

HONDA

**TILLER
F210**

OWNER'S MANUAL

Thank you for purchasing a Honda tiller.

This manual covers operation and maintenance of the F210 tiller. All information in this publication is based on the latest product information available at the time of approval for printing.

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

No part of this publication may be reproduced without written permission.

This manual should be considered a permanent part of the tiller and should remain with the tiller if it is sold.

Pay special attention to statements preceded by the following words:

⚠ WARNING Indicates a strong possibility of severe personal injury or loss of life 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 the tiller, consult an authorized Honda 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 injury or equipment damage.

IMPORTANT NOTICE

This tiller is not equipped with a spark arrester. Operation on forest, bush or grass covered land may be illegal in some states. Check local laws and regulations before operation.

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1. WARNING LABEL LOCATIONS

HONDA F210
WARNING

- READ OWNER'S MANUAL FIRST FOR SAFE OPERATION.
- EXHAUST GASES ARE POISONOUS AVOID INHALATION. DO NOT OPERATE IN A CONFINED AREA.
- GASOLINE IS FLAMMABLE AND EXPLOSIVE. STOP ENGINE BEFORE REFUELING. DO NOT OVERFILL. CHECK FOR SPILLED FUEL OR LEAKAGE BEFORE STARTING.
- DO NOT TILT TILLER EXCESSIVELY OR FUEL MAY SPILL.

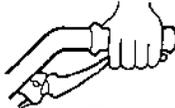
CAUTION

- BE SURE CRANKCASE IS FILLED WITH THE RECOMMENDED OIL BEFORE STARTING ENGINE.
- TURN FUEL VALVE OFF WHEN ENGINE IS STOPPED TO AVOID FUEL LEAKAGE.
- FUEL: GASOLINE(PETROL) ONLY

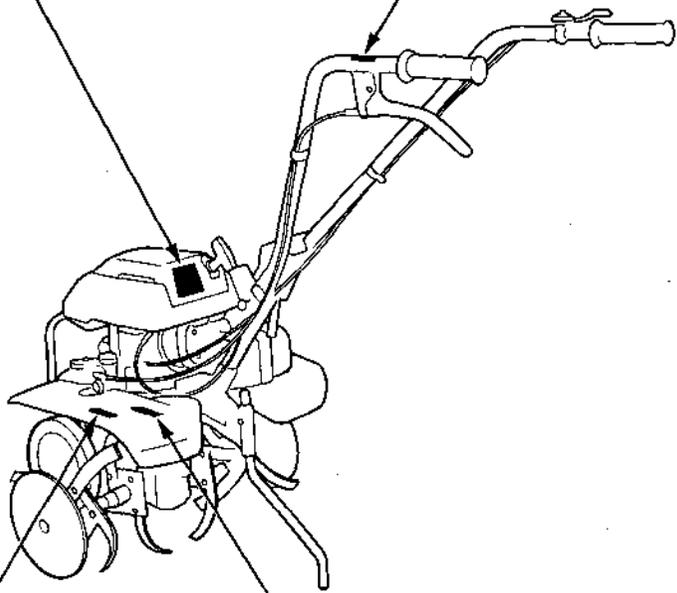
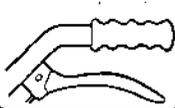
HONDA MOTOR CO., LTD. MADE IN JAPAN

MAIN CLUTCH

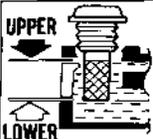
- ENGAGE



- DISENGAGE



ENGINE OIL FILLER CAP



- CHECK THE OIL LEVEL BEFORE STARTING.
- FILL UP TO UPPER MARK WITH RECOMMENDED OIL.

