Honda FJ500

OWNER'S MANUAL
Original instructions

MANUEL DE L'UTILISATEUR
Notice originale

BEDIENUNGSANLEITUNG
Originalbetriebsanleitung

MANUAL DE EXPLICACIONES
Manual original

MANUALE DELL'UTENTE
Istruzioni originali

e SPEC
ECOLOGY CONSCIOUS TECHNOLOGY

The ''e-SPEC'' mark symbolizes environmentally responsible technologies applied to Honda power equipment, which contains our wish to ''preserve nature for generations to come.''

Thank you for purchasing a Honda tiller.

This manual covers operation and maintenance of the FJ500 tiller.

All information in this publication is based on the latest product information available at the time of printing.

Honda Motor Co., Ltd. reserves the right to make changes at any time without notice and without incurring any obligation.

This manual is considered a permanent part of the tiller and it must stay with the tiller if resold.

Pay special attention to statements preceded by the following words:

⚠WARNING Indicates a strong possibility of severe personal injuly or death if instructions are not followed.

CAUTION: Indicates a possibility of personal injury or equipment damage if instructions are not followed.

NOTE: Gives helpful information.

If a problem should arise, or if you have any questions about your tiller, consult an authorized Honda tiller dealer.

⚠WARNING

The Honda tiller is designed to give safe and dependable service if operated according to instructions. Read and understand the Owner's Manual before operating the tiller. Failure to do so could result in personal injuly or equipment damage.

- The illustration may vary according to the type.

Disposal

To protect the environment, do not dispose of this product, battery, engine oil, etc. carelessly by leaving them in the waste. Observe the local laws and regulations or consult your authorized Honda dealer for disposal.

CONTENTS

1. SAFETY INSTRUCTIONS

⚠WARNING

To ensure safe operation–

For your safety and the safety of others, pay special attention to these precautions:

- **Honda tiller is designed to give safe and dependable service if operated according to instructions.**
  Read and understand the Owner's Manual before operating the tiller. Failure to do so could result in personal injury or equipment damage.

- **Exhaust contains poisonous carbon monoxide, a colorless, odorless gas. Breathing carbon monoxide can cause loss of consciousness and may lead to death.**
- **If you run the tiller in an area that is confined, or even partially enclosed area, the air you breathe could contain a dangerous amount of exhaust gas.**
- **Never run your tiller inside a garage, house, or near open windows or doors.**

- **The rotating tines are sharp and they turn at high speed. Accidental contact can cause serious injury.**
- **Keep your hands and feet away from the tines while engine is running.**
- **Stop the engine and disengage the tines clutch before inspection or maintenance of tines.**
- **Disconnect the spark plug cap to prevent any possibility of accidental starting. Wear heavy gloves to protect your hands from the tines when cleaning the tines or when inspecting or replacing the tines.**

- **Gasoline is extremely flammable and is explosive under certain conditions.**
- **Do not smoke or allow flames or sparks in the area where the tiller is refueled or where gasoline is stored.**
- **Do not overfill the fuel tank, and make sure the fuel tank cap is closed securely after refueling.**
- **Refuel in a well-ventilated area with the engine stopped.**

Operator responsibility

- Keep the tiller in good operating condition. Operating a tiller in poor or questionable condition could result in serious injury.
- Be sure all safety devices are in working order and warning labels are in place. These items are installed for your safety.
- Be sure the safety covers (tine covers, fan cover and recoil starter cover) are in places.
- Know how to stop the engine and tines quickly in case of emergency. Understand the use of all controls.
- Keep a firm hold on the handlebars. They may tend to lift during clutch engagement.

⚠WARNING

To ensure safe operation–

Operator responsibility

- Read the owner's manual carefully. Be familiar with the controls and their proper use of the tiller.
- Use the tiller for the purpose it is intended that is, cultivating the soil. Any other use could be dangerous or damage the equipment, especially never use it to cultivate soil containing rocks, stones, wires and any other hard materials.
- Never allow children or people unfamiliar with this owner's manual to use the tiller. Local regulations may restrict the age of the operator.
- Before each use, visually inspect the tiller including parts for any wear, damage and looseness. If necessary, replace the damaged parts as an assembly.
- Keep in mind that the owner or user is responsible for accidents or damage, occurring to other people or their property.
  In the event of hire use, be sure that operational explanations are given in the presence of the user.
- Keep your hands and feet away from the tines while the engine is running.
- Allowing anyone to operate this tiller without proper instruction may result in injury.
- Wear sturdy, full-coverage footwear. Operating this tiller barefoot or with open toe shoes or sandals increases your risk of injury.
- Dress sensibly. Loose clothing may get caught in moving parts, increasing your risk of injury.
- Be alert. Operating this tiller when you are tired, ill or under the influence of alcohol or drugs may result in serious injury.
- Keep all persons and pets away from the tilling area.
- Be sure drag bar is in place and properly adjusted.
- Do not change the engine governor settings or overspeed the engine.
- Start the engine carefully according to the instructions in this manual, keeping your feet away from the tines.
- When starting the engine, keep your feet away from the tines.
- Avoid operating the tiller at night or in a bad weather of poor visibility, because there is much possibility of accident.
- Walk, never run during operation.
- When taking backward steps during operation, pay special attention to people and obstacles behind the operator.
- Before transporting or hoisting the tiller, make sure that the engine is stopped.

⚠WARNING

To ensure safe operation–

Operator responsibility

- Stop the engine in the following cases:
  – Whenever you leave the tiller unattended.
  – Before refueling
- When stopping the engine, move the throttle lever to the LOW position, then turn the engine switch OFF. If the fuel valve is equipped on the tiller, be sure to turn the fuel valve OFF.
- Keep all nuts, bolts and screws tight to be sure the tiller is in safe working condition. Regular maintenance is an essential aid to user's safety and retaining a high level of performance.
- Never store the tiller with gasoline in the tank inside a building where fumes may reach an open flame, spark or high temperature source.
- Allow the engine to cool before storing in any enclosure.
- To reduce the fire hazard, keep the tiller especially the engine, muffler, the gasoline storage area as well, free of grass, leaves, or excessive grease.
  Do not leave containers of vegetable matters in or near a building.
- If the fuel tank has to be drained, this should be done outdoors, with a cold engine.
- Replace the worn or damaged parts for safety.

Child safety

- Keep children indoors and supervised at all times when any outdoor power equipment is being used nearby. Young children move quickly and are attracted especially to the tiller and the tilling activity.
- Never assume children will remain where you last saw them. Be alert and turn the tiller off if children enter the area.
- Children should never be allowed to operate the tiller, even under adult supervision.

Thrown object hazard

Objects hit by the rotating tines can be thrown from the tiller with great force, and may cause serious injury.

- Before tilling, clear the tilling area of sticks, large stones, wire, glass, etc. Till only in daylight.
- Always inspect the tiller for damage after striking a foreign object. Repair or replace any damaged parts before continuous use.
- Pieces thrown from worn or damaged tines can cause serious injury. Always inspect the tines before using the tiller.

⚠WARNING

To ensure safe operation–

Fire and burn hazard

Gasoline is extremely flammable, and gasoline vapor can explode. Use extreme care when handling gasoline. Keep gasoline out of reach of children.

- Add fuel before starting the engine. Never remove the cap of the fuel tank or add gasoline while the engine is running or when the engine is hot.
- Refuel in a well-ventilated area with the engine stopped.
- Refuel outdoors only and do not smoke while refueling or handling fuel.
- Allow the engine to cool before refueling. Fuel vapor or spilled fuel may ignite.
- The engine and exhaust system become very hot during operation and remain hot for a while after stopping. Contact with hot engine components can cause burn injuries and can ignite some materials.
- Avoid touching a hot engine or exhaust system.
- Allow the engine to cool before performing maintenance or storing the tiller indoors.
- Tighten all fuel tanks and container caps securely.
- Store fuel in containers specifically designed for this purpose.
- If gasoline is spilled, do not attempt to start the engine but move the tiller away from the area of spillage and avoid creating any source of ignition until gasoline vapors have dissipated.

⚠WARNING

To ensure safe operation–

Carbon monoxide poisoning hazard

Exhaust contains poisonous carbon monoxide, a colorless and odorless gas. Breathing exhaust can cause loss of consciousness and may lead to death.

- If you run the engine in an area that is confined or even partially enclosed, the air you breathe could contain a dangerous amount of exhaust gas. To keep exhaust gas from building up, provide adequate ventilation.
- Replace faulty muffler.
- Do not operate the engine in a confined space where dangerous carbon monoxide fumes can collect.

Operation on slope

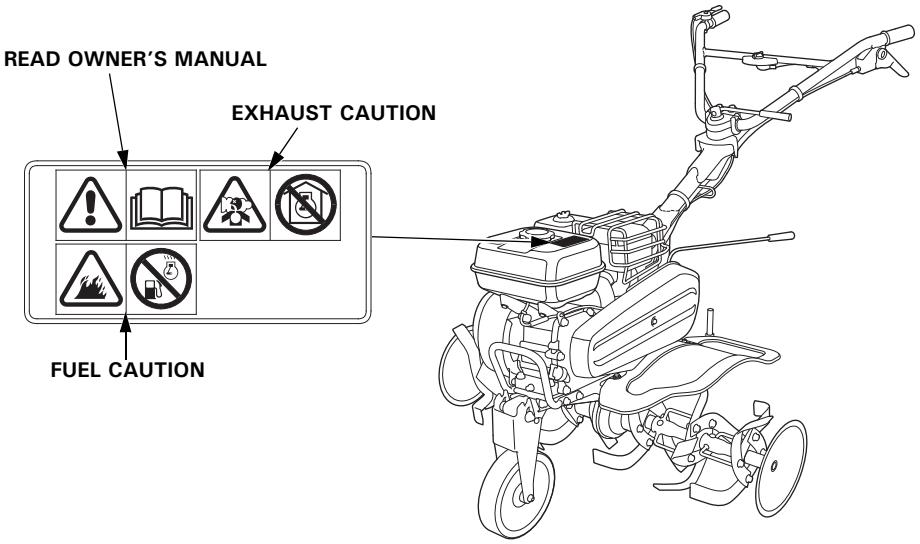
- When tilling on slopes, keep the fuel tank less than half full to minimize fuel spillage.
- Till across the slope (at equally spaced intervals) rather than up and down it.
- Be very careful when changing the direction of the tiller on a slope.
- Do not use the tiller on a slope of more than 10° (17%).

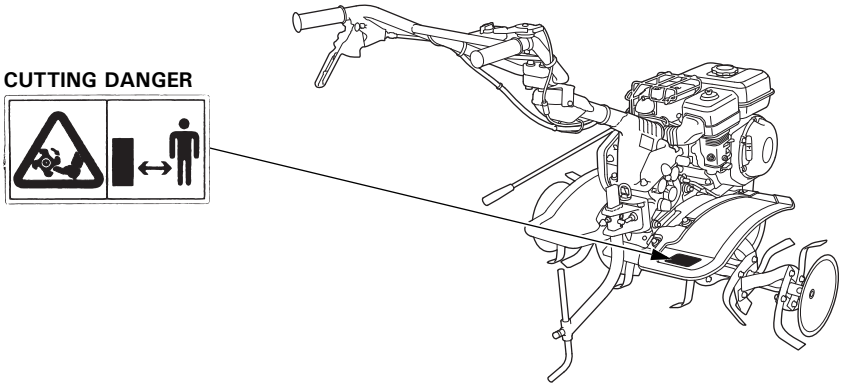
The maximum safe grade angle shown is for reference purpose only and should be determined according to the type of the tool. Before starting the engine, check that the tiller is not damaged and in good condition. For your safety and safety of others, exercise extreme care when using the tiller on up or down hill.

2. SAFETY LABEL LOCATIONS

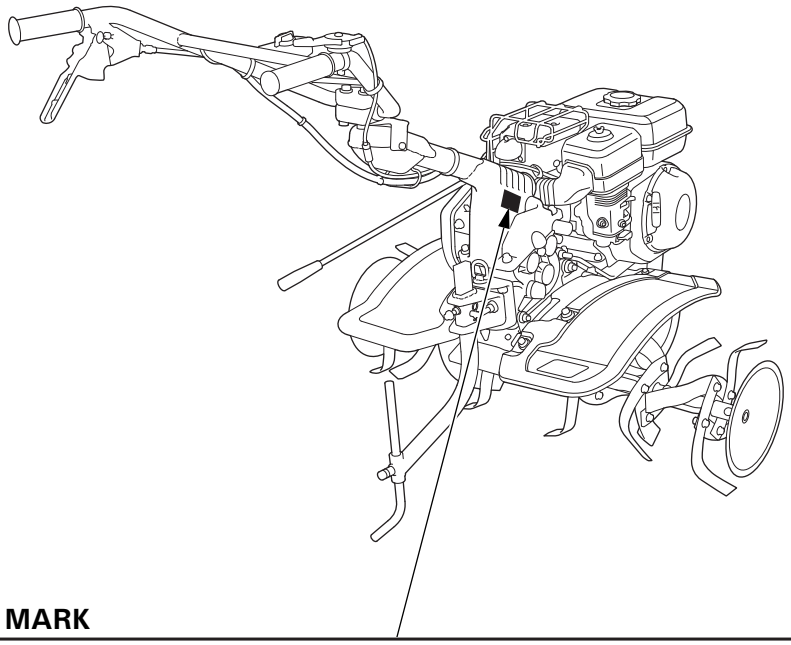
These labels warn you of potential hazards that can cause serious injury. Read the labels and safety notes and precautions described in this manual carefully.

