7 x 43 mm) and set the lock pin so that the ring of the lock pin is in the direction of rotation.



3. The opposite side rotor is similar.

OPERATION

HANDLING TIPS

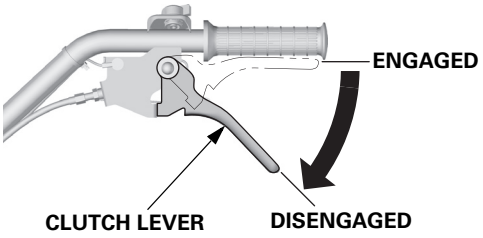
- Adjust the handlebar height to a comfortable position (waist height for normal tilling).
- The drag bar should always be used when tilling. It enables you to compensate for the hardness of the soil. The ideal height of the drag bar will depend on the type of soil being tilled and soil conditions at 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.
- Raise the tiller immediately if it overturns. Stop the engine, look over carefully; inspect the engine for oil or fluid leaks, check the tightness of nuts and bolts, and operation of control parts such as the handlebar and control levers. If you decide that the tiller is capable of driving and safety, restart the engine. Consult your dealer, if the engine does not start again.

Break-in operation: 20 minutes
Move the throttle lever to SLOW position and run the engine for 10 minutes, then move to FAST position and run for 10 minutes more.

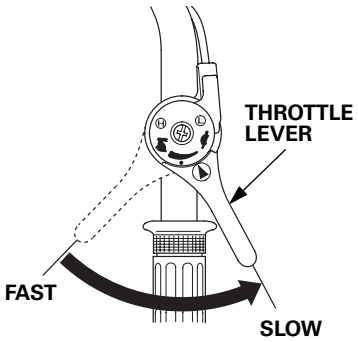
STOPPING THE ENGINE

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

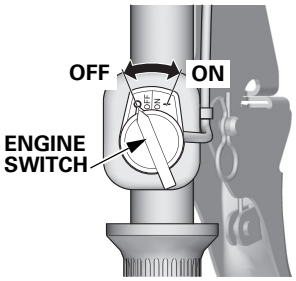
1. Release the clutch lever to the DISENGAGED position.



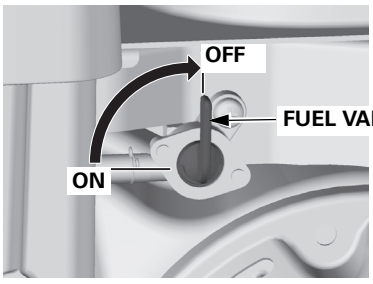
2. Move the throttle lever to the slowest position.



3. Turn the engine switch to the OFF position.



4. Turn the fuel valve 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 seriously hurt or kill you.

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 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 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.**
    Be sure there is adequate ventilation whenever you operate the engine.
  - **Burns from hot parts.**
    Let the engine and exhaust system cool before touching.
  - **Injury from moving parts.**
    Do not run the engine unless instructed to do so.
- Read the instructions before you begin, and make sure you have the tools and skills required.
- To reduce the possibility of fire or explosion, be careful when working around gasoline. Use only a nonflammable solvent, not gasoline, to clean parts. Keep cigarettes, sparks, and flames away from all fuel-related parts.
- Disconnect the spark plug cap and wear heavy gloves when working near the tine blades.

SERVICING YOUR TILLER

MAINTENANCE SCHEDULE

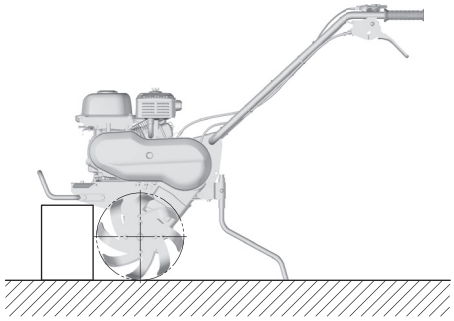
ITEM / REGULAR SERVICE PERIOD (1) Perform at every indicated month or operating hour interval, whichever comes first.		After storage	Each use	First month or 20 hrs.	Every 3 months or 50 hrs.	Every 6 months or 100 hrs.	Every year or 300 hrs.	Refer to page
Engine oil	Check level		o					32
	Change	o		o		o		33
Air cleaner	Check		o					36
	Clean				o (2)			36
	Replace						o	36
Tiller outside	Check		o					15
Throttle lever function	Check		o					18
Bolts and nuts tightness	Check		o					15
Wiring and cables	Check		o					15
Engine operating	Check		o					17
Recoil cover	Check-clean		o					45
Main clutch lever function	Check-clean		o					15
	Grease-lubricate	o (3)(4)						—
Transmission oil	Check-level	o		o			o	35
Grease application	Grease-lubricate	o (3)						—
Spark plug	Check-adjust					o		39
	Replace						o	39
Throttle cable	Check-adjust						o	41
Idle speed	Check-adjust						o (3)	—
Clutch cable	Check-adjust			o (3)		o (3)		—
Belt tension	Check-adjust			o (3)(5)		o (3)(5)		—
Valve clearance	Check-adjust						o (3)	—
Combustion chamber	Clean	After every 500 hrs. (3)						—
Fuel tank and filter	Clean	o (3)				o (3)		—
Fuel tube	Check	Every 2 years (Replace if necessary) (3)						—