CHECK OIL LEVEL

TRANSMISSION OIL

OIL FILLER CAP

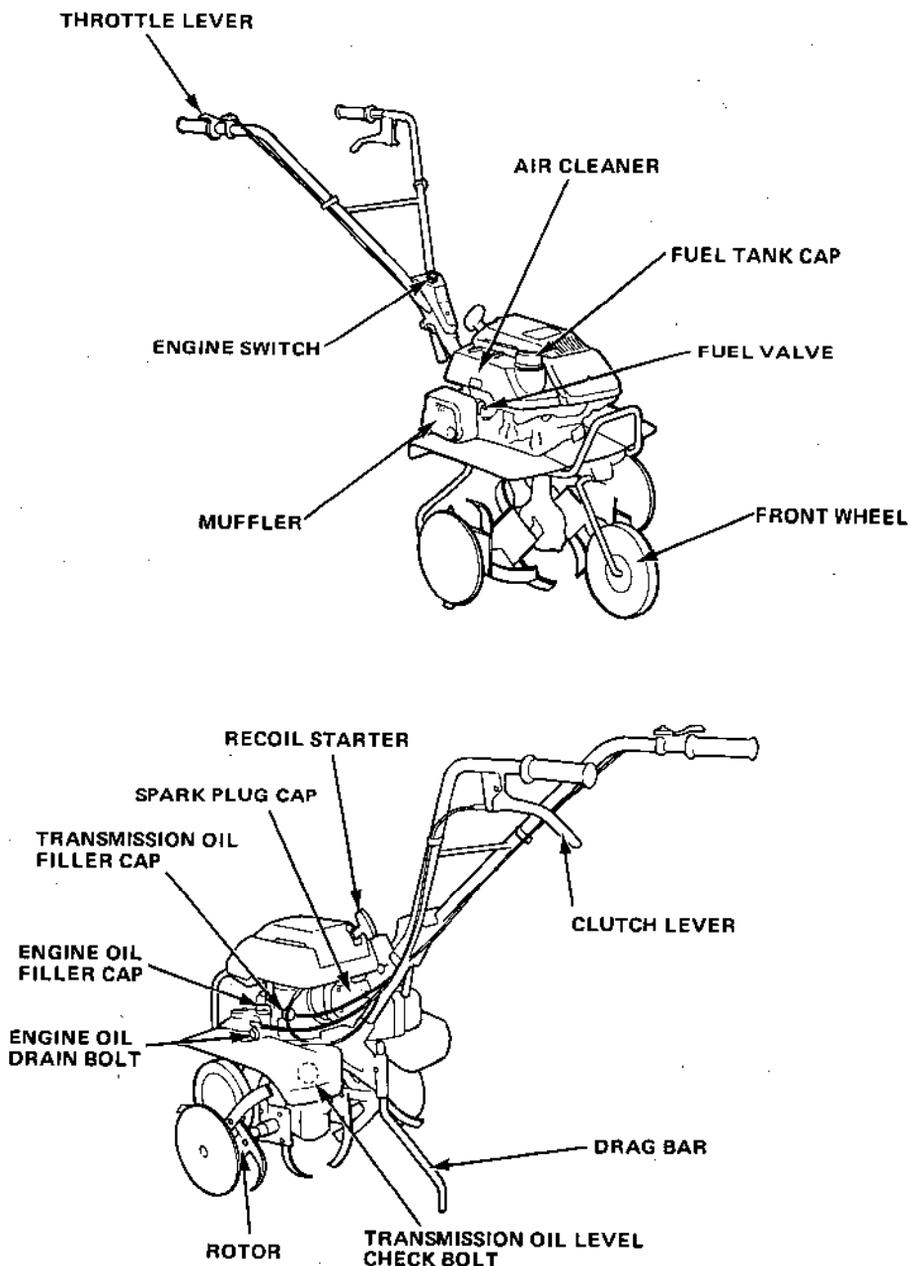
2. TILLER SAFETY

WARNING

To ensure safe operation —

- **READ THIS OWNER'S MANUAL CAREFULLY.**
- Never permit anyone to operate the tiller without proper instruction.
- Know how to stop the tiller quickly and understand the operation of all the controls.
- Keep children and pets at a safe distance when tilling.
- Wear close-fitting clothing and sturdy, nonslip shoes that completely enclose the feet.
- Make sure that all fasteners are properly secured.
- When tilling on an incline, keep the fuel tank less than half full to minimize fuel spillage.
- Always stop the engine before cleaning the tines or making adjustments.
- Do not operate the tiller with any of its covers removed.
- Keep a firm hold on the handlebars; they may tend to lift during clutch engagement.
- Clear the area to be tilled by picking up any stones, wire, glass, large sticks, metal, etc.
- If the tiller strikes an object while tilling, stop the engine and check for damage.
- Stop the engine whenever you leave the tiller. Never allow it to idle unattended.

3. COMPONENT IDENTIFICATION



4. PRE-OPERATION CHECK

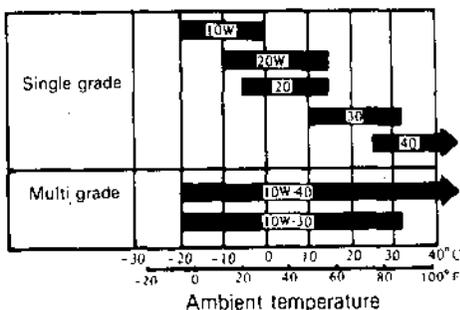
1. Engine oil level

CAUTION:

- Engine oil is a major factor affecting engine performance and service life. Non-detergent or vegetable oils are not recommended.
- Be sure to check the tiller on a level surface with the engine stopped.

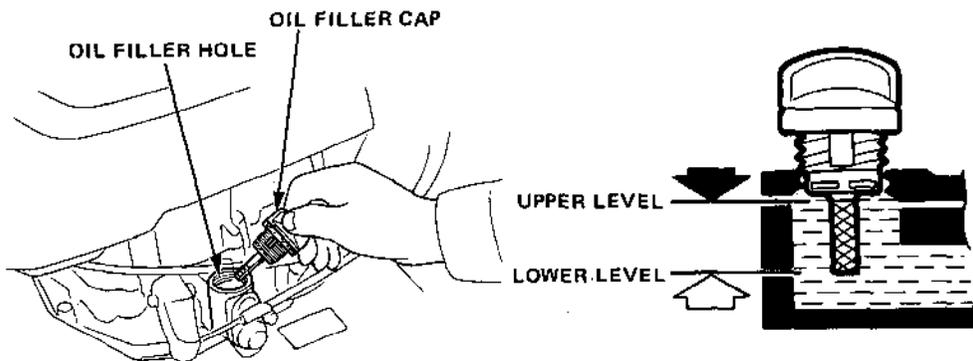
Use Honda 4-stroke oil, or an equivalent high detergent, premium quality motor oil certified to meet or exceed U.S. automobile manufacturer's requirements for Service Classification SE or SF. (Motor oils classified SE or SF will show this designation on the container.)