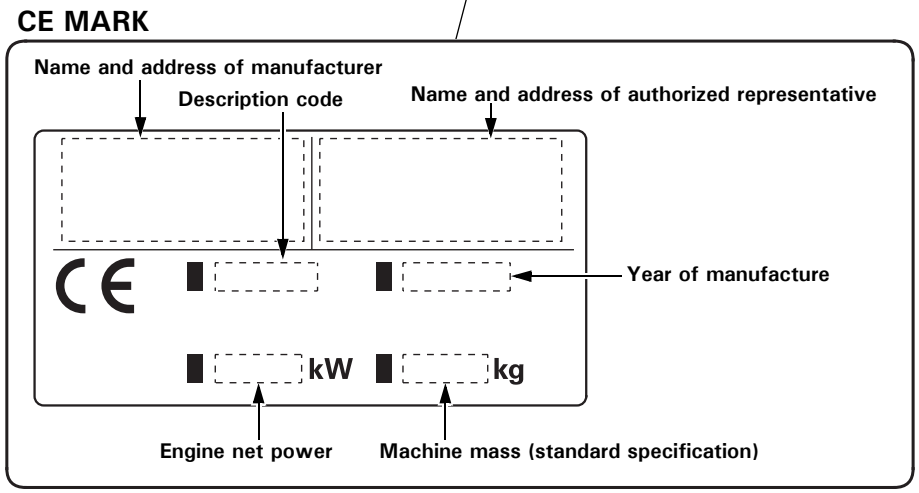
If a label comes off or becomes hard to read, contact your Honda dealer for a replacement.





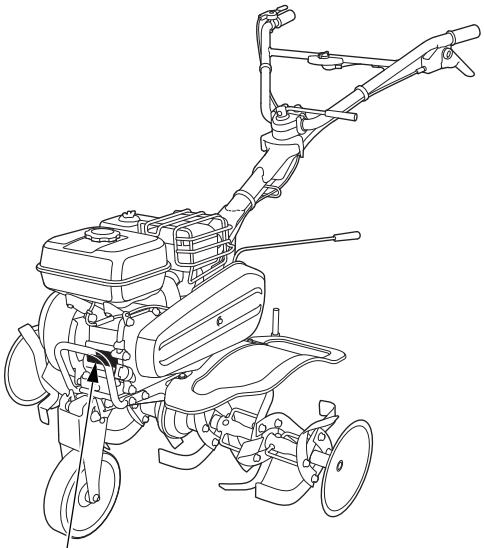
CE Mark Location



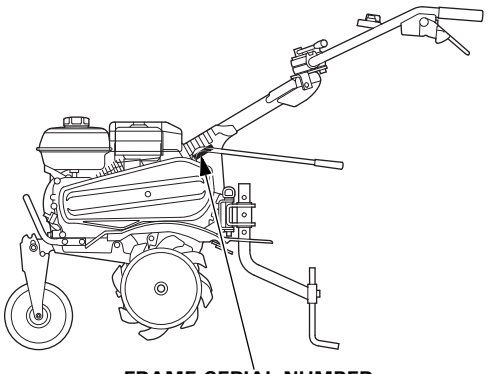


Name and address of manufacturer and authorized representative are written in the "EC Declaration of Conformity" CONTENT OUTLINE in this Owner's Manual.

Serial Number Locations



ENGINE SERIAL NUMBER



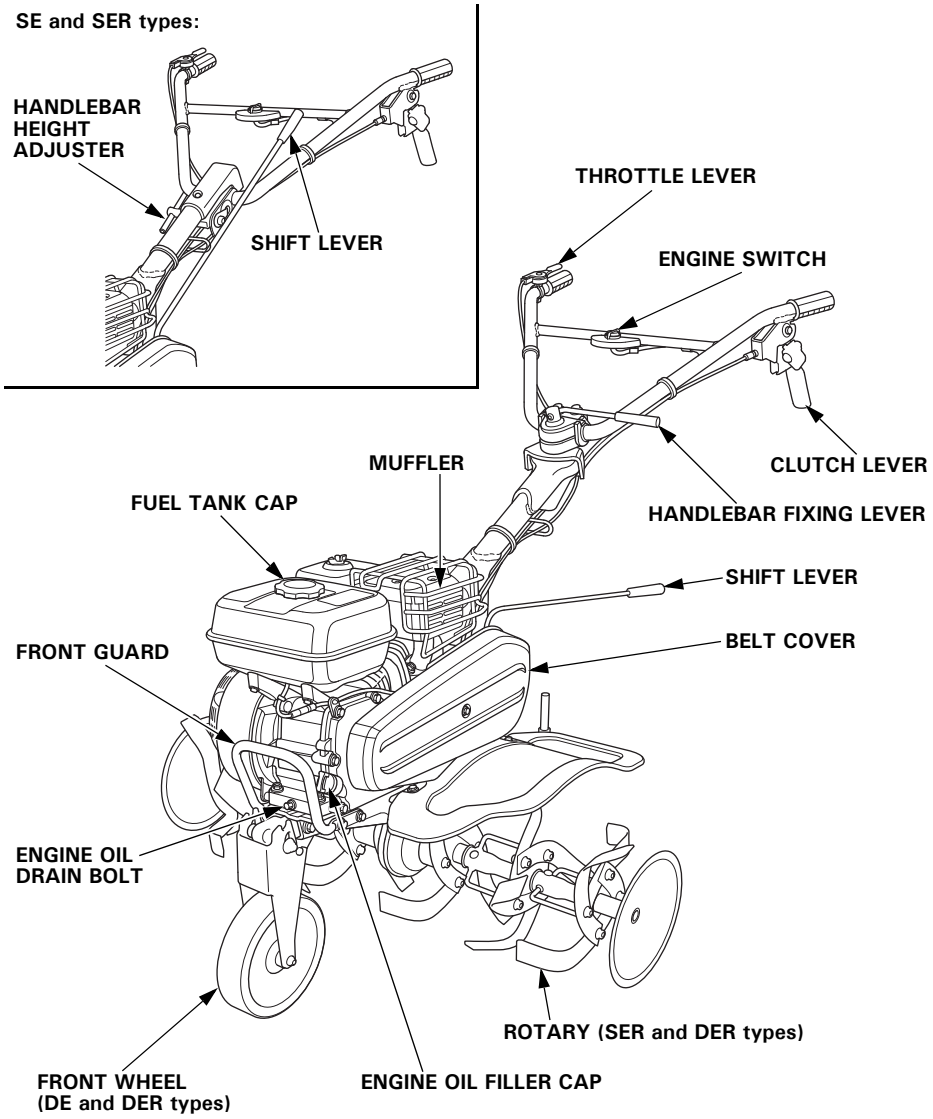
FRAME SERIAL NUMBER

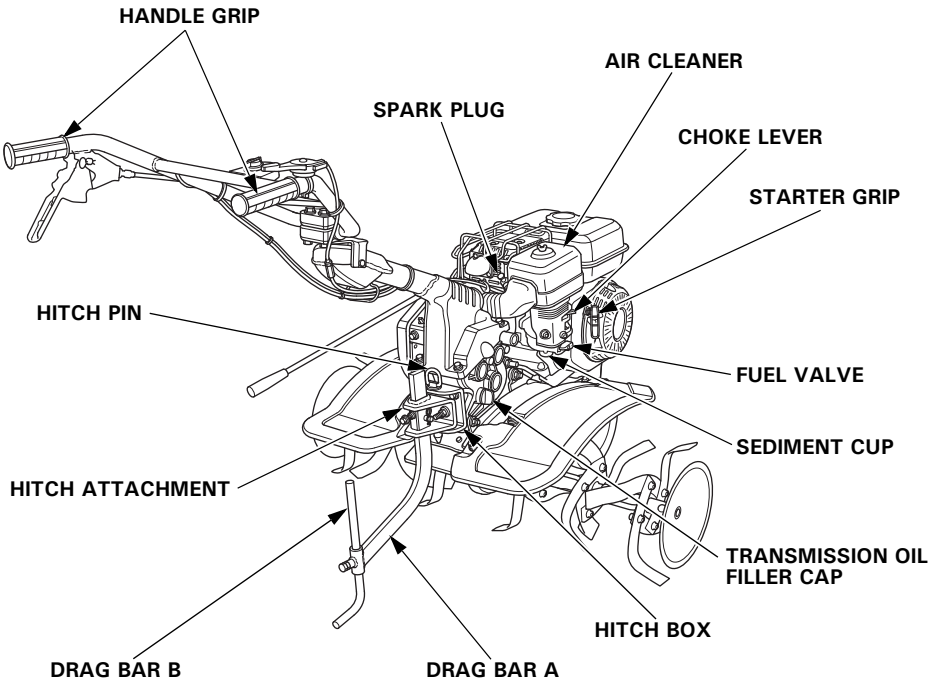
Record the frame serial number and engine serial number in the space below. You will need these numbers when ordering parts.

Frame serial number: _____

Engine serial number: _____

3. COMPONENT IDENTIFICATION




HANDLE GRIP
AIR CLEANER
SPARK PLUG
CHOKE LEVER
STARTER GRIP
HITCH PIN
FUEL VALVE
SEDIMENT CUP
HITCH ATTACHMENT
TRANSMISSION OIL FILLER CAP
HITCH BOX
DRAG BAR B
DRAG BAR A

4. PRE-OPERATION CHECK

⚠WARNING

Place the tiller on a firm level surface and hold the tiller level (i.e. with the rotary tines, front wheel (DE and DER types) and drag bar (see page 15)). Stop the engine before starting service of the tiller. Servicing the tiller on an unstable surface of the ground or without stopping the engine can cause injury and/or equipment damage.

Daily inspection and service of tiller is essential for safe and reliable operation. Perform the following check before operation.

1. Tiller outside
Check for fuel and engine oil leaks.
Make sure that there are no flammable materials (dust, straw, etc.) near the engine.

2. Control lever function
Check that the lever operates smoothly.

3. 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.

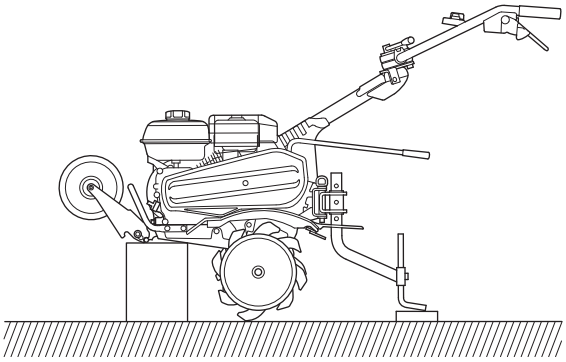
4. Engine operation
- Start the engine. Check for abnormal sounds. (See pages 23 through 25 for starting procedure.)
- Check that the engine stops securely by operating the engine switch. (See pages 37 through 39 for stopping procedure.)
- If you notice any other abnormal symptoms, consult with your authorized Honda dealer promptly.

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

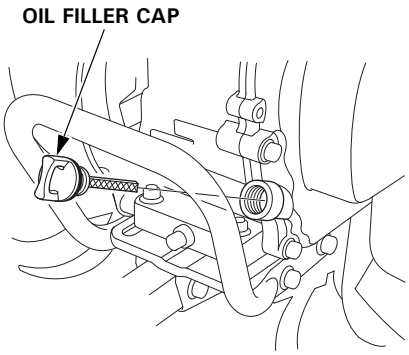
6. Engine oil

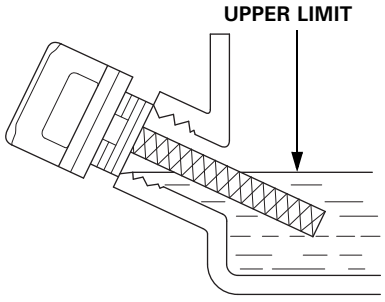
CAUTION:
Running the engine with insufficient oil can cause serious engine damage.

1. DE and DER types:
   Set the front wheel to the UP position (see page 34).
2. 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.



3. Remove the oil filler cap.
4. Check the oil level. If it is below the upper limit, fill with the recommended oil to the upper limit (see page 16).
5. Reinstall the oil filler cap securely.





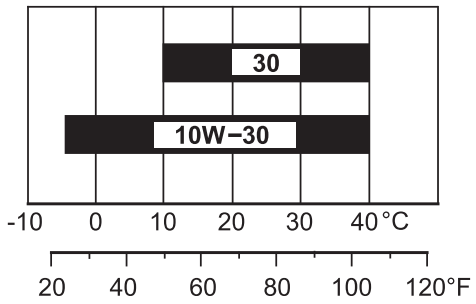
Recommended oil

Use 4-stroke motor oil that meets or exceeds the requirements for API service category SE or later (or equivalent). Always check the API service label on the oil container to be sure it includes the letters SE or later (or equivalent).

CAUTION:

Using nondetergent oil or 2-stroke engine oil will shorten the engine's service life.

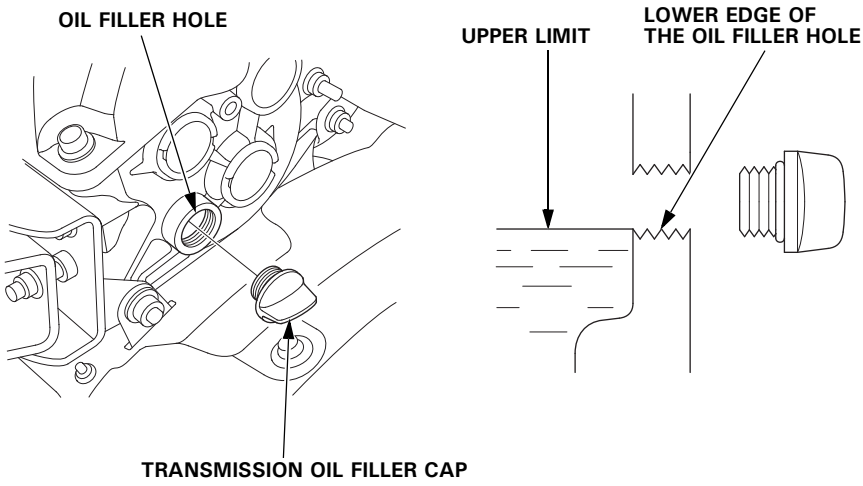
SAE 10W-30 is recommended for general use. Other viscosities shown in the chart may be used when the average temperature in your area is within the indicated range.



7. Transmission gear oil

Place the tiller on a level surface and remove the oil filler cap. The oil should be level with the lower edge of the oil filler hole. Add recommended oil if the level is low.