(1) For commercial use, log hours of operation to determine proper maintenance intervals.
(2) Service every 10 operating hours or every day when used in dusty areas.
(3) These items should be serviced by your Honda servicing dealer, unless you have the proper tools and are mechanically proficient. Refer to the Honda shop manual for service procedures.
(4) Apply grease to the pin part of the clutch lever fulcrum for prevention of rust at a long time storage. (more than 30 days)
(5) Check that there is no crack and abnormal wear-out in the belt, and replace if it is abnormal.

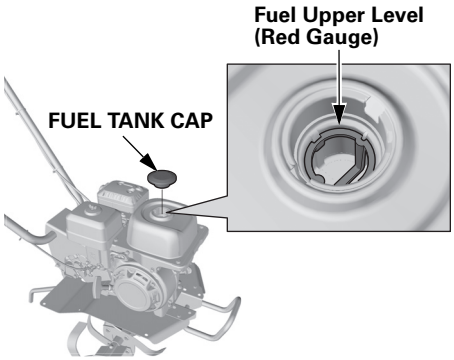
Failure to follow this maintenance schedule could result in non-warrantable failures.

REFUELING

Park on level ground, stop the engine, put proper mounting under the front frame and put wood block under the drag bar as shown, to keep the tiller horizontal.



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.



SERVICING YOUR TILLER

⚠ 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 when refueling.
- Handle fuel only outdoors.
- Wipe up spills immediately.

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 the warranty.

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 upper limit line (see page 29).
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.

FUEL RECOMMENDATIONS

This engine is certified to operate on unleaded gasoline with a research octane rating of 91 or higher (a Pump Octane Number of 86 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 the warranty.

Never use gasoline that is stale, contaminated, or mixed with oil. Avoid getting dirt or water in the fuel tank.

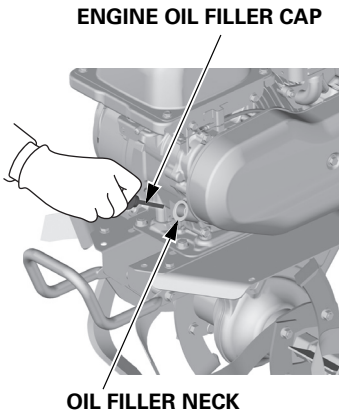
If your equipment will be used on an infrequent or intermittent basis, please refer to the fuel section of the *STORAGE* chapter (see page 47) for additional information regarding fuel deterioration.

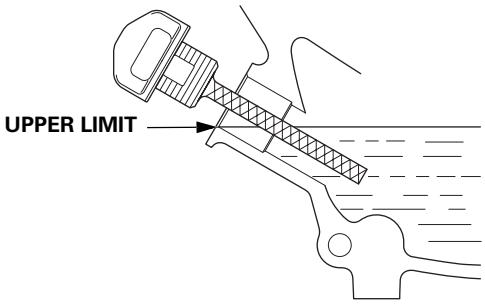
SERVICING YOUR TILLER

ENGINE OIL LEVEL CHECK

Check the engine oil level with the tiller on a level surface (see page 29) and the engine stopped.

1. Remove the engine oil filler cap.
2. Check the oil level.
3. If the oil level is lower than the upper limit, fill with the recommended oil (see page 34) to the upper limit.
4. Reinstall the engine oil filler cap securely.