SAE 10W-40 is recommended for general, all-temperature use. If single viscosity oil is used, select the appropriate viscosity for the average temperature in your area.



1. Remove the oil filler cap and wipe the dipstick clean.
2. Insert the dipstick into the oil filler hole, but do not screw it in.
3. If the oil level is low, add enough recommended oil to bring it to the upper level mark on the dipstick.

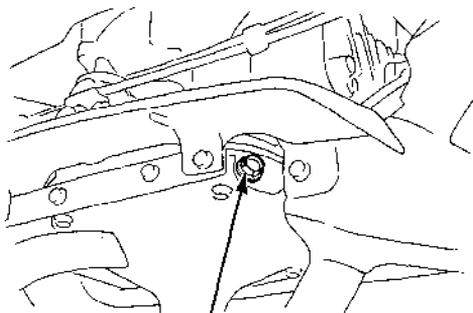
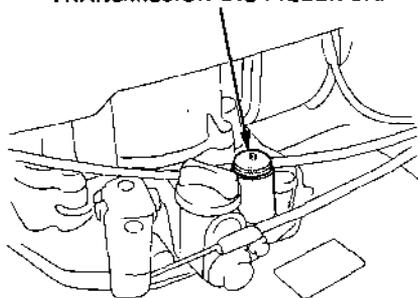
CAUTION: Running the engine with insufficient oil can cause serious engine damage.



2. Transmission gear oil

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

TRANSMISSION OIL FILLER CAP



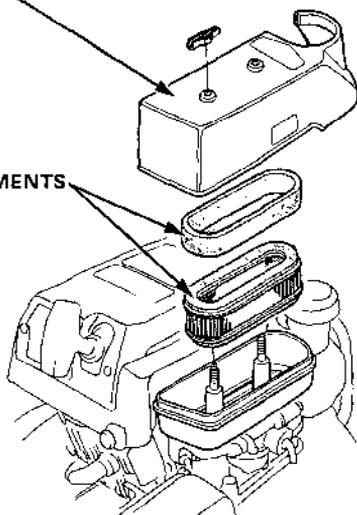
TRANSMISSION OIL LEVEL
CHECK BOLT

3. Air cleaner

Check cleaner for dirt or obstruction of elements.

AIR CLEANER COVER

ELEMENTS



4. Fuel

Use any regular grade automotive gasoline (unleaded gasoline is preferred) with a pump octane rating of 86 or higher.

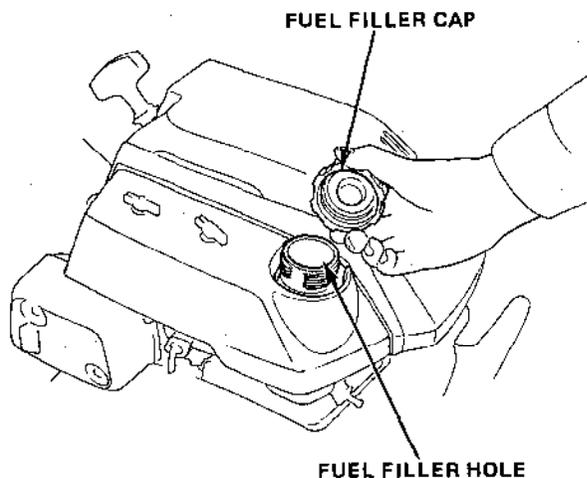
Never use an oil/gasoline mixture or dirty gasoline. Avoid getting dirt, dust or water in the fuel tank.

CAUTION: Gasoline substitutes are not recommended; they may be harmful to fuel system components.

WARNING

- Gasoline is extremely flammable and 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 tank and make sure the filler cap is securely closed after refueling.
- Be careful not to spill fuel when refueling. Fuel vapor or spilled fuel may ignite. If any fuel is spilled, make sure the area is dry before starting the engine.

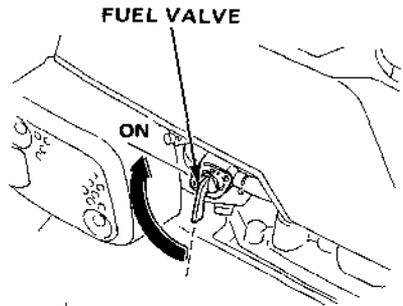
Fuel tank capacity: 0.9 l (0.95 US qt)



5. STARTING THE ENGINE

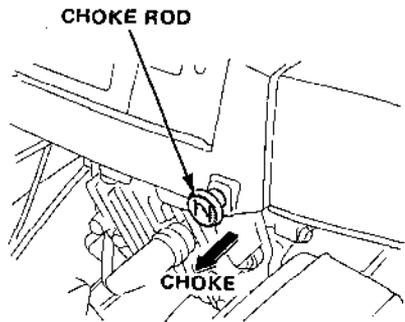
CAUTION: Be sure the clutch is disengaged.