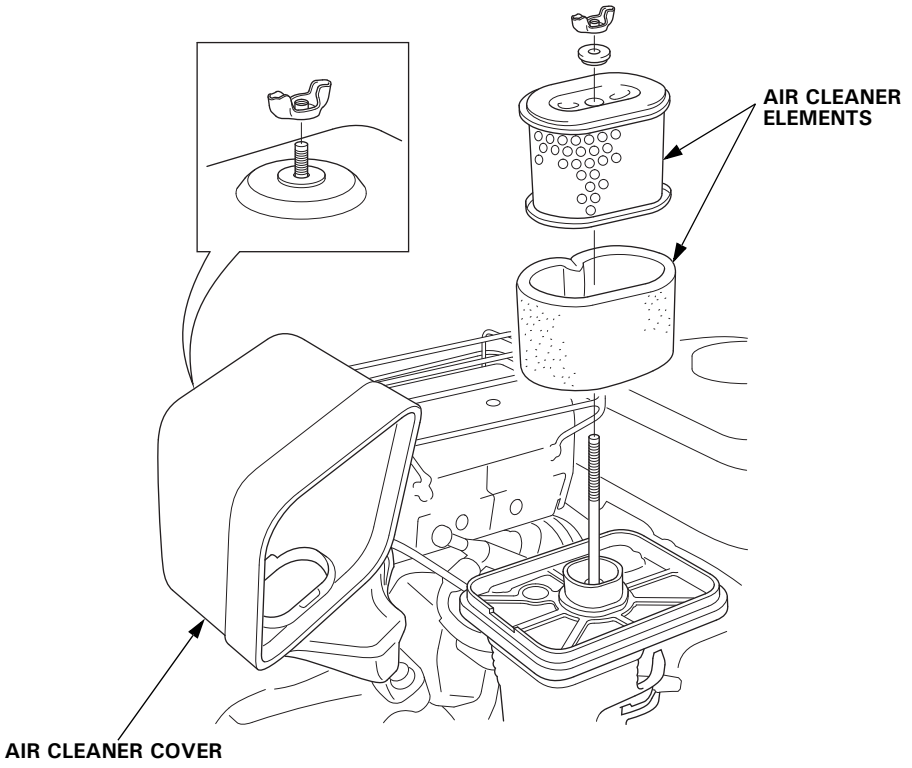
Recommended oil
Use 10W-30 4-stroke motor oil that meets or exceeds the requirements for API service classification SE or later (or equivalent). Always check the API service label on the oil container to be sure it includes the letters SE or later (or equivalent).



8. Air cleaner

CAUTION:
Never run the engine without the air cleaner. Rapid engine wear will result.

Remove the air cleaner cover.
Check the air cleaner elements for dirt or obstruction. Clean if necessary (see page 43).

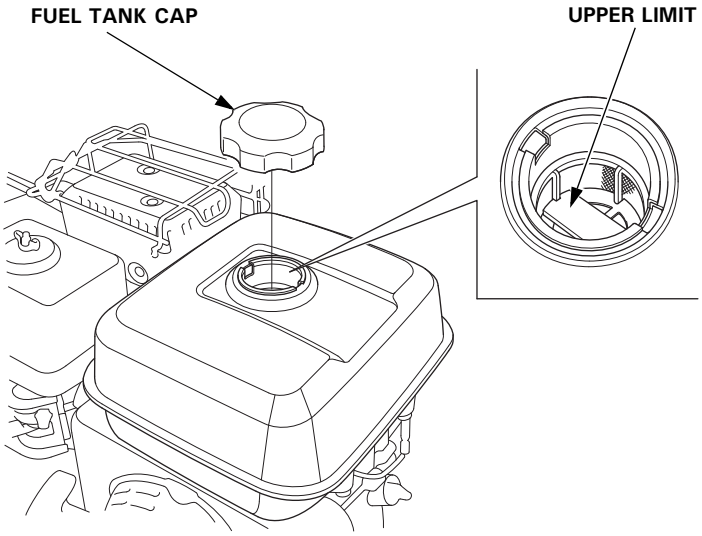


9. Fuel

Check the fuel level, and refill the tank if the fuel level is low.
Use unleaded gasoline with a Research Octane Number of 91 or higher (a Pump Octane Number of 86 or higher).
Never use stale or contaminated gasoline or an oil/gasoline mixture.
Avoid getting dirt or water in the fuel tank.

⚠WARNING

- **Gasoline is extremely flammable and is explosive under certain conditions.**
- **Refuel in a well-ventilated area with the engine stopped. Do not smoke or allow flames or sparks in the area where the engine is refueled or where gasoline is stored.**
- **Do not overfill the fuel tank (there should be no fuel in the filler neck). After refueling, make sure the tank cap is closed properly and securely.**
- **Be careful not to spill fuel when refueling. Spilled fuel or fuel vapor may ignite. If any fuel is spilled, make sure the area is dry before starting the engine.**
- **Avoid repeated or prolonged contact with skin or breathing of vapor. KEEP OUT OF REACH OF CHILDREN.**



NOTE:
Gasoline spoils very quickly depending on factors such as light exposure, temperature and time.
In worst cases, gasoline can be contaminated within 30 days.
Using contaminated gasoline can seriously damage the engine (carburetor clogged, valve stuck).
Such damage due to spoiled fuel is disallowed from coverage by the warranty.
To avoid this please strictly follow these recommendations:
- Only use specified gasoline (see page 19).
- Use fresh and clean gasoline.
- To slow deterioration, keep gasoline in a certified fuel container.
- If long storage (more than 30 days) is foreseen, drain fuel tank and carburetor (see page 61).

Gasolines containing alcohol

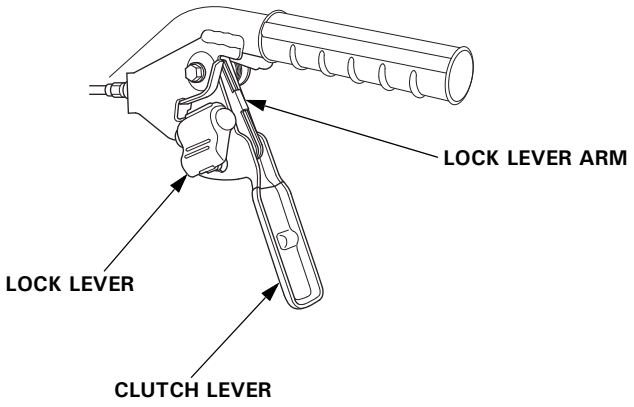
If you decide to use a gasoline containing alcohol (gasohol), be sure its octane rating is at least as high as that recommended by Honda.
There are two types of ''gasohol'': one containing ethanol, and the other containing methanol.
Do not use gasohol that contains more than 10% ethanol.
Do not use gasoline containing more than 5% methanol (methyl or wood alcohol) and that does not also contain co-solvents and corrosion inhibitors for methanol.

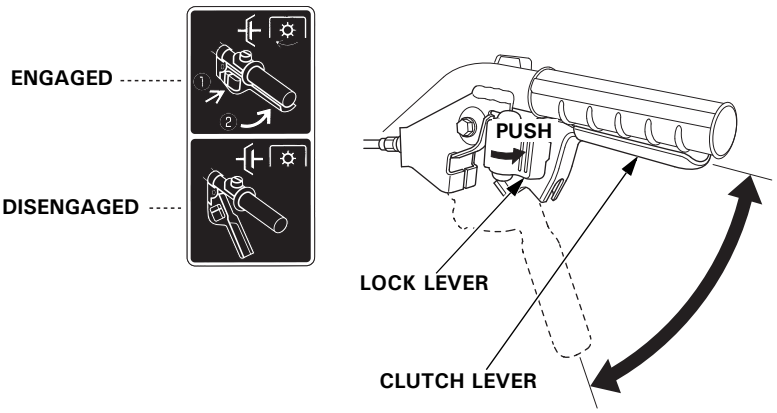
NOTE:
- Fuel system damage or engine performance problems resulting from the use of gasoline that contains more alcohol than recommended is not covered under the warranty.
- Before buying gasoline from an unfamiliar station, first determine if the gasoline contains alcohol, if it does, find out the type and percentage of alcohol used.
  If you notice any undesirable operating symptoms while using a particular gasoline. Switch to a gasoline that you know contains less than the recommended amount of alcohol.

10.Clutch lever

Before the operation check, make sure that there are no foreign objects (such as sand, soil, twigs, etc.) caught around the clutch lever, lock lever and/or lock lever arm.
Check that the lock lever and the clutch lever operate smoothly by pushing the lock lever, and squeezing the clutch lever.

If the lock lever and clutch lever do not operate smoothly, or the clutch engages by squeezing the clutch lever without pushing the lock lever, disassemble and clean the clutch lever (see page 50).





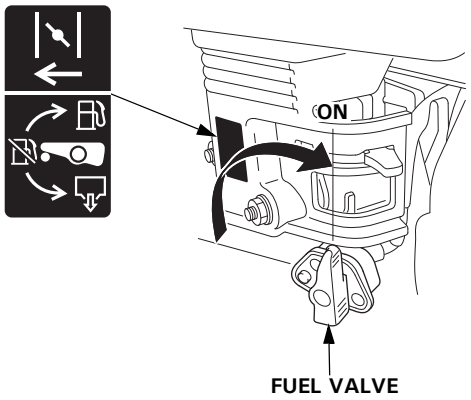
11.Tools and Attachments

To install a tool or attachment on the tiller, follow the instructions furnished with the tool or attachment. Ask your Honda dealer for advice if you encouter any problem or difficulty in installing a tool or attachment.

5. STARTING THE ENGINE

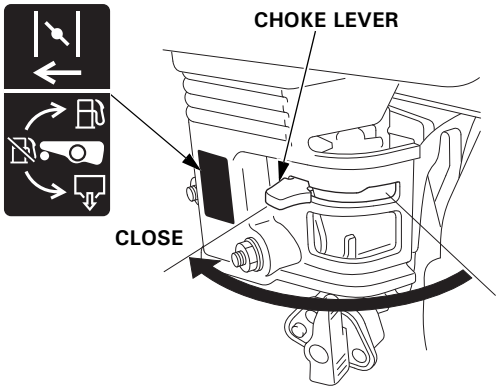
CAUTION:
Be sure the clutch is disengaged and the shift lever is in the neutral position to prevent sudden uncontrolled movement when the engine starts.
The clutch is engaged by pulling in the clutch lever and disengaged by releasing the lever.

1. Turn the fuel valve to the ON position.

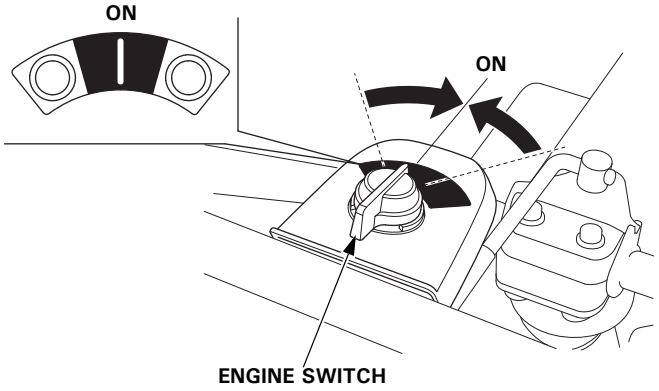


2. In cold weather and when the engine is cold, move the choke lever to the CLOSE position.

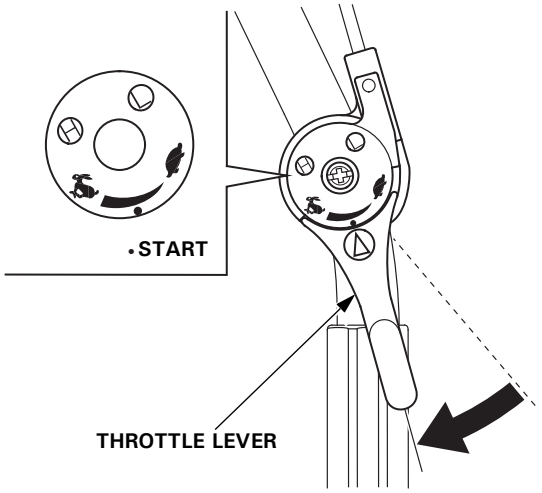
   NOTE:
   Do not use the choke if the engine is warm or the air temperature is high.



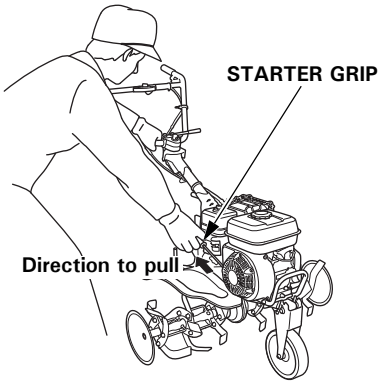
3. Turn the engine switch to the ON position.



4. Align the mark '' △ '' on the throttle lever with the mark '' ● '' (START position) as shown.

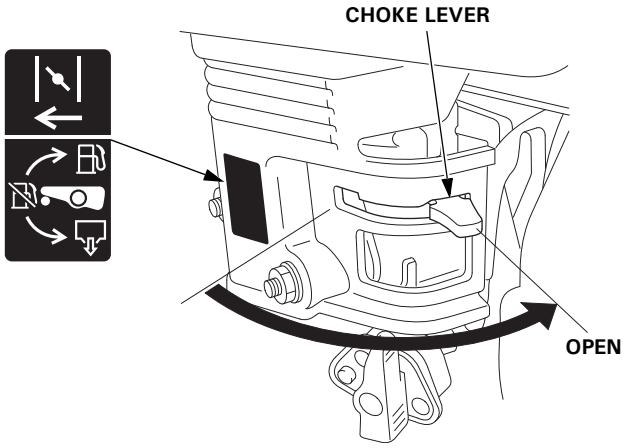


5. Pull the starter grip lightly until resistance is felt, then return the starter grip once.
   Hold the handlebar with your left hand and pull the starter grip briskly in the direction of the arrow as shown.



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

6. Let the engine warm up for several minutes. If the choke has been moved to the CLOSE position, move it gradually to the OPEN position as the engine warms up.



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 (5,000 feet), 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.