ENGINE OIL CHANGE

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

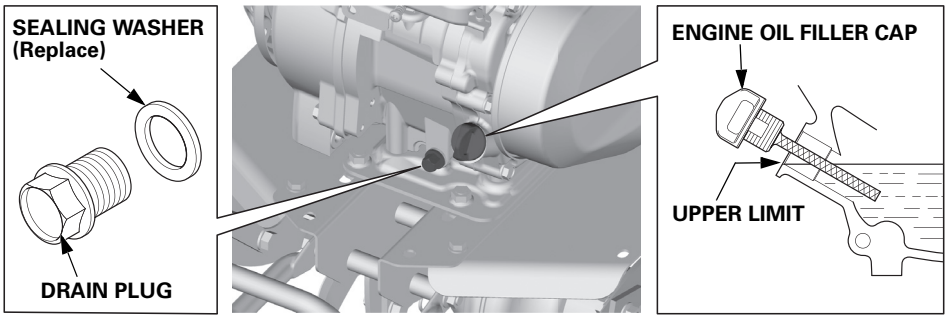
1. Pull up the handlebar while holding it to contact the front end of the tiller to the ground.
2. Place a suitable container below the engine to catch the used oil, and then remove the engine oil filler cap, drain plug, and sealing washer.

   TORQUE: 17.5 N·m
3. 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 the oil on your own, 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.
4. With the tiller in a level position (see page 29), fill with the recommended oil (see page 34) to the outer edge of the oil filler hole.

   Maximum oil capacity: 0.36 L



SERVICING YOUR TILLER

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 warranty.

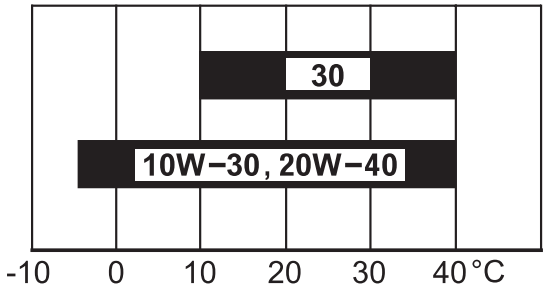
5. Reinstall the engine oil filler cap securely.

Wash your hands with soap and water after handling used oil.

ENGINE OIL RECOMMENDATIONS

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

SAE 10W-30 or SAE 20W-40 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.



AMBIENT TEMPERATURE

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.

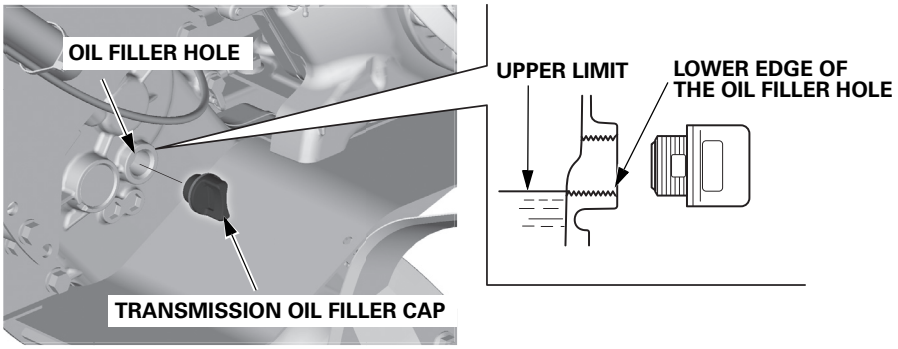
NOTICE

Running the engine with wrong type/grade of Oil is misuse and can cause engine damage. This type of damage is not covered by the warranty.

TRANSMISSION OIL LEVEL CHECK

Check the transmission oil level with the tiller on a level surface (see page 29) and the engine stopped. Make sure the area around the oil level check bolt and the oil filler cap is clean.

1. Remove the transmission oil filler cap.
2. Check the oil level is up to the lower edge of the oil filler hole.
3. If the level is low, fill with the recommended transmission oil to the upper level (up to the lower edge of the oil filler hole).
4. Reinstall the oil filler cap securely.



Maximum oil capacity: 1.0 L

Recommended oil:
API SERVICE category SE or later (or equivalent), SAE 10W-30, SAE 20W-40

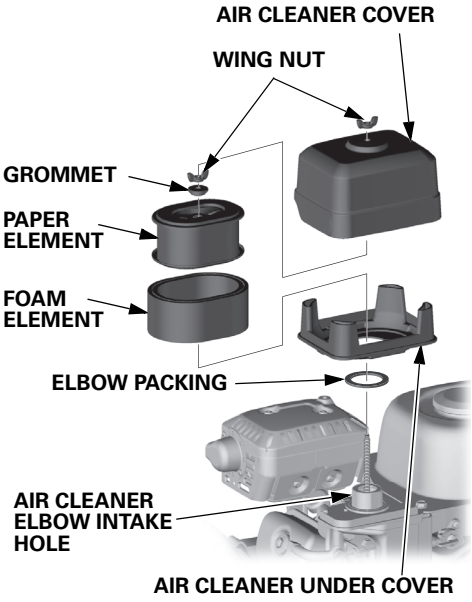
Wash your hands with soap and water after handing used oil.