1. Turn the fuel valve ON.

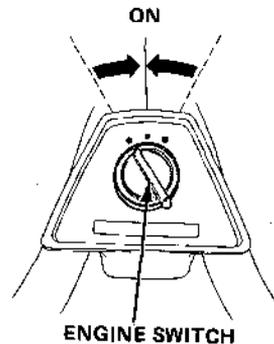


2. Pull the choke rod out.

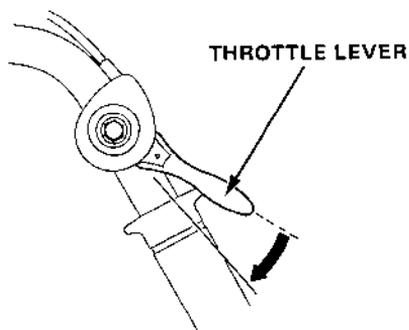
NOTE: Do not use the choke if the engine is warm or the air temperature is high.



3. Turn the engine switch to the ON position.

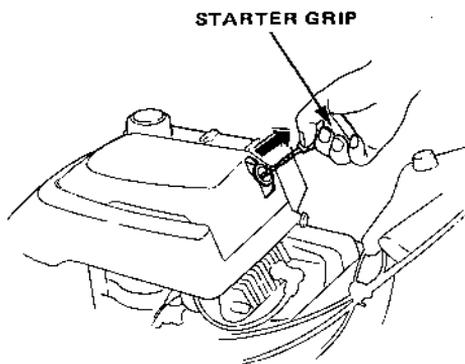


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4. Move the throttle lever slightly to the left.

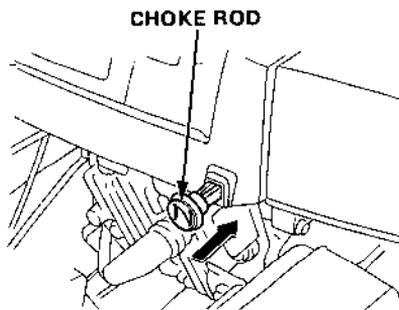


5. Pull the starter grip lightly until resistance is felt, then pull briskly.

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



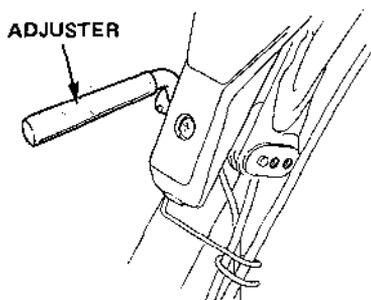
6. Push the choke rod in as the engine warms up.



1. Handlebar height adjustment

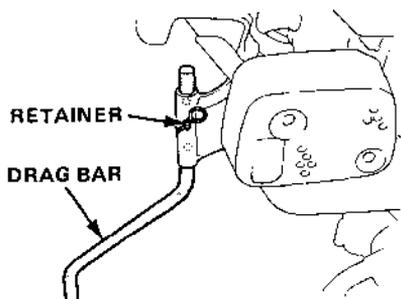
CAUTION: Before adjusting the handlebar, place the tiller on firm level ground to prevent the handle from collapsing accidentally.

To adjust the handlebar height, loosen the adjuster, select the appropriate holes and tighten the adjuster.



2. Tilling depth adjustment

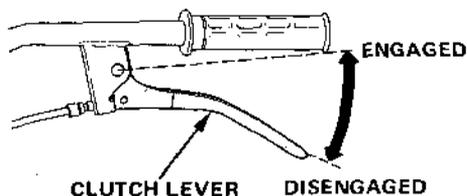
Tilling depth can be adjusted by removing the retainer and sliding the drag bar up or down as necessary.



3. Clutch

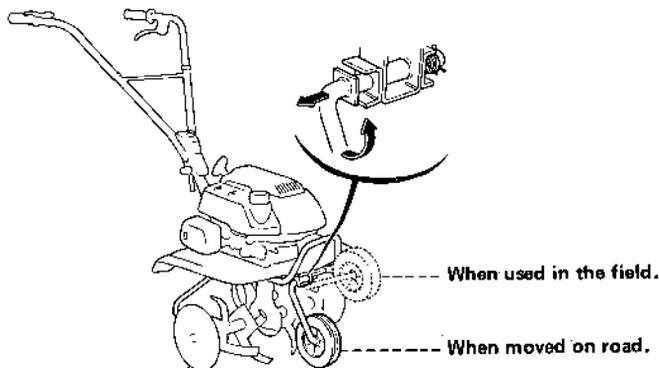
The clutch engages and disengages the power from the engine to the tines. When the clutch lever is squeezed, the clutch is engaged and power is transmitted to the tines.

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



4. Front wheel

- To move the tiller from place to place when not tilling:
Working from the right side of the tiller, pull the wheel arm toward you, pivot the wheel down and then release the wheel arm. Be sure that the arm locks in place.
- To prepare for tilling:
Pull the wheel arm out, pivot the wheel up and release the arm.

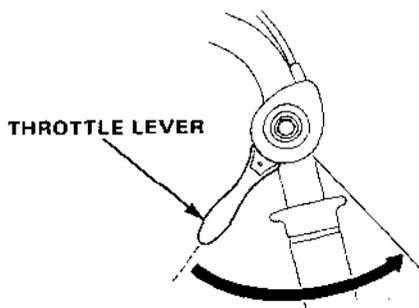


5. Handling tips

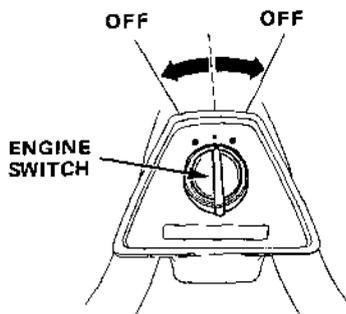
- Adjust the handlebar height to a comfortable position (waist height for normal tilling).
- If the machine jerks forward while tilling, press down on the handlebars.
- If the tines start to dig in and the machine will not move forward, move the handlebars from side to side.
- When turning, push down on the handlebars to bring the tiller's weight to the rear; this will make turning easier.