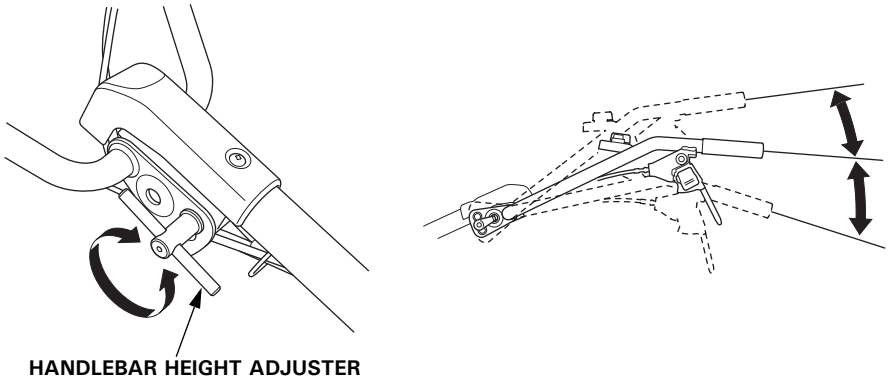
Even with carburetor modification, engine horsepower will decrease about 3.5% for each 300-meter (1,000-foot) increase in altitude. The effect of altitude on horsepower will be greater than this if no carburetor modification is made.

CAUTION:
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 (5,000 feet) 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.

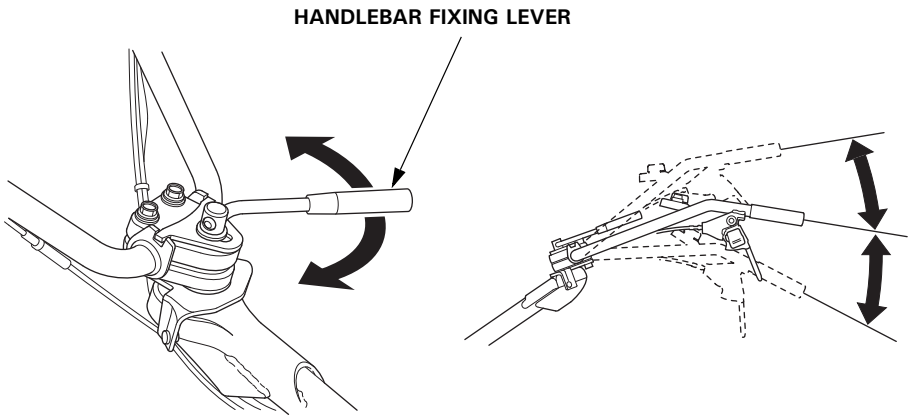
1. Handlebar height adjustment

CAUTION:
Before adjusting the handlebar, place the tiller on the firm level ground to prevent the handle from collapsing accidentally.

SE and SER types:
To adjust the handlebar height, loosen the handlebar height adjuster, select the appropriate hole and tighten it.

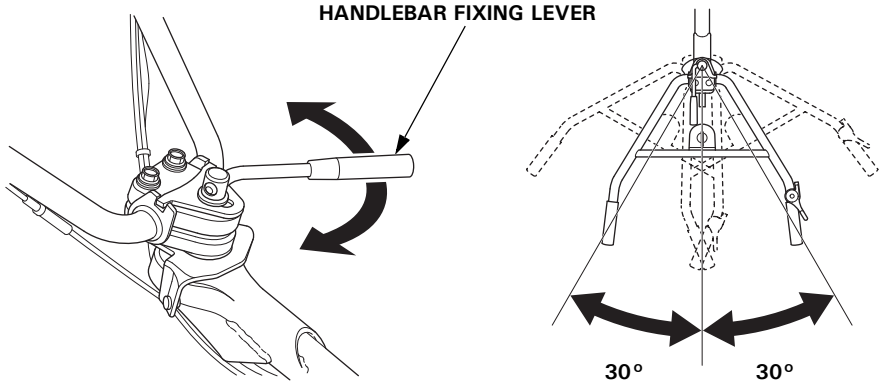


DE and DER types:
To adjust the handlebar height, loosen the handlebar fixing lever, move the handlebar to a desired position and tighten the lever.



2. Handlebar angle adjustment

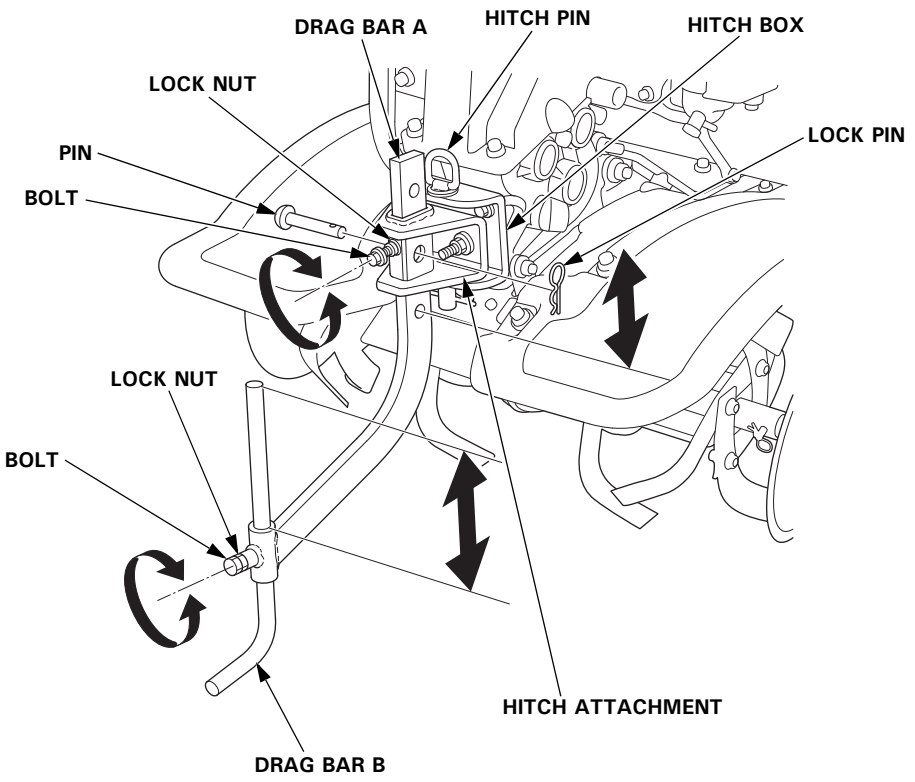
DE and DER types:
If the handlebar angle adjustment is needed, loosen the handlebar fixing lever, move the handlebar to a required position and tighten the lever.
The handlebar can swing within the sweep of 30° from the center to the right and left each.



3. Tilling depth adjustment

Install the hitch attachment in the hitch box with a hitch pin.
The tilling depth adjustment can be made as follows:

Remove the lock pin and pin, loosen the lock nuts and bolts securing the drag bars A and B, and slide the drag bars up or down as necessary. After adjustment, tighten the bolts and lock nuts securely. Insert the pin and set the lock pin.



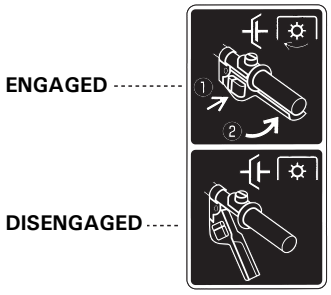
4. Clutch operation

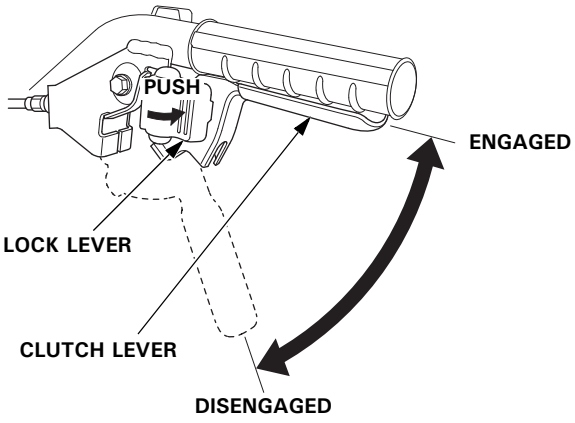
The clutch engages and disengages the power from the engine to the transmission.

CAUTION:
Reduce engine rpm before operating clutch operation.

Engage:
1. Push and hold the lock lever.
2. Squeeze the clutch lever.
3. The clutch is engaged, release the lock lever.

Disengage:
Release the clutch lever.





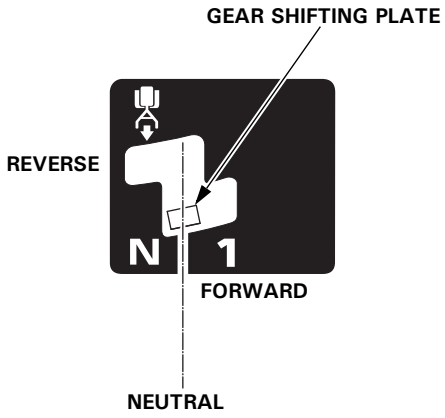
5. Gear selection

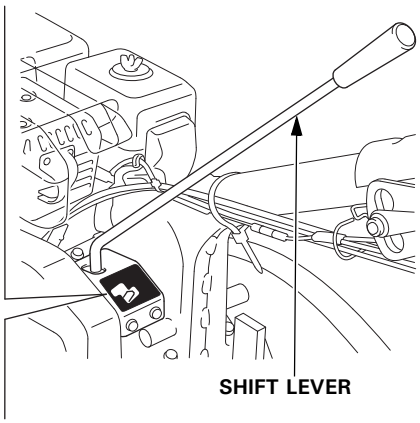
CAUTION:
Return the throttle lever to the Low position and disengage the clutch before moving the shift lever. Avoid using excessive force on the shift lever.

Select a gear position in accordance withe the contents of the Gear Selection Table.

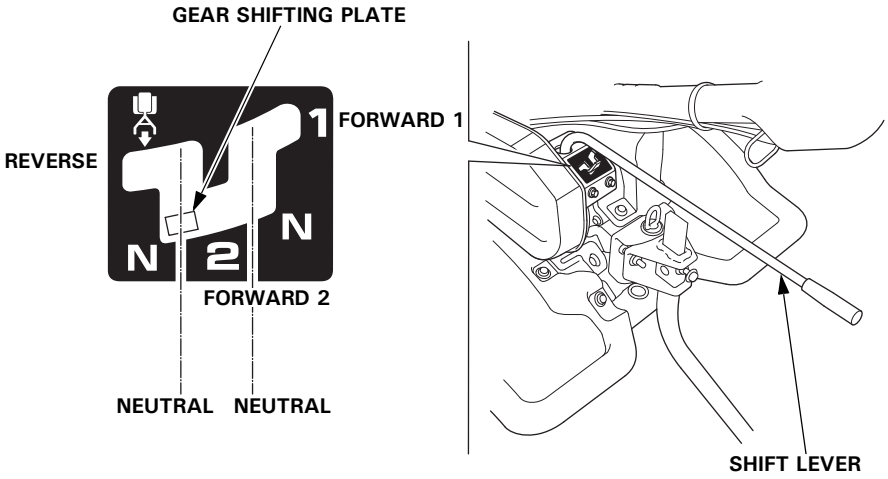
- Always operate the shift lever after the clutch has been disengaged.
- If the shift lever is difficult to operate, squeeze the clutch once and then disengage the clutch and operate the shift lever again.
- In reverse operation, be especially careful of your feet and observe the following precautions:
  1. Make sure there are no people or obstacles behind you.
  2. Lower the engine speed.
  3. Hold the handlebar with both hands and support it firmly.
  4. Gently engage the clutch and make sure that it can be disengaged at any time.

SE and SER types:





DE and DER types:

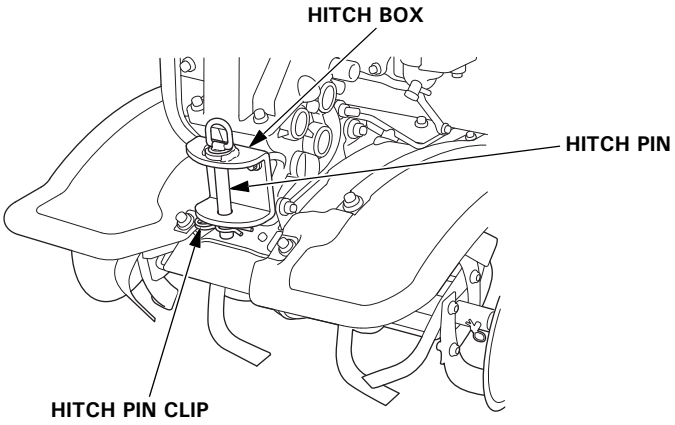


Gear Selection Table (When engine speed is 3,600 rpm)

Gear position	Speed of rotary part		Suitable work
	SE, SER	DE, DER	
1	112.9 rpm	79.5 rpm	Moving tiller, loading tiller onto a truck, taking tiller on or off filed.
2		112.9 rpm	Moving tiller, loading tiller onto a truck, taking tiller on or off filed.
Reverse gear	28.0 rpm	28.0 rpm	Moving tiller

6. Use of the hitch box

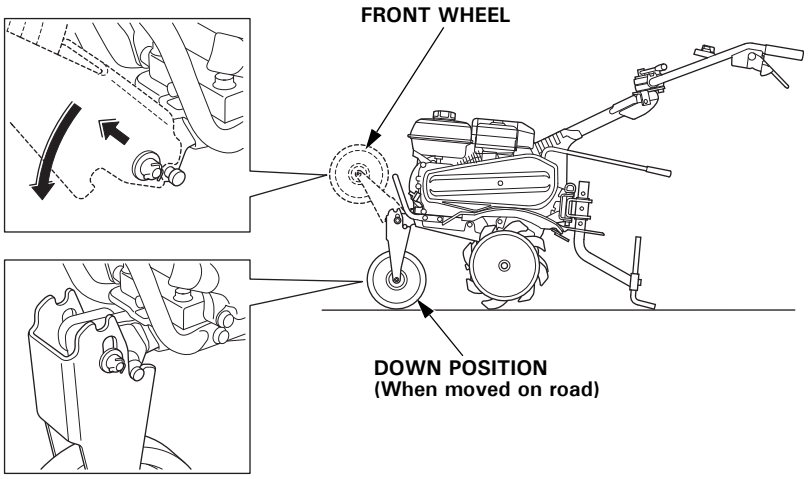
Install the hitch attachment in the hitch box with a hitch pin. (Hitch pin clip snaps into relief in hitch pin to retain pin.)