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 37. Replace the air filter elements if they are damaged.
3. Reinstall the air cleaner cover, and tighten the wing nut securely.

After mating face seats, please carry out 1-turn (360 degrees) revolution of the tightening of wing nut.



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 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 the grommet which holds the air filter elements.
3. Hold the air filter elements with the air cleaner undercover, remove both of them together.

NOTICE

Be careful not to drop any dust in the air cleaner elbow intake hole.

4. Remove the elbow packing and clean it if it is to be reused.

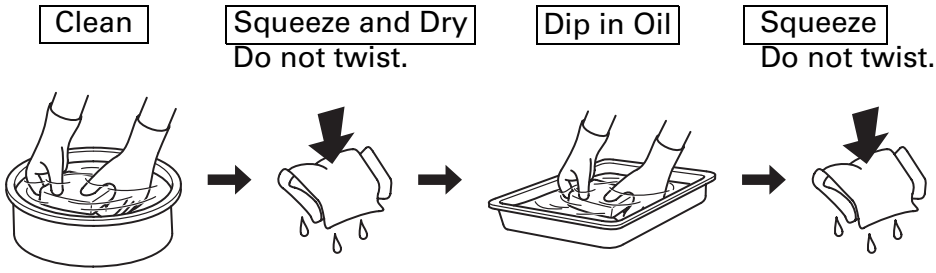
5. Separate the air filter elements, carefully check them for holes or tears and replace if necessary.

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

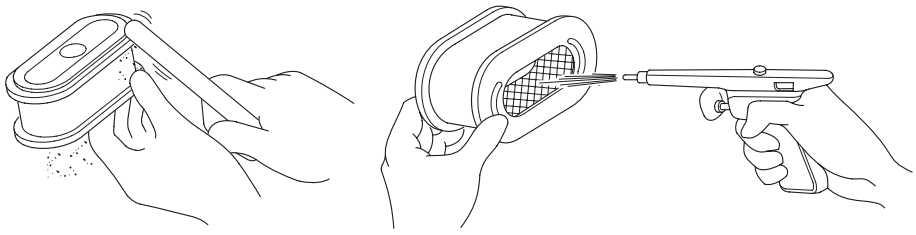
Foam element:
Clean in warm soapy water, rinse and allow to dry thoroughly, or clean with a high flash point solvent and allow to dry.

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. Never try to brush off dirt; brushing will force dirt into the fibers.



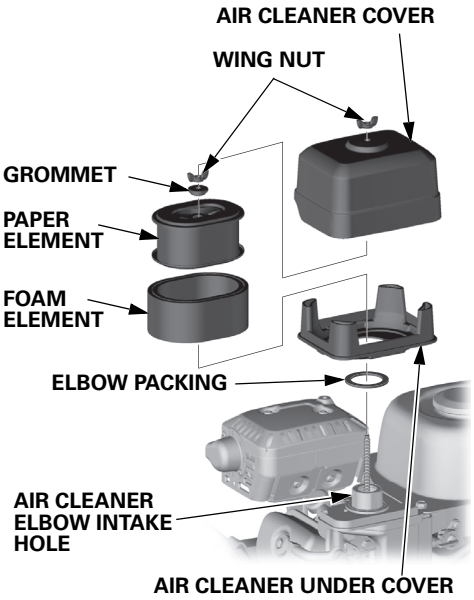
7. Install the foam element onto the paper element.

SERVICING YOUR TILLER

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

9. Set the elbow packing and air cleaner under cover on the air cleaner elbow.

10. Reinstall the filter elements and grommet, and tighten the wing nut 2 turns (720 degrees). Install the air cleaner cover, and tighten the wing nut 1 turn (360 degrees).