7. STOPPING THE ENGINE

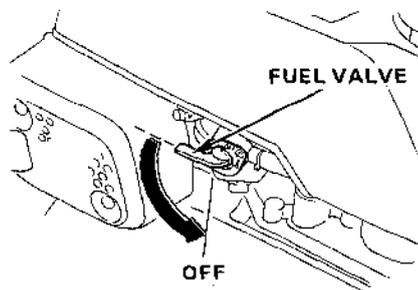
1. Move the throttle lever fully to the right.



2. Turn the engine switch to either OFF position.



3. Turn the fuel valve OFF.



NOTE: In case of an emergency, turn the engine switch to the OFF position immediately.

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. If the engine must be run, make sure the area is well ventilated. The exhaust contains poisonous carbon monoxide gas.

CAUTION: Use only genuine HONDA parts or their equivalent. The use of replacement parts which are not of equivalent quality may damage the engine.

Maintenance Schedule

REGULAR SERVICE PERIOD Perform at every indicated month or operating hour interval, whichever occurs first		Daily	First month or 20 Hrs.	Every 3 months or 50 Hrs.	Every 6 months or 100 Hrs.	Every year or 300 Hrs.
Engine oil	Inspection	○				
	Change		○		○	
Air cleaner element	Inspection	○				
	Cleaning			○ (1)		
Fuel strainer	Inspection	○				
	Cleaning				○	
Spark plug maintenance					○	
Transmission gear oil inspection		○				
Tappet clearance adjustment						○ (2)
Combustion chamber cleaning						○ (2)
Fuel tank cleaning						○ (2)
Clutch shoe (Replace, if necessary)						○ (2)
Clutch cable adjustment			○		○	
Throttle cable adjustment						○
Fuel line		Replace every 3 years.				

NOTE (1): Service more frequently when used in dusty areas.

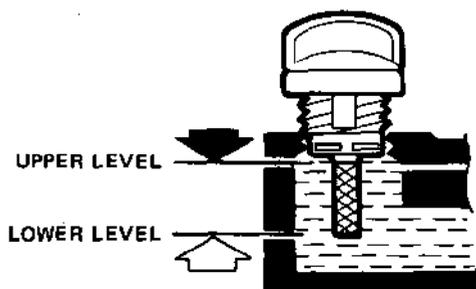
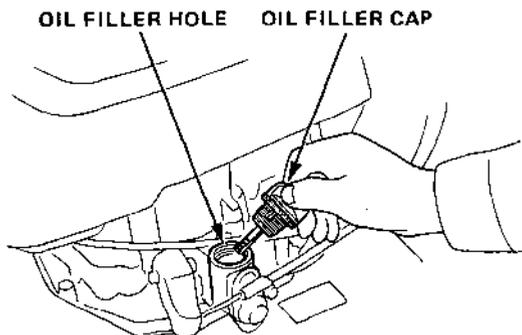
(2): These items should be serviced by an authorized Honda dealer, unless the owner has the proper tools and is mechanically proficient. See the Honda Shop Manual.

1. Changing oil

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

1. Remove the oil drain bolt and the filler cap to drain.
2. Reinstall the drain bolt and fill the crankcase to the upper level with the recommended oil (P. 6).
3. Reinstall and tighten the filler cap.

OIL CAPACITY: 0.4 ℓ (0.42 US qt)



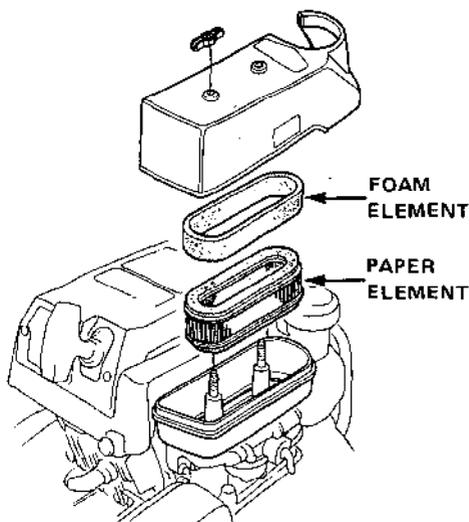
2. Air cleaner service

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 may 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. 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.
3. 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.



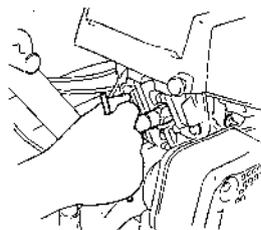
3. Spark plug service

Recommended spark plug: BMR-4A (NGK)
W14MR-U (ND)

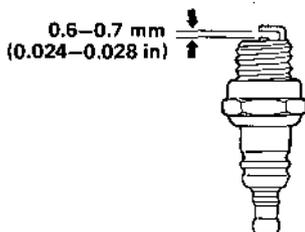
To ensure proper engine operation, the spark plug must be properly gapped and free of deposits.