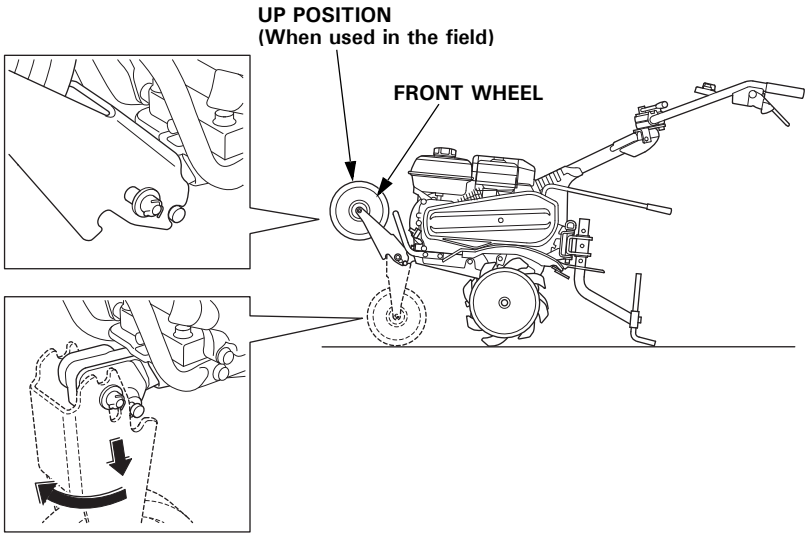


7. Front wheel (DE and DER types)

After getting to the tiller site, move the front wheel to the raised position before tilling. Always stop the engine before lowering or raising the wheel.

To raise or lower the wheel, pull out the wheel assembly, move the wheel, then release the wheel assembly.



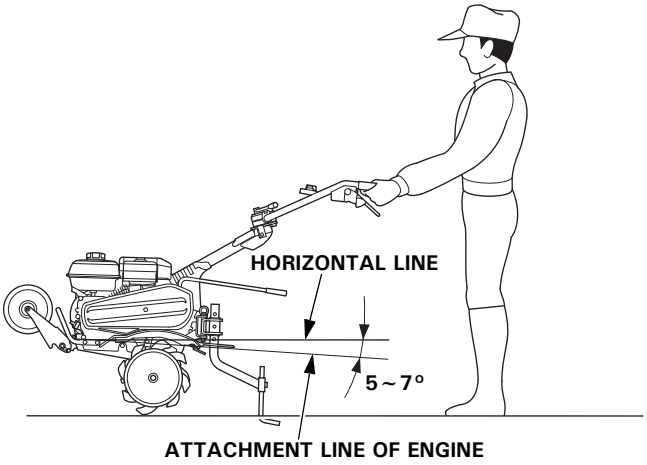


8. Handling tips

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

9. Normal operating angle

Lower the handle slightly so the front of the machine is raised about 5 ~ 7°.



To get the maximum advantage from the tiller, try to hold the machine at the angle shown while you are tilling the ground:

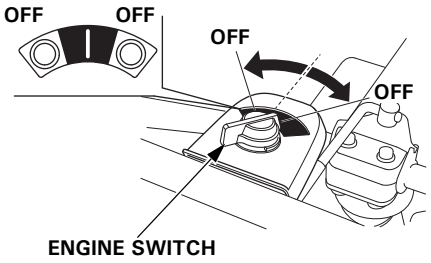
CAUTION:

- **Do not use the tiller with a rotor whose diameter is in excess of 325 mm (12.8 in).**
- **Operating the tiller on grades could cause the tiller to tip over.**
- **Allowing any one to operate this tiller without proper instruction may result in injury.**
- **Wear sturdy, full coverage footgear. Operating this tiller with bare feet, or with open toe shoes or sandals increases your risk of injury.**
- **Do not use the tiller in the night.**
- **When the rotor is clogged with mud, pebbles etc., immediately stop the engine and clean the rotor in a safe place. Be sure to wear heavy gloves when cleaning the rotor.**
  To prevent damage, check the tiller for any signs of damage or other faults each time the tiller is used after it has been operated last.

7. STOPPING THE ENGINE

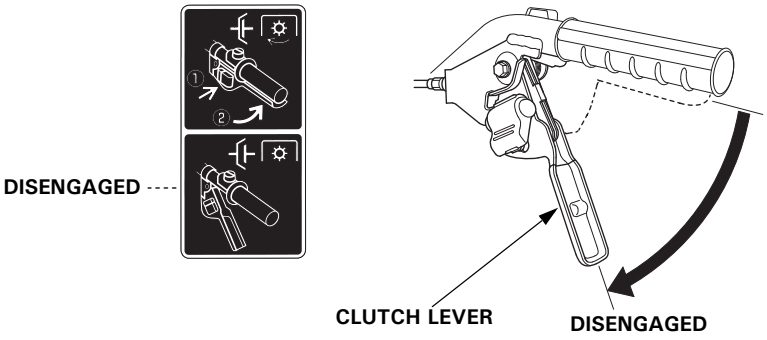
In an emergency:

• Turn the engine switch to the OFF position.

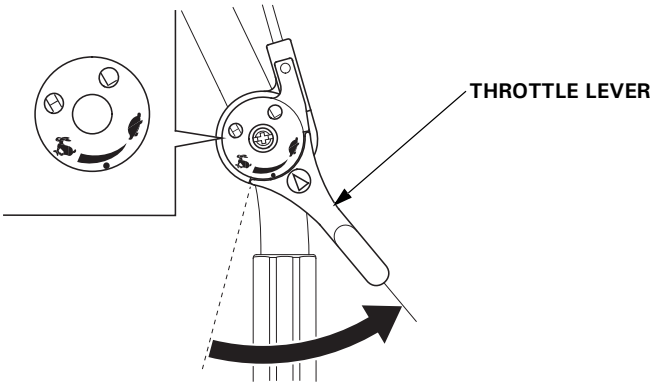


In normal use:

1. Release the clutch lever to the DISENGAGED position.

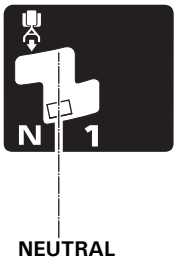


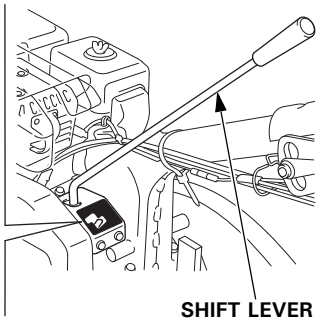
2. Move the throttle lever fully to the right.



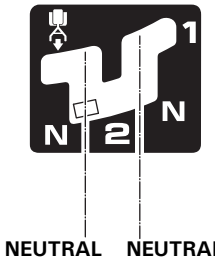
3. Set the shift lever in the NEUTRAL position.

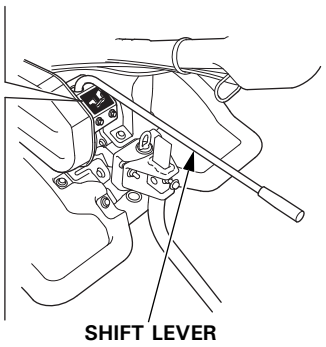
SE and SER types:



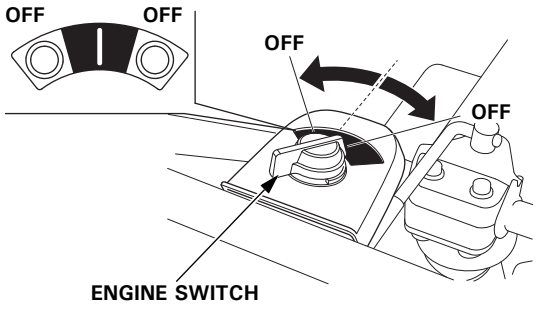


DE and DER types:

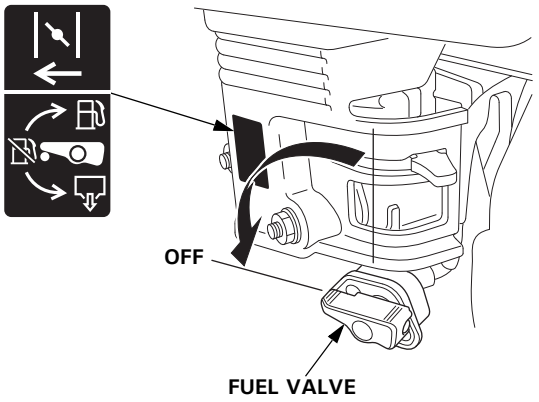




4. Turn the engine switch to the OFF position.



5. Turn the fuel valve to the OFF position.



8. MAINTENANCE

The purpose of the maintenance schedule is to keep the tiller in the best operating condition. Inspect or service as scheduled in the table below.

⚠WARNING

Shut off the engine before performing any maintenance. Exhaust contains poisonous carbon monoxide gas; Exposures cause loss of consciousness and may lead to death. If the engine must be run, make sure the area is well ventilated.

CAUTION:

Use only genuine Honda parts or their equivalent for maintenance or repair. Replacement parts which are not of equivalent quality may damage the tiller.

Maintenance schedule

REGULAR SERVICE PERIOD (1) Perform at every indicated month or operating hour interval, whichever comes first. / ITEM		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
Engine oil	Check level		o				
	Change	o		o		o	
Transmission oil	Check level	o		o			o
Air cleaner	Check		o				
	Clean				o (2)		
	Replace						o
Tiller outside	Check		o				
Throttle lever function	Check		o				
Clutch lever function	Check		o				
Bolts and Nuts tightens	Check		o				
Wiring and cables	Check		o				

(1) For commercial use, log hours of operation to determine proper maintenance intervals.
(2) Service every 10 operation hours or every day when used in dusty areas.

REGULAR SERVICE PERIOD (1) Perform at every indicated month or operating hour interval, whichever comes first. / ITEM		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
Engine Operation	Check		o				
Sediment cup	Clean					o	
Spark plug	Check-adjust					o	
	Replace						o
Grease application	Grease lubricate	o (3)					
Belt tension	Check-adjust			o (3) (4)		o (3) (4)	
Throttle cable	Check-adjust						o
Clutch cable	Check-adjust			o (3)		o (3)	
Idle speed	Check-adjust						o (3)
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)					

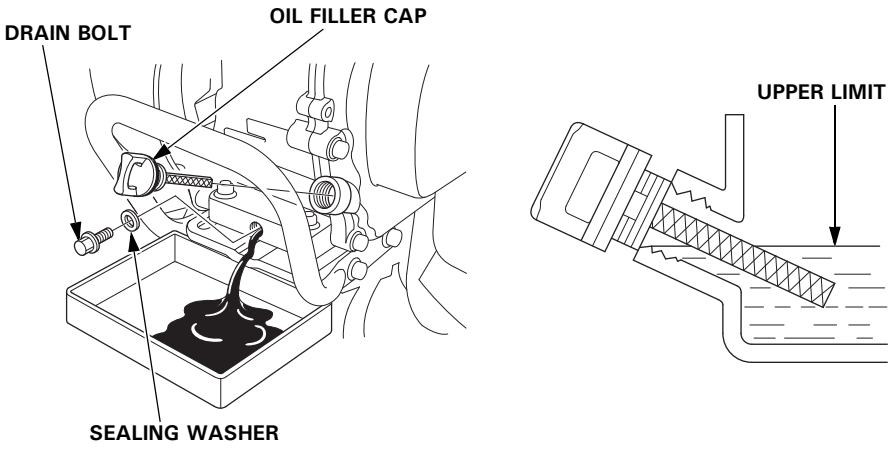
(1) For commercial use, log hours of operation to determine proper maintenance intervals.
(3) These items should be serviced by your servicing dealer.
(4) Check that there are no cracks or abnormal wear in the belt, and replace it if necessary.

1. Changing oil

Change the oil when 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 oil filler cap, drain bolt, and sealing washer.
2. Tilt the tiller slightly forward and allow all of the oil to drain.
3. Allow the used oil to drain completely, and then reinstall the drain bolt with a new sealing washer. Tighten the bolt securely.
4. Refill with the recommended oil (see page 16) to the upper limit.
5. Reinstall the oil filler cap securely.

Oil capacity: 0.58 L (0.61 US qt, 0.51 Imp qt)



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

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

2. Air cleaner service

A dirty air cleaner will restrict air flow to the carburetor. To prevent carburetor malfunction, service the air cleaner regularly. Service more frequently when operating the engine in extremely dusty areas.

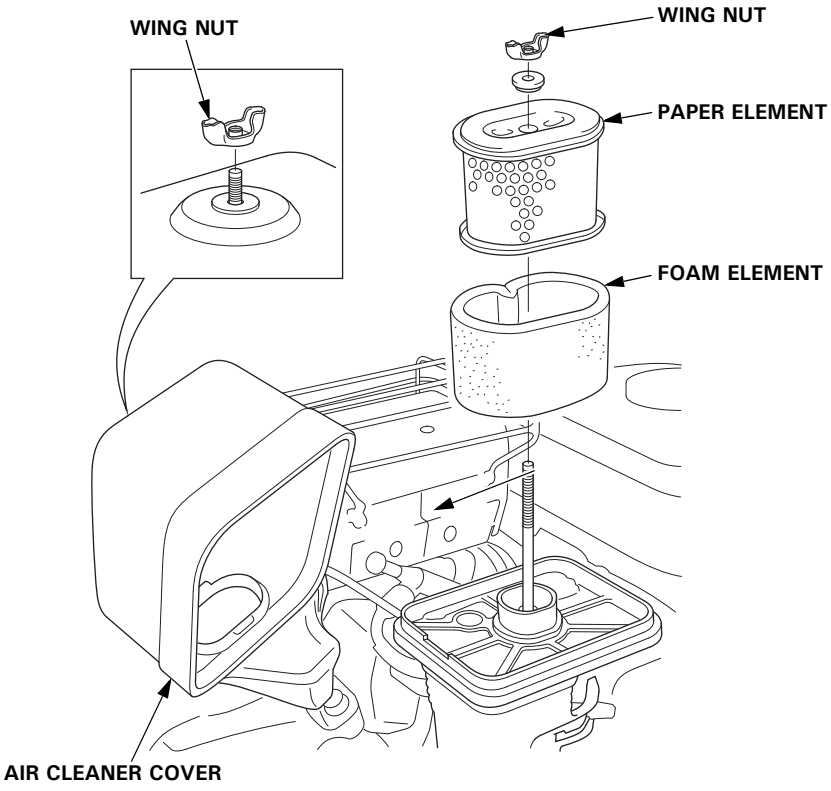
⚠WARNING

Never use gasoline or low flash point solvents for cleaning the air cleaner element. A fire or explosion could result.