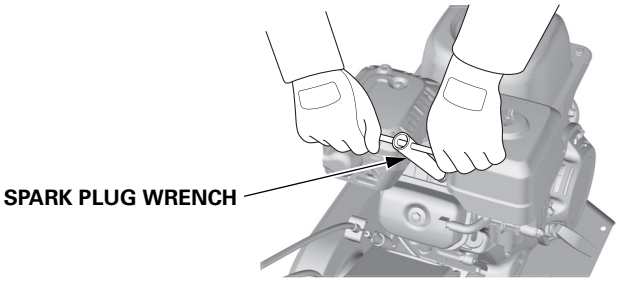
SPARK PLUG SERVICE

Recommended spark plug: C4HSB (NGK)

NOTICE

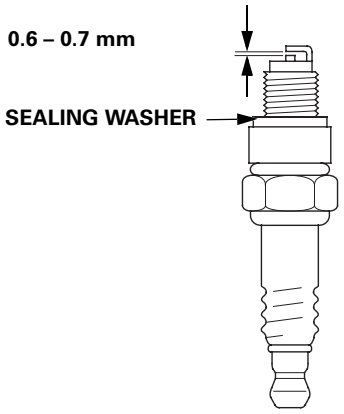
An incorrect spark plug can cause engine damage.

1. Disconnect the spark plug cap, and remove any dirt from around the spark plug area.
2. Remove the spark plug with the spark plug wrench.



3. Inspect the spark plug. Replace it if the electrodes are worn, or if the insulator is cracked or chipped.
4. Measure the spark plug electrode gap with a wire-type feeler gauge. Correct the gap, if necessary, by carefully bending the side electrode.

   The gap should be:
   0.6 – 0.7 mm



5. Install the spark plug carefully, by hand, to avoid cross-threading.
6. After the spark plug seats, tighten with the spark plug wrench to compress the washer.

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.

TORQUE: 12 N·m

NOTICE

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

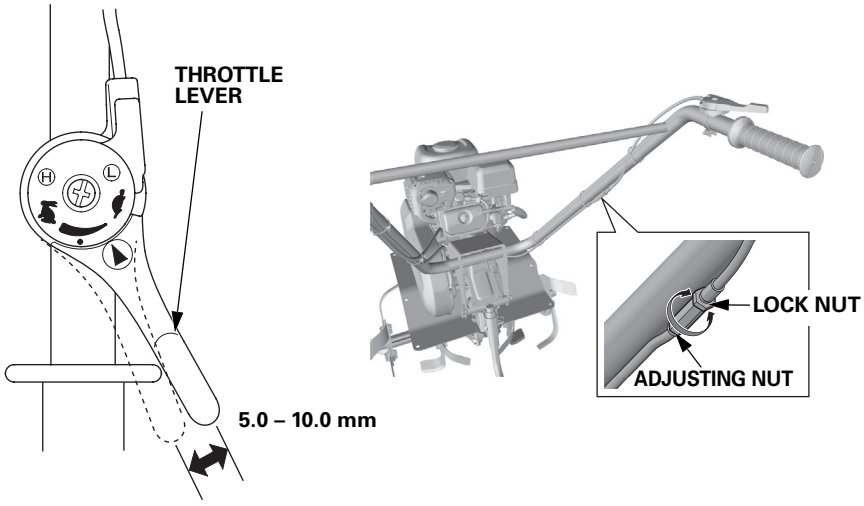
7. Attach the spark plug cap.

THROTTLE CABLE ADJUSTMENT

Measure the free play at the lever tip.