1. Remove the spark plug cap.

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. The gap should be 0.6–0.7 mm (0.024–0.028 in). Correct as necessary by bending the side electrode.



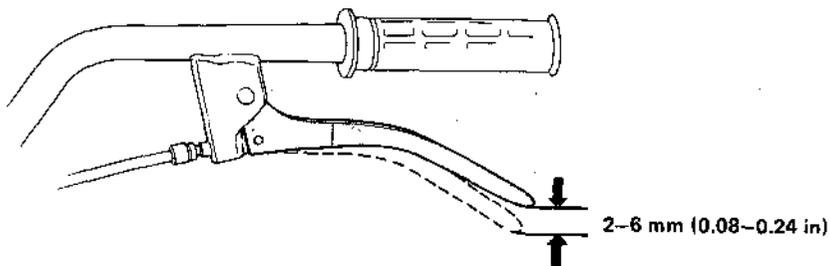
4. Thread the plug in by hand to prevent cross-threading.
5. After seating it by hand, tighten a new spark plug 1/2 turn with the wrench to compress the washer. If you are reusing a plug, it should only take 1/8–1/4 turn.

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.

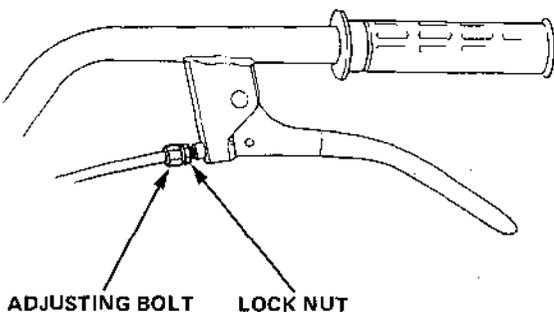
4. Clutch lever free play adjustment

1. Check the clutch lever free play at the lever tip as illustrated.

Clutch lever free play: 2–6 mm (0.08–0.24 in)



2. If the clearance is incorrect, loosen the lock nut and turn the adjusting bolt in or out as required.
3. After adjustment, tighten the lock nut securely. Then start the engine and check for proper clutch lever operation.

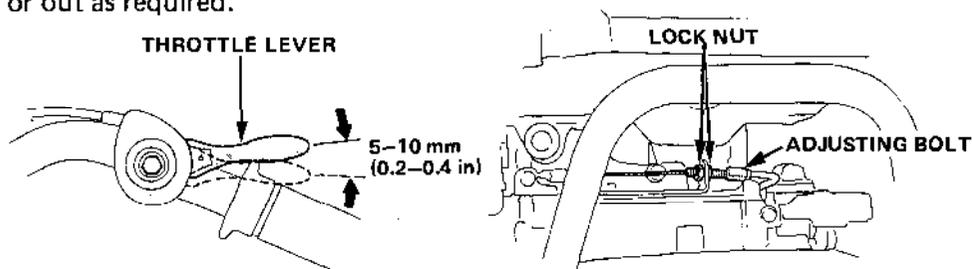


5. Throttle cable adjustment

Measure the free play at the lever tip.

Free play: 5–10 mm (0.2–0.4 in)

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



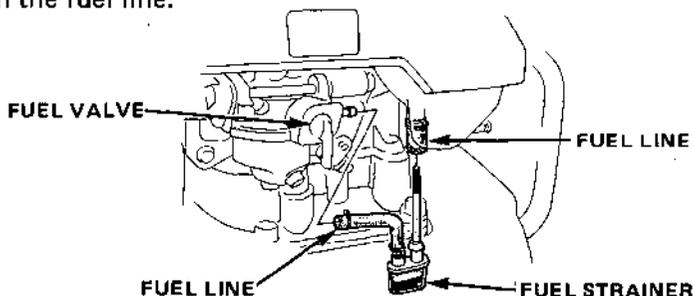
6. Fuel strainer cleaning

Water or sediment accumulated in the fuel strainer can cause loss of power or hard starting. To prevent engine malfunction, service the fuel strainer regularly.

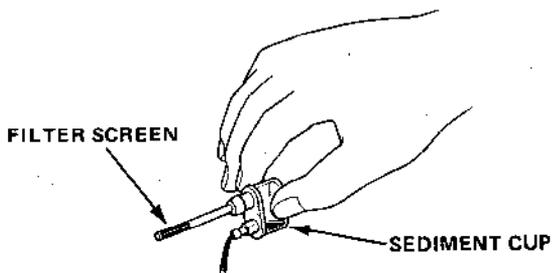
WARNING

- Gasoline is flammable and explosive under certain conditions. Do not smoke or allow flames or sparks near the equipment while draining fuel.
- Always work in a well-ventilated area.
- Be sure that any fuel drained from the mower is stored in a safe container.
- Wipe up any spilled gasoline at once.

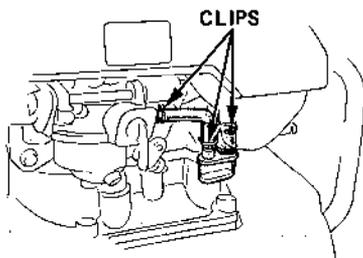
1. Turn the fuel valve to the off position. Disconnect the fuel line from the fuel valve and drain fuel into a safe container.
2. After the fuel tank has been drained thoroughly, remove the fuel strainer from the fuel line.