CAUTION:

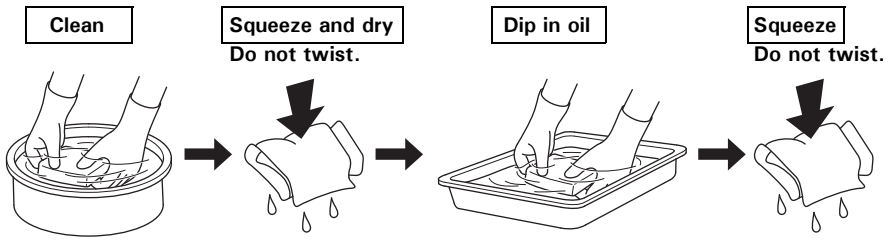
Never run the engine without the air cleaner. Rapid engine wear will result.

1. Remove the wing nut and the air cleaner cover. Remove the elements and separate them. Carefully check both elements for holes or tears and replace if damaged.

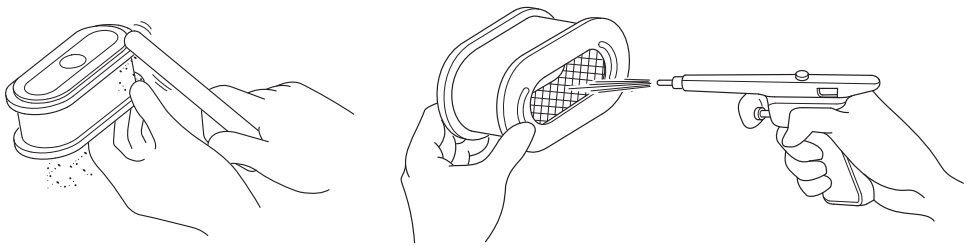


2. Clean both filter elements if they are to be used.

Foam element:
Clean in warm soapy water, rinse and allow to dry thoroughly. Or clean in high flash-point solvent and allow to dry. Dip the element in clean engine oil and squeeze out all the excess. The engine will smoke during initial start-up if too much oil is left in the foam.



Paper element:
Tap the element lightly several times on a hard surface to remove excess dirt, or blow compressed air through the filter from the inside out. Never try to brush the dirt off; brushing will force dirt into the fibers. Replace the paper element if it is excessively dirty.



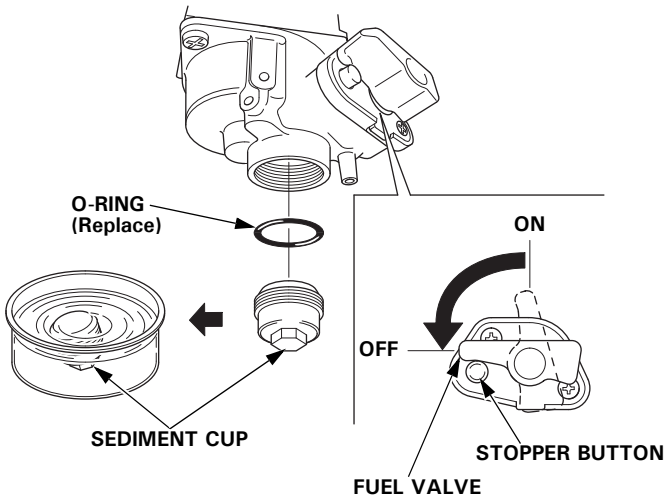
3. Securely install the elements and the air cleaner cover.

3. Sediment cup cleaning

⚠WARNING

Gasoline is extremely flammable and is explosive under certain conditions. Do not smoke or allow flames or sparks in the area.

1. Turn the engine switch to the OFF position.
2. Turn the fuel valve to the OFF position so that it touches the stopper button.
3. Remove the sediment cup and O-ring with a 10 mm wrench.
4. Empty the sediment cup, and wash it in non-flammable solvent.
5. Install a new O-ring and the sediment cup. Tighten the sediment cup securely.
6. Turn the fuel valve to the ON position, and check for leaks.



4.Spark plug service

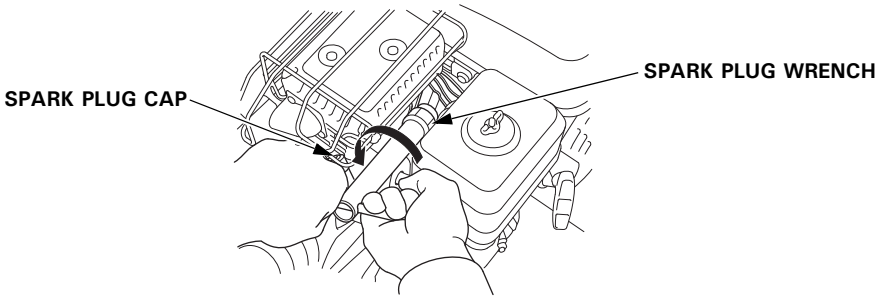
Recommended spark plug: BPR5ES (NGK)
W16EPR-U (DENSO)

To ensure proper engine operation, the spark plug must be properly gapped and free of deposits.

1. Remove the spark plug cap.
   Use the spark plug wrench to remove the spark plug.

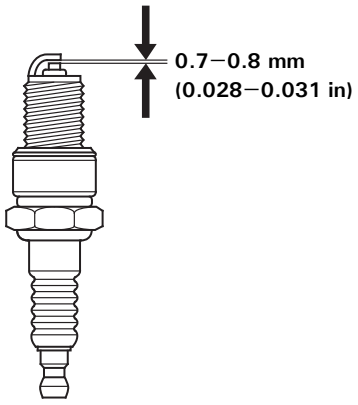
⚠WARNING

If the engine has been running, the muffler will be very hot. Be careful not to touch the muffler.

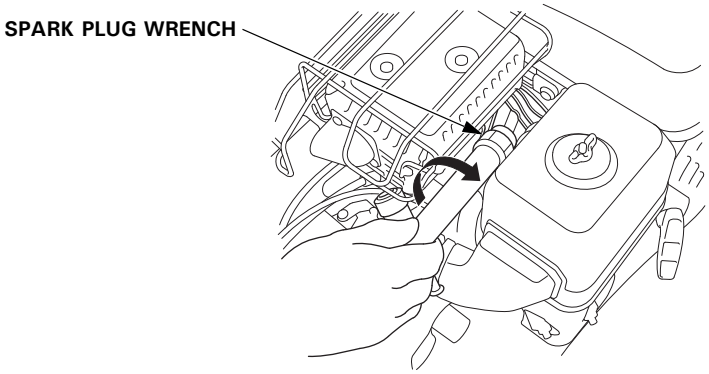


2. Visually inspect the spark plug. Discard it if the insulator is cracked or chipped. Clean the spark plug with a wire brush if it is to be reused.

3. Measure the plug gap with a feeler gauge.
   Correct as necessary by bending the side electrode.
   The gap should be:
   0.7–0.8 mm (0.028–0.031 in)



4. Check that the spark plug washer is in good condition and thread the spark plug in by hand to prevent cross-threading.



5. After the spark plug is seated, tighten with a spark plug wrench to compress the washer.

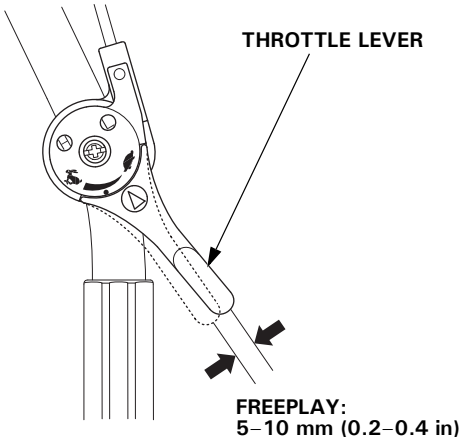
NOTE:
After seating it by hand, tighten a new spark plug 1/2 turn with the wrench to compress the washer. If you are reusing a plug, it should only take 1/8–1/4 turn.

CAUTION:
The spark plug must be securely tightened. An improperly tightened plug can become very hot and possibly damage the engine.
Never use a spark plug with an improper heat range.

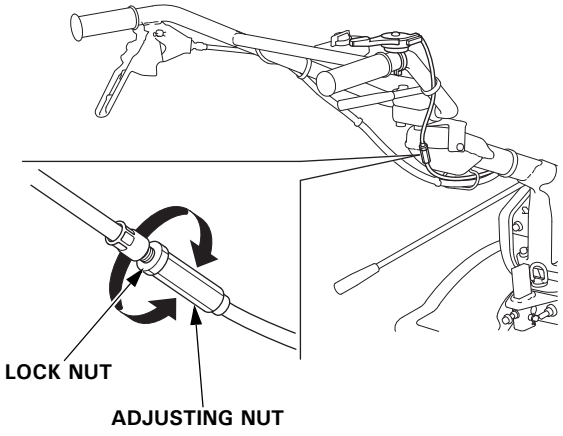
5. Throttle cable adjustment

Measure the freeplay at the lever tip.

Freeplay: 5–10 mm (0.2–0.4 in)



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

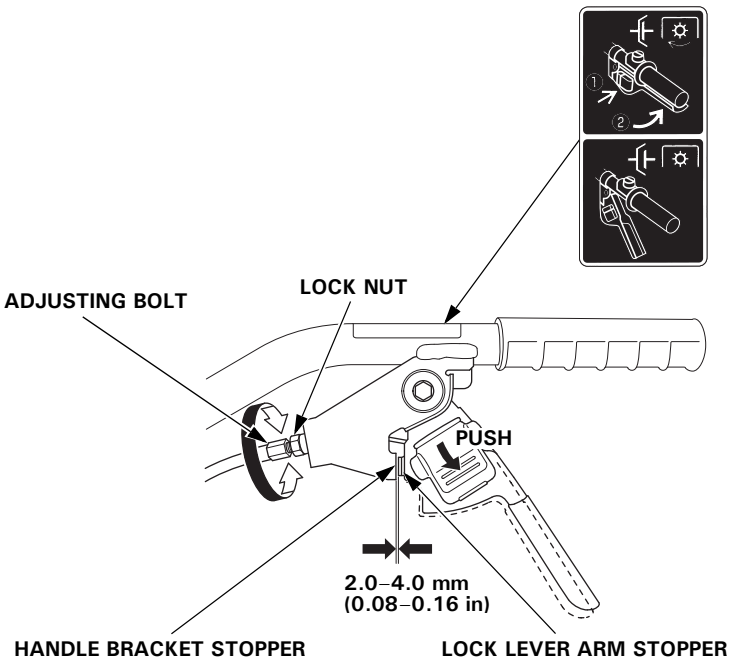


6. Clutch cable adjustment

With the clutch disengaged, measure the freeplay between the handle bracket stopper and lock lever arm stopper.

Freeplay: 2.0–4.0 mm (0.08–0.16 in)

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



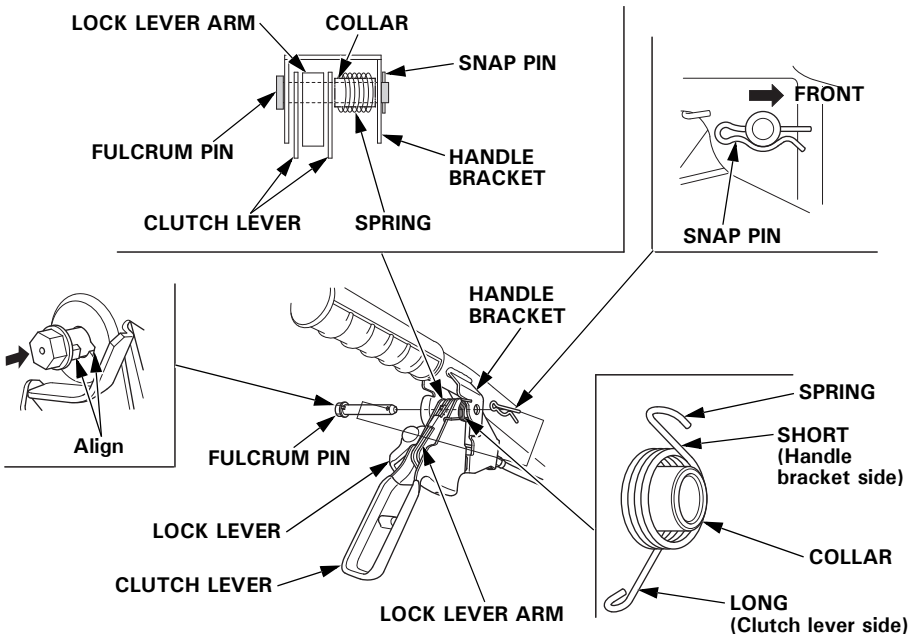
7. Clutch lever cleaning

If the lock lever and clutch lever do not operate smoothly, or the clutch engages by squeezing the clutch lever without pushing the lock lever, disassemble and clean the clutch lever.

NOTE:
Be aware of the spring and collar coming off when you disassemble the clutch lever. The spring and collar are located in between the right side of the clutch lever and the handle bracket.