Free play: 5.0 – 10.0 mm

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

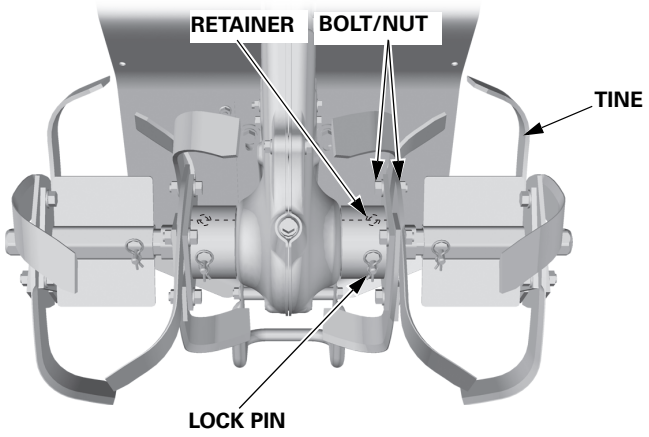


SERVICING YOUR TILLER

TINES AND FASTENERS CHECK

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

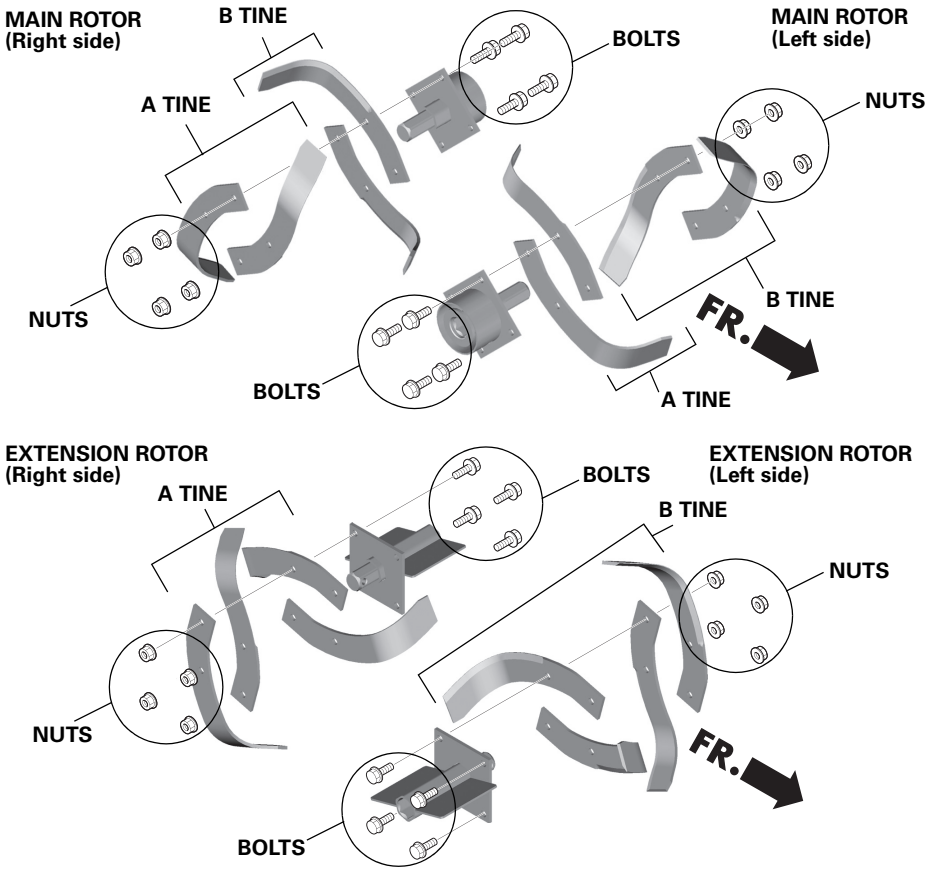
1. Check for damage, bent, or loose tines. If abnormality is found, tighten or replace the damaged part (see page 43).
2. Check the tine setting bolts and nuts for looseness, tighten if necessary.
3. Check for damaged or missing retainers and lock pins, and replace with new ones if necessary.



TINE REPLACEMENT

Remove the rotor from the axle before replacing the tine (see page 21).
Use Honda Genuine replacement tines or their equivalent.
Wear heavy gloves to protect your hands.
Install the tines properly.
Incorrect arrangement of the tines or installing the tines in the wrong direction will cause vibration and hinder proper tilling.

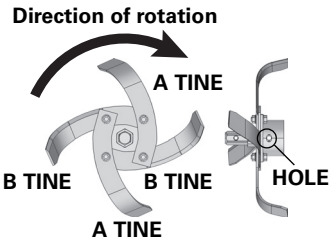
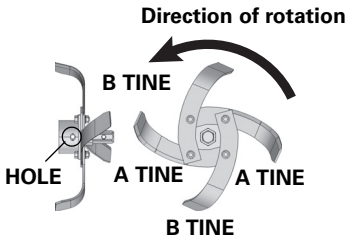
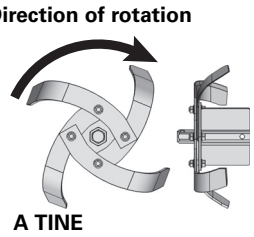
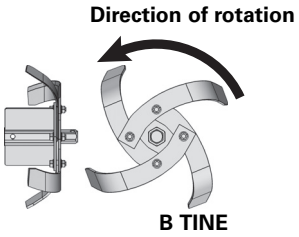
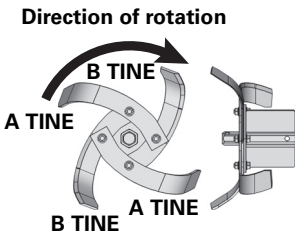
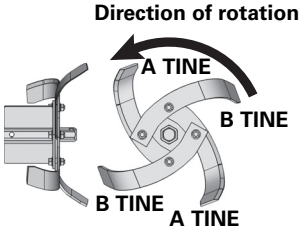
Two tines (A and B) are provided. A tine has engraved A mark on its face and B tine has B mark.