3. Remove water and sediment from the filter screen and sediment cup.



4. Reinstall the fuel strainer, reconnect the fuel lines and secure them with the clips.

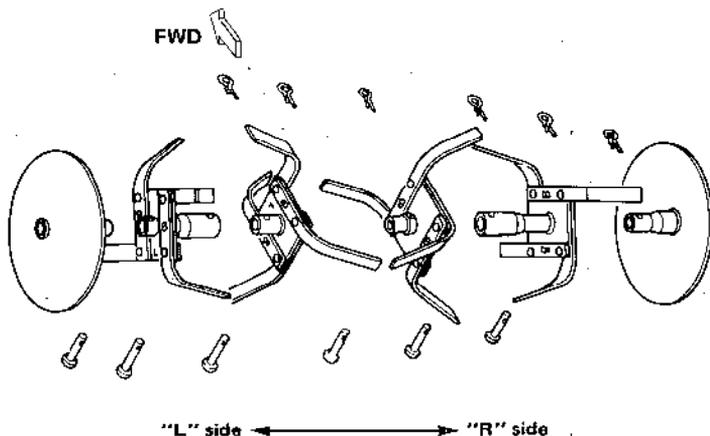


NOTE: Turn the fuel valve ON and check for leaks.

7. Rotor assembly

Install the tine assemblies and side disks as illustrated below.

NOTE: Use of the side disks is optional.



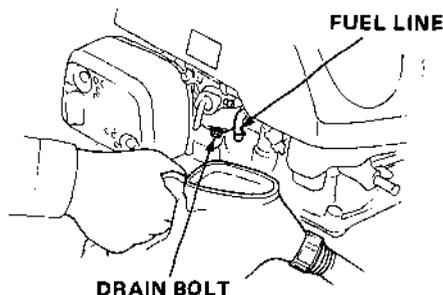
9. TRANSPORTING/STORAGE

Transporting

- Turn off the fuel valve.
- Keep the tiller level. Do not lay it on its side or lean it back on its handlebars.
- Tie the tiller down securely with a suitable strap or rope to prevent it from tipping over.

Preparation for storage (Over 30 days):

- Drain the gasoline from the fuel tank and carburetor:
Remove the fuel line from the fuel valve, and drain all gasoline from the fuel tank into a safe container.
Remove the carburetor drain bolt to drain gasoline from the carburetor. Reinstall the fuel line and tighten the drain bolt securely. Turn the fuel valve OFF.



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

- Pull the starter handle until resistance is felt. At this point the piston is coming up on its compression stroke and both the intake and the exhaust valves are closed. This will help to protect the engine from internal corrosion during storage.
- Drain the engine oil and refill the engine with fresh oil.
- Clean the tiller and coat areas of possible rust with a light film of oil.
- Coat the cylinder walls with oil. (If anticipated storage will exceed 1 year.)
Remove the spark plug and pour two or three tablespoonsful of clean oil into the cylinder.
Pull the starter handle slowly to distribute the oil over the cylinder walls.
Leave the piston on its compression stroke to close the valves.
Reinstall the spark plug.
- Cover the tiller and store on a level surface in a dry, dust-free area.
- Store the tiller in an upright position; otherwise, oil may enter the cylinder.

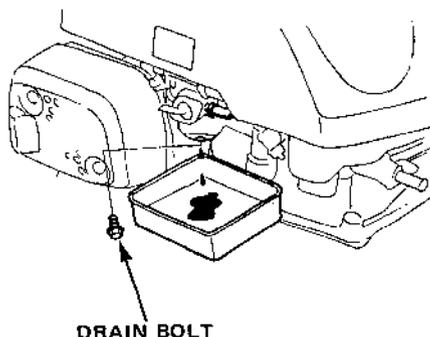
10. TROUBLESHOOTING

When the engine will not start;

1. Is there enough fuel?
2. Is the fuel valve on?
3. Is the engine switch ON?
4. Is gasoline reaching the carburetor?

To check, loosen the drain bolt with the fuel valve on. Fuel should flow out freely. Retighten the drain bolt.

WARNING If any fuel is spilled, make sure the area is dry before testing the spark plug or starting the engine. Fuel vapor or spilled fuel may ignite.



5. Is there a spark at the spark plug?
 - a. Remove the spark plug cap. Clean any dirt from around the spark plug base, then remove the spark plug.
 - b. Install the spark plug in the plug cap.
 - c. Turn the engine switch on.
 - d. Ground the side electrode to any engine ground and pull the recoil starter to see if sparks jump across the gap.
 - e. If there is no spark, replace the plug and check again.
If OK, try to start the engine according to the instructions.
6. If the engine still does not start, take the tiller to an authorized Honda dealer.