1. Pull off the snap pin from the lever fulcrum pin.
2. By holding the clutch lever, spring and collar, pull out the lever fulcrum pin.
   Detach the clutch lever, spring and collar.
3. Remove any dirt or foreign objects.
   Wipe off and clean the fulcrum of the clutch lever and lock lever arm.

NOTE:
Do not apply any oil or cleaner liquid to the clutch lever, lock lever and lock lever arm.
Oil or cleaner liquid will attract dirt and foreign objects.

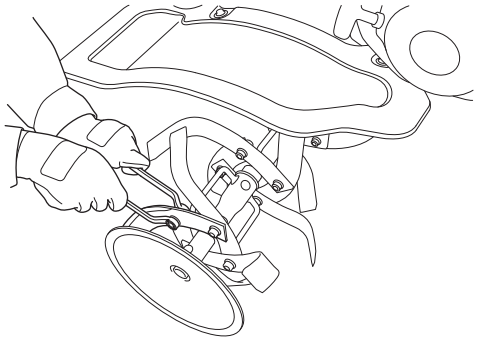


4. Set the collar to the spring, and position them between the right side of the clutch lever and the handle bracket (see page 50).
   With the spring and collar set in this position, slide in the lever fulcrum pin.
5. Align the projection on the lever fulcrum pin to the groove on the side of the handle bracket hole and then set the snap pin in the direction shown in the illustration (see page 50).
6. Check the lock lever and clutch lever for smooth operation.
   If the lock lever and clutch lever do not operate smoothly, or the clutch engages by squeezing the clutch lever without pushing the lock lever, take the tiller to an authorized Honda dealer.

8. Rotary tines inspection and replacement (SER and DER types)

⚠WARNING

- **Wear heavy gloves to protect your hands.**
- **Carry out the check or replacement work with the tiller on the level spot and the engine stopped. Disconnect the spark plug cap to prevent an accidental start-up.**



Before starting check or replacement work, set the front wheel (DER type) to the DOWN position (see page 34) and place the tiller on a firm level ground and secure it not to move.
Turn the fuel valve to the OFF position.

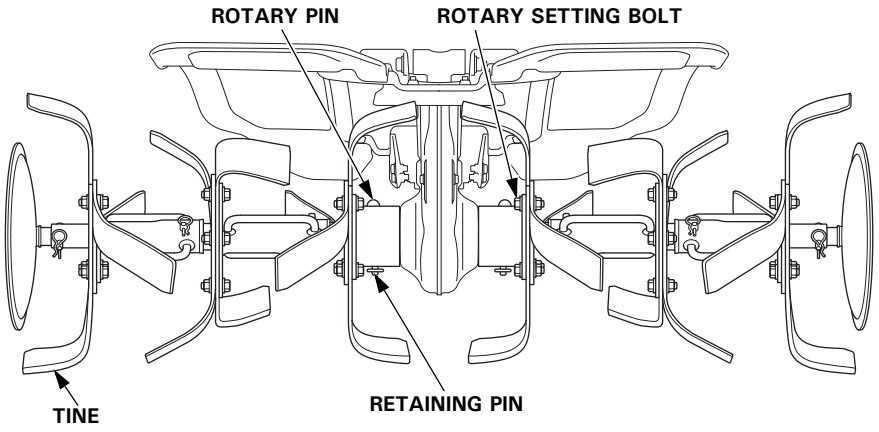
Inspection:

1. Check for damage, bent, or loose tines. If abnormality is found, tighten or replace the damaged part.

2. Check the rotary setting bolt for looseness, tighten if necessary.

3. Check the rotary pins and retaining pins for damage or missing, replace with new one if necessary (see pages 56 and 57)

NOTE:
Use genuine Honda parts or equivalent when replacing the rotary tines.

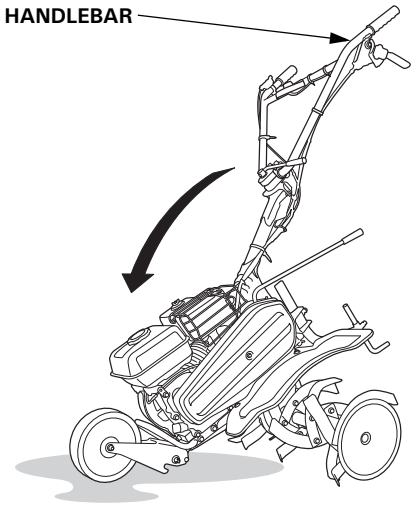


Rotary and side disk removal:

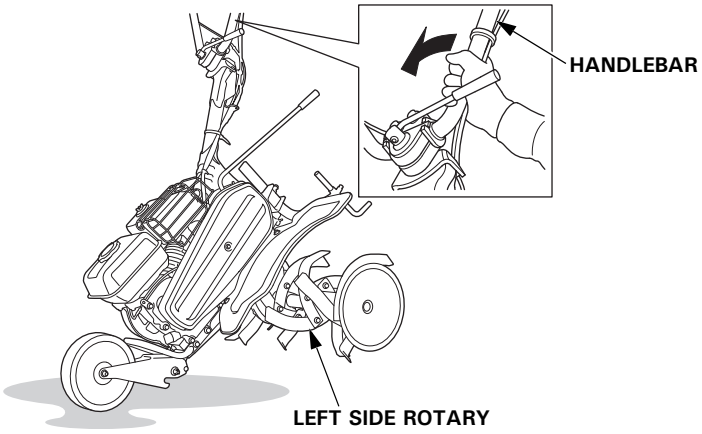
- DER type:

  Set the front wheel to the UP position (see page 34).

1. Pull up the handlebar while holding it to contact the front wheel (DER type) or front end of the tiller to the ground.



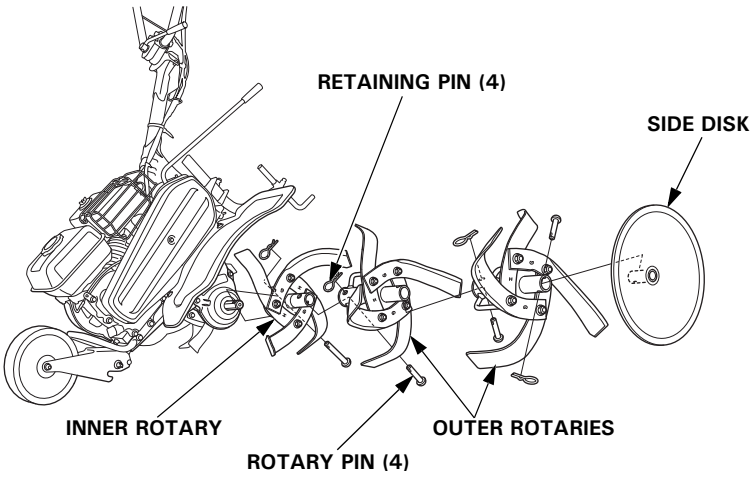
2. Grip the handlebar and push it in the direction of the arrow to lift the nearest rotary off the ground. Keep this condition.
   Do not pull the cables while gripping the handlebar.
   Pay attention, when tilting the tiller. The gasoline may leak if the tilting angle is more than necessary.



3. Remove the retaining pins and rotary pins, then remove the side disk and outer rotaries.

4. Remove the retaining pin and rotary pin, then remove the inner rotary.

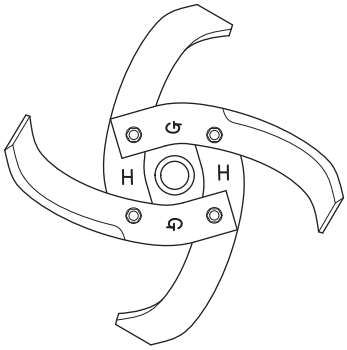
5. The opposite side rotary/side disk is similar.



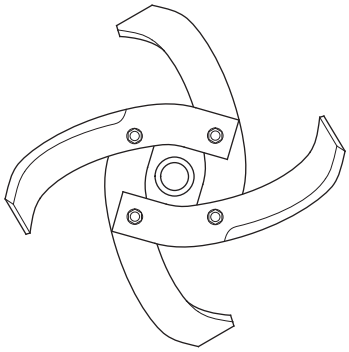
Rotary and side disk installation:

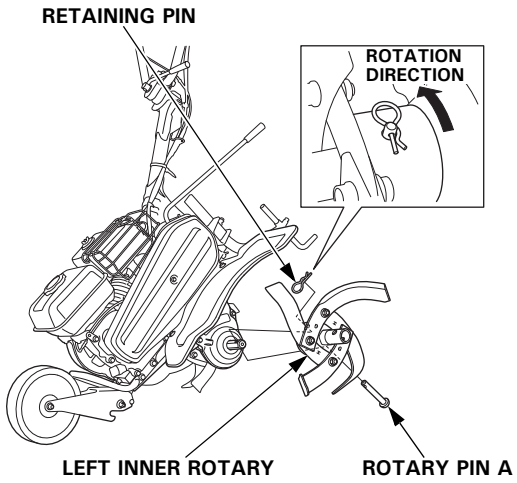
1. Install the inner rotary to the axle.
- The "G" and "H" mark on the left side inner rotary is visible.
- The "G" and "H" mark on the right side inner rotary will be invisible.

LEFT INNER ROTARY
(Viewed from outer rotary side)



RIGHT INNER ROTARY
(Viewed from outer rotary side)





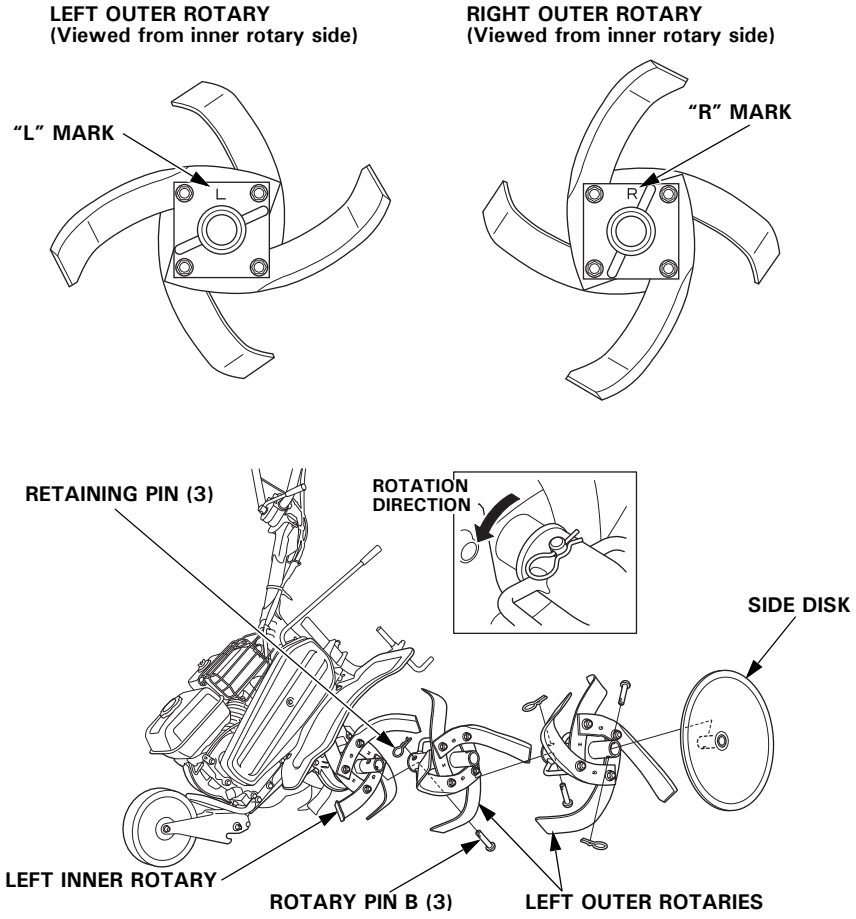
2. Insert the rotary pin A and set the retaining pin.

3. Install the outer rotaries with the “R” (right rotary) mark or “L” (left rotary) mark facing toward the inner rotary as shown.

4. Insert the rotary pins B and set the retaining pins.

5. Install the side disk, then insert the rotary pin B and set the retaining pin.

6. The opposite side rotary/side disk is similar.

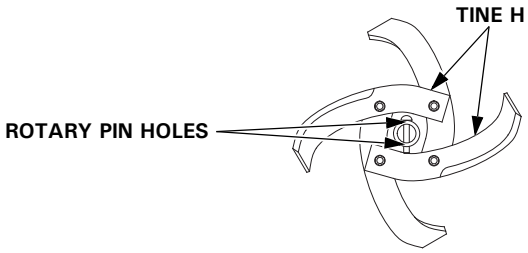


Tine installation:

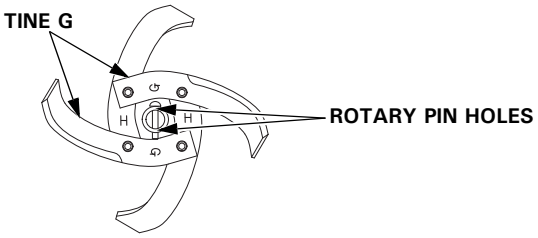
Install the tines properly.
Incorrect arrangement of the tines or installing the tines in the wrong direction will cause vibration and hinder proper tilling.

Two types of tines (G and H) are provided. Tine G has engraved “G” mark on its face and tine H has “H” mark.