Nut and bolt positions
For all rotary tines:
Tighten the bolts from inside out.

SERVICING YOUR TILLER

Tine positions

	Right side	Left side
Main rotor	1. Install two B tines pointing out so that the direction of the tines is the same as the hole that is on the rotor shaft. 2. Install two A tines toward the inside. 	1. Install two A tines pointing out so that the direction of the tines is as same as the hole that is on the rotor shaft. 2. Install two B tines toward the inside. 
Extension rotor	Install four A tines pointing in. 	Install four B tines pointing in. 
Extension rotor (for widening the tillage width)	1. Install two B tines pointing out. 2. Install two A tines pointing in. 	1. Install two A tines pointing out. 2. Install two B tines pointing in. 

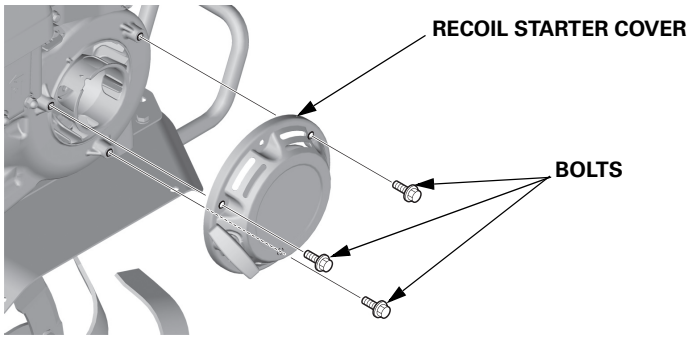
RECOIL STARTER COVER CHECK AND CLEANING

Check

Make sure that grass, clay, mud water or other similar material is not inside the recoil starter cover through the hole located on the side of the cover. Clean if necessary.

Cleaning

1. Remove the recoil starter cover by removing the three bolts.
2. Remove mud, grass tips, dirt and other foreign matter from inside the cover.
3. After cleaning, replace the cover and tighten the three bolts securely.



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 element 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 of 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

Draining the Fuel Tank and Carburetor

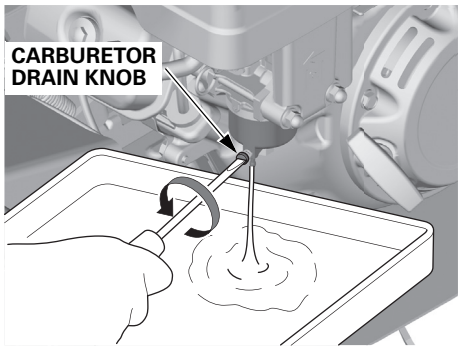
1. Place an approved gasoline container below the carburetor, and use a funnel to avoid spilling fuel.
2. Loosen the carburetor drain knob, and then move the fuel valve to the ON position.

⚠ 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.



3. After all the fuel has drained into the container, tighten the drain knob securely.

Engine Oil

Change the engine oil (see page 33).

Engine Cylinder

1. Remove the spark plug (see page 39).
2. Pour a teaspoon (5 cm^3) of clean engine oil into the cylinder.
3. Gently pull the starter grip several times to distribute the oil in the cylinder.
4. Reinstall the spark plug and spark plug cap.
5. Pull the starter grip slowly until you feel resistance, and then return the starter grip gently. This will close the valves so moisture cannot enter the engine cylinder.

STORAGE

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.

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.

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 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 14).

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

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.

To prevent fuel spillage, drain fuel from the fuel tank (see page 48).

Always turn the engine 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 CLOSE unless engine is warm.
Engine switch OFF.	Turn engine switch to ON.
Out of fuel.	Refuel (p. 29).
Bad fuel, tiller stored without treating or draining gasoline, or refueled with bad gasoline.	Drain fuel tank and carburetor (p. 48). Refuel with fresh gasoline (p. 29).
Spark plug faulty, fouled, or improperly gapped.	Gap or replace spark plug (p. 39).
Spark plug wet with fuel (flooded engine).	Dry and reinstall spark plug. Start engine with throttle lever in FAST position.
Fuel filter clogged, carburetor malfunction, ignition malfunction, valves stuck, etc.	Replace or repair faulty components as necessary. Take tiller to your servicing dealer, or refer to the shop manual.