11. SPECIFICATIONS

Model	F210
Dimensions (L x W x H)	1,250 x 585 x 960 mm (49.2 x 23.0 x 37.8 in)
Dry weight	27.5 kg (60.6 lb)
Maximum handle height	1,030 mm (40.6 in)
Engine	
Model	GV100
Type	Single cylinder, 4-stroke, forced air cooled, side valve, gasoline
Displacement/Bore and stroke	90 cm ³ (5.5 cu in)/50 x 46 mm (1.97 x 1.81 in)
Ignition system	Transistorized ignition
Engine oil capacity	0.4 ℓ (0.42 US qt)
Fuel tank capacity	0.9 ℓ (0.95 US qt)
Spark plug	BMR-4A (NGK), W14MR-U (ND)
Clutch	Internal expanding shoe
Transmission	Planetary gear
Oil capacity	0.95 ℓ (1.0 US qt)

12. WARRANTY SERVICE (FOR U.S.A.)

Owner Satisfaction

Your satisfaction and goodwill are important to your dealer and to us. Normally, any problems with the product will be handled by your dealer's service department. Sometimes, however, despite the best intentions of all concerned, misunderstandings can occur if your problem has not been handled to your satisfaction, we suggest you take the following action:

- Discuss your problem with a member of dealership management. Often complaints can be quickly resolved at that level. If the problem has already been reviewed with the Service Manager, contact the owner of the dealership or the General Manager.
- If your problem still has not been resolved to your satisfaction, contact the Customer Relations Department at the regional office of American Honda Motor Co., Inc. in your area. Regional office locations are shown on the following page. We will need the following information in order to assist you:
 - Your name, address, and telephone number
 - Product model and serial number
 - Date of purchase
 - Dealer name and address
 - Nature of the problem

After reviewing all the facts involved, you will be advised of what action can be taken. Please bear in mind that your problem will likely be resolved at the dealership, using the dealer's facilities, equipment, and personnel, so it is very important that your initial contact be with the dealer.

Your purchase of a Honda product is greatly appreciated by both the dealer and American Honda Motor Co., Inc. We want to assist you in every way possible to assure your complete satisfaction with your purchase.

Current customer service contact information:

United States, Puerto Rico, and U.S. Virgin Islands:

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

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

American Honda Motor Co., Inc.
Power Equipment Division
Customer Relations Office
4900 Marconi Drive
Alpharetta, GA 30005-8847

Or telephone: (770) 497-6400 M-F, 8:30 am - 7:00 pm EST

When you write or call, please provide the following information:

- Model and serial numbers
- Name of the dealer who sold the Honda power equipment to you
- Name and address of the dealer who services your equipment
- Date of purchase
- Your name, address, and telephone number
- A detailed description of the problem

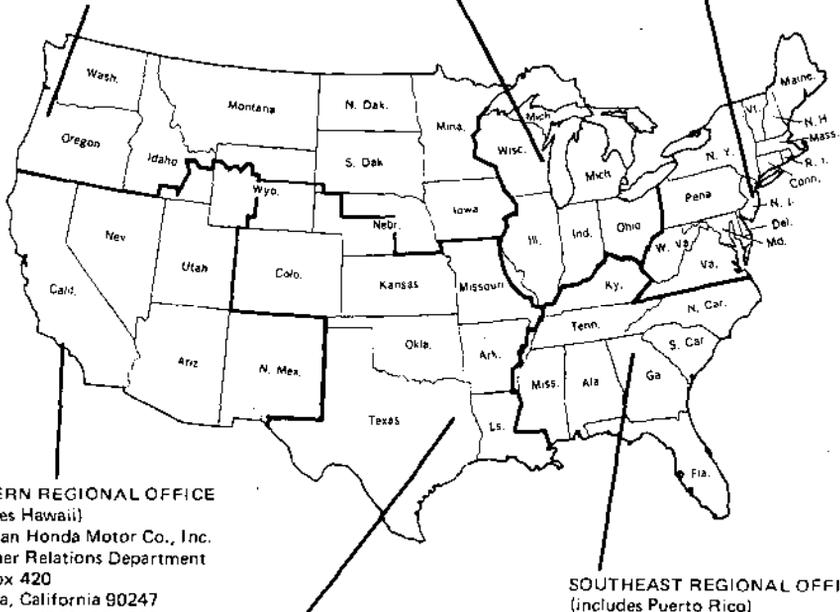
Regional Office Locations

NORTHWEST REGIONAL OFFICE

(includes Alaska)
American Honda Motor Co., Inc.
Customer Relations Department
P.O. Box 30285
Portland, Oregon 97220
Telephone: (503) 255-1186

MIDWEST REGIONAL OFFICE
American Honda Motor Co., Inc.
Customer Relations Department
P.O. Box 22
Greendale, Wisconsin 53129
Telephone: (414) 421-9300

NORTHEAST REGIONAL OFFICE
American Honda Motor Co., Inc.
Customer Relations Department
P.O. Box 749
Moorestown, New Jersey 08057
Telephone: (609) 778-1100



WESTERN REGIONAL OFFICE
(includes Hawaii)
American Honda Motor Co., Inc.
Customer Relations Department
P.O. Box 420
Gardena, California 90247
Telephone: (213) 604-2524

SOUTHWEST REGIONAL OFFICE
American Honda Motor Co., Inc.
Customer Relations Department
P.O. Box 5406
Irving, Texas 75062
Telephone: (214) 258-6883

SOUTHEAST REGIONAL OFFICE
(includes Puerto Rico)
American Honda Motor Co., Inc.
Customer Relations Department
6684 Jimmy Carter Boulevard
Norcross, Georgia 30071
Telephone: (404) 448-1992



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