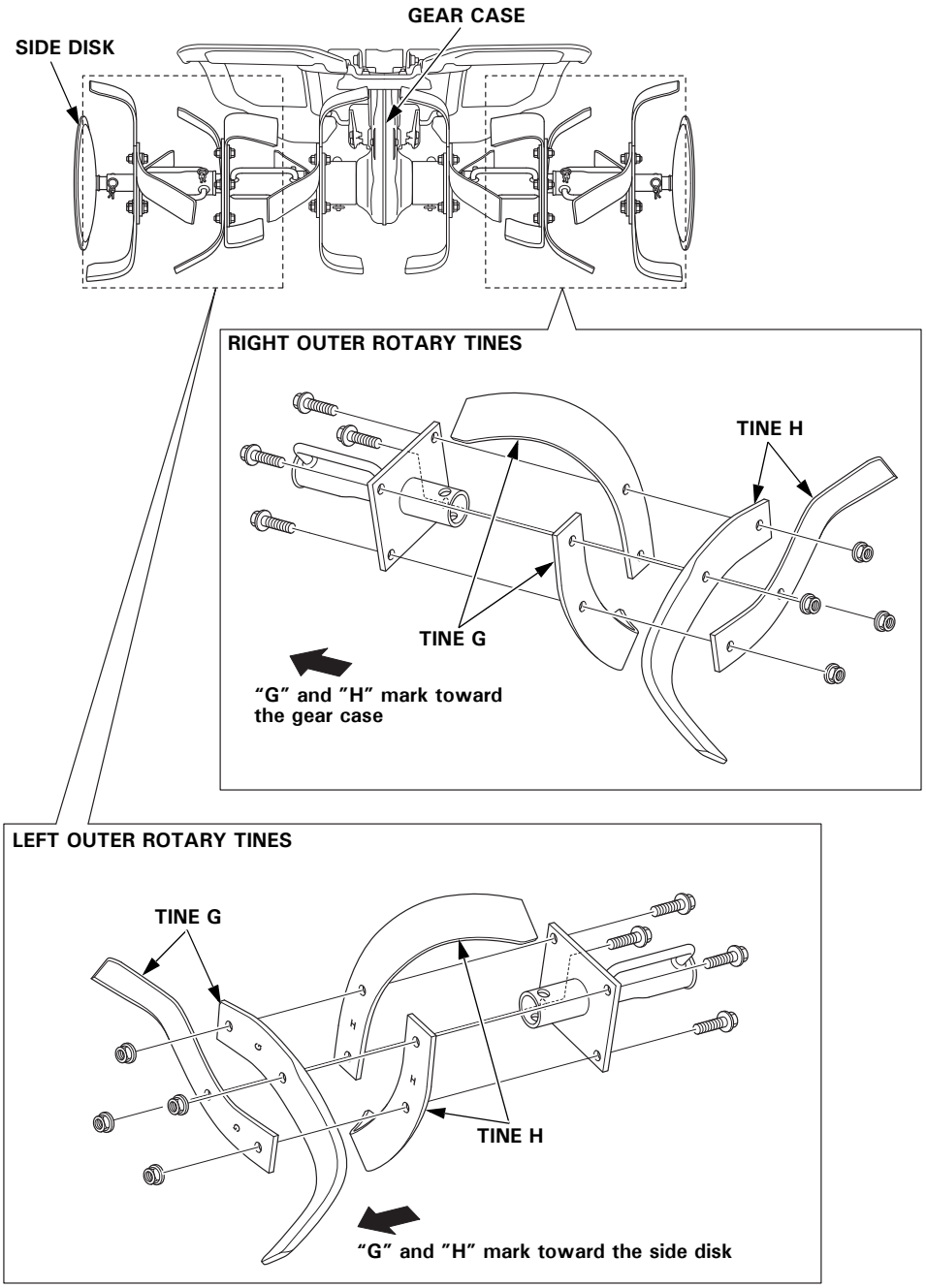
- **Right side:**
  Install the right side outer rotary tines and inner rotary tines with the “G” and “H” mark facing toward the gear case.
  (The “G” and “H” mark will be invisible from outside.)
  The tine “H” mark should align with the rotary pin holes.



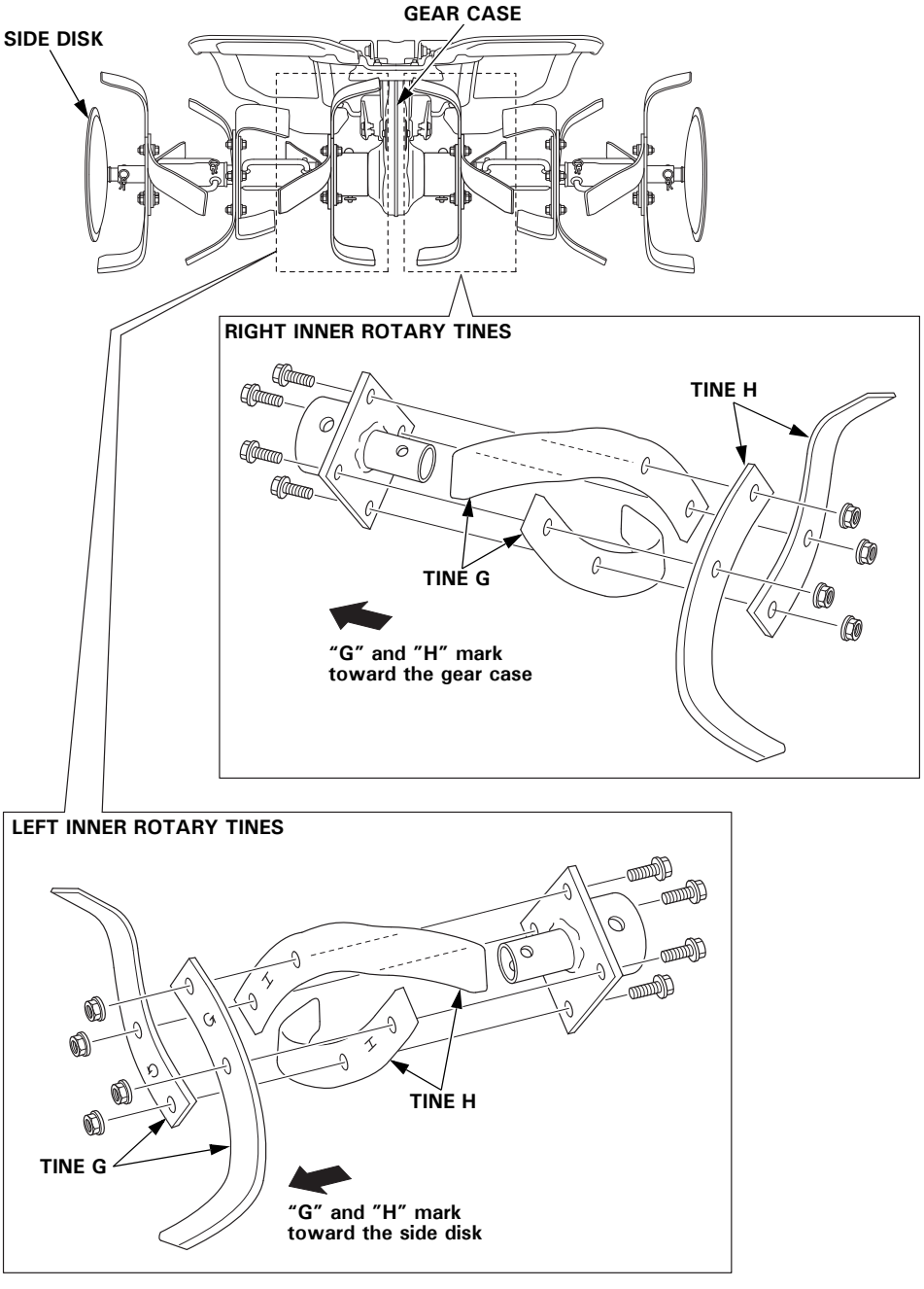
- **Left side:**
  Install the left side outer rotary tines and inner rotary tines with the “G” and “H” mark facing toward the side disk.
  The tine “G” mark should align with the rotary pin holes.



• Outer rotary tines



• Inner rotary tines



9. TRANSPORTING/STORAGE

⚠WARNING

When transporting the tiller, turn the fuel valve OFF and keep the tiller level to prevent fuel spillage. Fuel vapor or spilled fuel may ignite.

Before storing the unit for an extended period:
1. Be sure the storage area is free of excessive humidity and dust.
2. Drain the fuel:

⚠WARNING

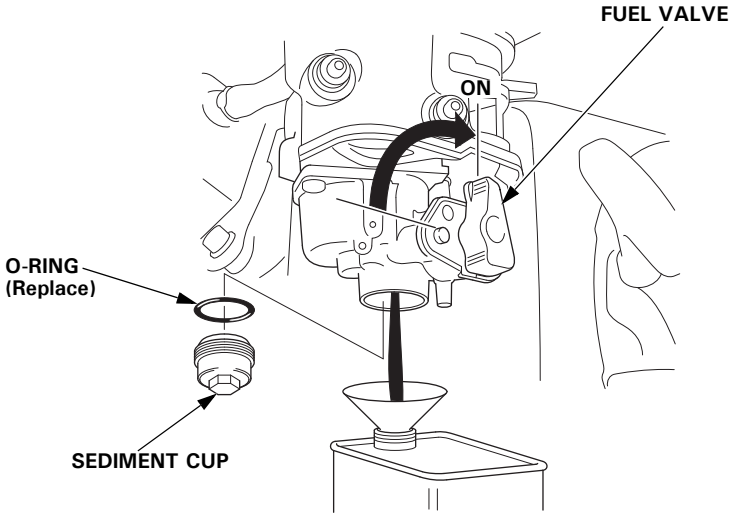
Gasoline is flammable and explosive under certain conditions. Do not smoke or allow flames or sparks near the equipment while draining fuel.

a. Place an approved gasoline container below the carburetor, and use a funnel to avoid spilling fuel.

To drain the gasoline of the caburetor only, place a suitable container under the caburetor and follow procedures “e.” and “f.”.

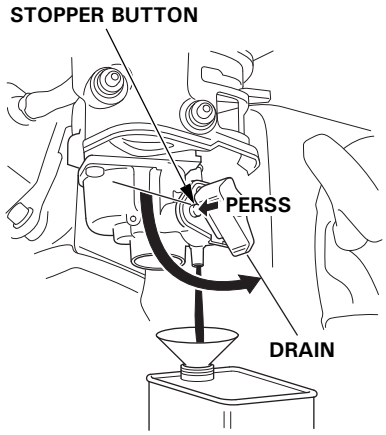
b. Remove the sediment cup and O-ring.

c. Turn the fuel valve to the ON position. Drain the gasoline into a suitable container.

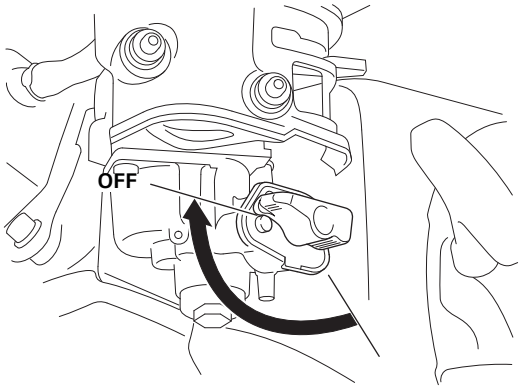


d. Allow the gasoline to drain completely, and turn the fuel valve to the OFF position.

e. Turn the fuel valve to the DRAIN position while keeping the stopper button pressed. Drain the gasoline into a suitable container.



f. Allow the gasoline to drain completely. Turn the fuel valve back to the OFF position so that it touches the stopper button.



g. Reinstall a new O-ring and the sediment cup. Tighten the sediment cup securely.

3. Pull the starter grip until resistance is felt. Continue pulling until the notch on the starter pulley aligns with the hole on the recoil starter. At this point, the intake and exhaust valves are closed, and this will help to the engine from internal corrosion.
4. Change engine oil.
5. Cover tiller with plastic sheet.

Do not place the tiller with the handlebars on the ground. It will cause the oil to enter the cylinder or fuel will spill over.

10. TROUBLESHOOTING

When the engine will not start:
1. Is there enough fuel?
2. Is the fuel valve to the ON position?
3. Is the engine switch to the ON position?
4. Is gasoline reaching the carburetor?
   To check, turn the fuel valve to the DRAIN position (see page 62). Fuel should flow out freely. Turn the fuel valve to the OFF position.

⚠WARNING

If any fuel is spilled, make sure the area is dry before starting the engine. Spilled fuel or fuel vapor may ignite.

5. Is the spark plug in good condition?

   Remove and inspect the spark plug. Clean, readjust gap and dry the spark plug. Replace it if necessary.

6. If the engine still does not start, take the tiller to an authorized Honda dealer.

11. SPECIFICATIONS

Model	FJ500-SE	FJ500-SER	FJ500-DE	FJ500-DER
Description code	FAAC			

Dimensions and weight

Model	FJ500-SE	FJ500-SER	FJ500-DE	FJ500-DER
Length	1,395 mm (54.9 in)		1,435 mm (56.5 in)	
Width	610 mm (24.0 in)	925 mm (36.4 in)	610 mm (24.0 in)	925 mm (36.4 in)
Height	990 mm (39.0 in)		1,015 mm (40.0 in)	
Dry mass [weight]	45 kg (99 lbs)	57 kg (126 lbs)	49 kg (108 lbs)	62 kg (137 lbs)

Engine

Model	GX160
Type	4-stroke, 1-cylinder, OHV, forced air cooled
Displacement	163 cm^3 (9.9 cu-in)
Bore × Stroke	68.0 × 45.0 mm (2.68 × 1.77 in)
Ignition system	Transistor magneto
Spark plug	BPR5ES (NGK), W16EPR-U (DENSO)
Engine oil capacity	0.58 L (0.61 US qt, 0.51 Imp qt)
Fuel tank capacity	2.4 L (0.63 US gal, 0.53 Imp gal)

Drive train

Model	FJ500-SE	FJ500-SER	FJ500-DE	FJ500-DER
Clutch	Belt tension type			
Transmission	Forward 1 reverse 1		Forward 2 reverse 1	
Transmission oil capacity	0.95 L (1.00 US qt, 0.84 Imp qt)			

Noise and vibration

Type	SE, SER	DE, DER
Sound pressure level at operator's ears (EN ISO 11200: 1995)	81 dB (A)	81 dB (A)
Uncertainty	2 dB (A)	2 dB (A)
Measured sound power level (Reference to the motor hoe of 2000/14/EC, 2005/88/EC)	96 dB (A)	96 dB (A)
Uncertainty	2 dB (A)	2 dB (A)
Vibration level at hand arm (EN1033: 1995)	5.8 m/s^2	7.8 m/s^2
Uncertainty (EN12096: 1997 Annex D)	2.3 m/s^2	3.1 m/s^2

NOTE: Specifications are subject to change without notice.