ENGINE LACKS POWER

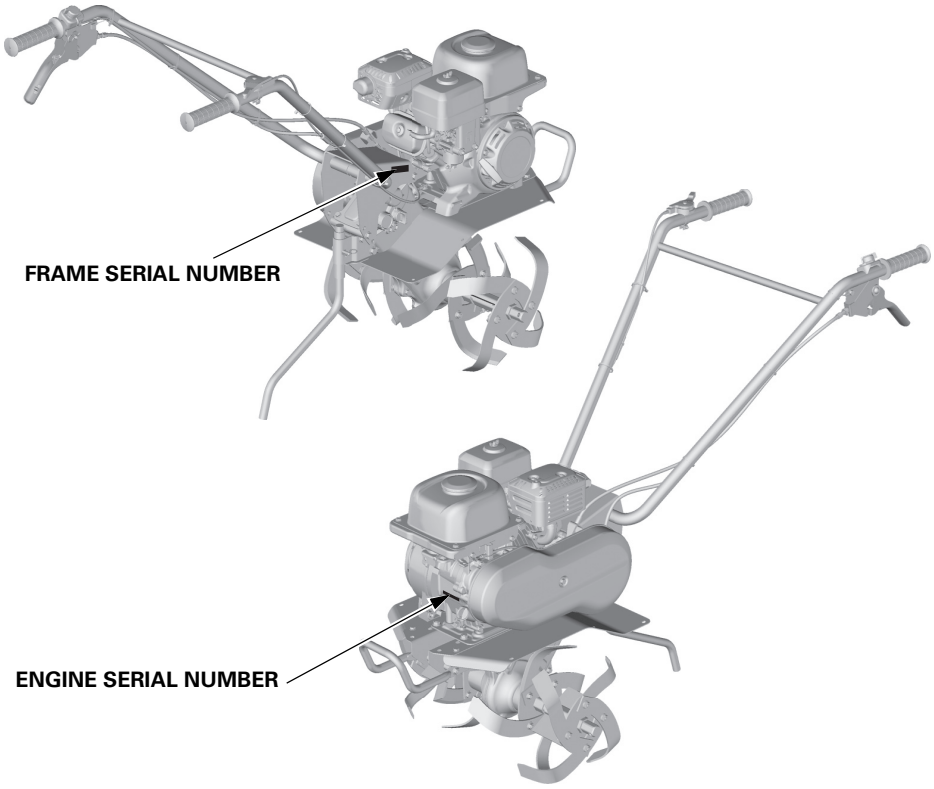
Possible Cause	Correction
Air filter clogged.	Clean or replace air filter (P. 36).
Bad fuel, tiller stored without treating or draining gasoline, or refueled with bad gasoline.	Drain fuel tank and carburetor (p. 48). Refuel with fresh gasoline (p. 29).
Fuel filter clogged, carburetor malfunction, ignition malfunction, valves struck, etc.	Replace or repair faulty components as necessary. Take tiller to your servicing dealer, or refer to the shop manual.

POOR TILLING QUALITY

Possible Cause	Correction
Engine speed is too slow for soil conditions.	Move the throttle to the FAST position (p. 12).
Tiller is moving too fast for soil conditions.	Reduce throttle speed (p. 12).
Drag bar adjustment set too high.	Lower drag bar adjustment (p. 20).
Tines dull, worn, or damaged.	Replace tines if necessary.
Wrong tines installed.	Install correct tines.
Tines installed incorrectly.	Install tines correctly.

TECHNICAL INFORMATION

Serial Number Locations



Record the engine and frame serial numbers in the spaces below. You will need these serial numbers when ordering parts, and when making technical or warranty inquiries.

Engine serial number:_____

Frame serial number:_____

Date purchased:_____

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 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 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 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.

TECHNICAL INFORMATION

Specifications

Model	F300D
Type	RD, IN, T, KW
Description code	FAAD
Dry mass [weight]	38 kg
Length	1,320 mm
Width	550 mm
Height	945 mm
Engine name	GX80D
Engine type	Single cylinder, 4-stroke, forced air cooled, overhead valve, unleaded gasoline
Displacement	79.7 cm^3
Bore x Stroke	46.0 × 48.0 mm
Ignition system	Transistor magneto
Spark plug	C4HSB (NGK)
Oil capacity	0.36 L
Fuel tank capacity	1.4 L
Clutch	Belt tension type
Transmission oil capacity	1.0 L

Tune-up Specifications

ITEM	SPECIFICATION	MAINTENANCE
Spark plug gap	0.6 – 0.7 mm	Refer to page 39.
Valve clearance	IN:0.10 ± 0.02 mm (cold) EX:0.15 ± 0.02 mm (cold)	See your authorized Honda dealer.
Other specification	No other adjustments needed.	

NOTE: Specifications are subject to change without notice.