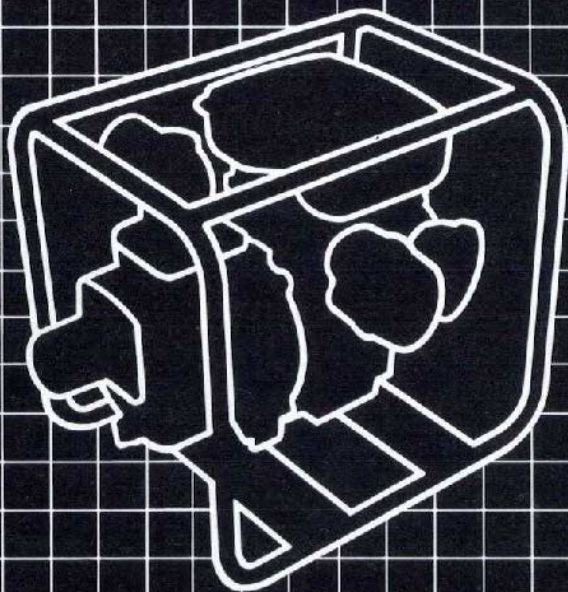


HONDA

Power

Equipment

Owner's Manual
WATER PUMP
WB20T•WB30T



Thank you for purchasing a Honda water pump.

This manual describes operation and maintenance of the Honda WB20T-WB30T water pumps. 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.

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

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

READ THIS OWNER'S MANUAL CAREFULLY. Pay special attention to these symbols and any instructions that follow:

▲ WARNING

— Indicates a strong possibility that serious injury or death could result if instructions are not followed.

▲ CAUTION

— Indicates a possibility that minor injury can result if instructions are not followed.

IMPORTANT NOTICE

— Indicates that equipment or property damage can result if instructions are not followed.

NOTE: Gives helpful information.

Honda water pumps are designed to give safe and dependable service if operated according to instructions. Operating this water pump requires special effort on your part to ensure your safety and the safety of others.

▲ WARNING

Using this product for a purpose not intended may cause injury or property damage. Read and understand this Owner's Manual before operating the water pump.

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

HONDA MOTOR CO., LTD. 1990, ALL RIGHTS RESERVED

CONTENTS

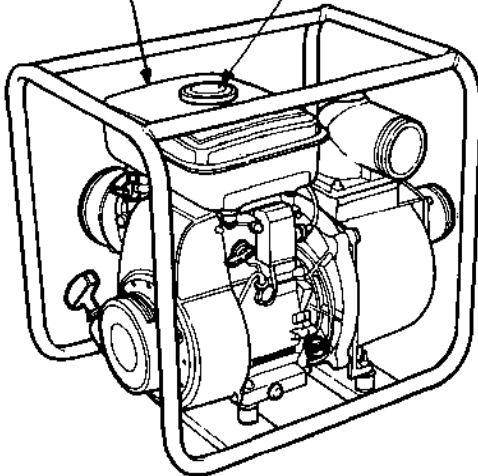
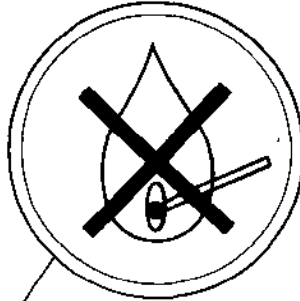
1. SAFETY INFORMATION	3
2. COMPONENT IDENTIFICATION	5
3. PRE-OPERATION CHECK	6
4. STARTING THE ENGINE	12
5. OPERATION	14
• High altitude operation	15
6. STOPPING THE ENGINE	16
7. MAINTENANCE	17
8. TRANSPORTING/STORAGE	25
9. TROUBLESHOOTING	27
10. SPECIFICATIONS	29
11. WARRANTY SERVICE	30

1. SAFETY INFORMATION

Read these labels before you operate the water pump.

GASOLINE WARNING LABEL

WARNING
DO NOT PUMP FLAMMABLE
OR CORROSIVE MATERIALS,
AN EXPLOSION OR FIRE
COULD RESULT, CAUSING
SEVERE PERSONAL INJURY.

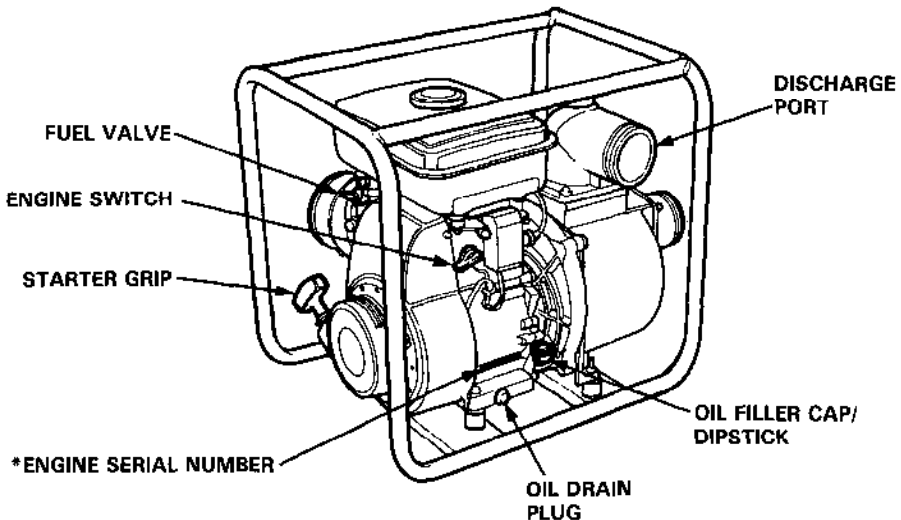
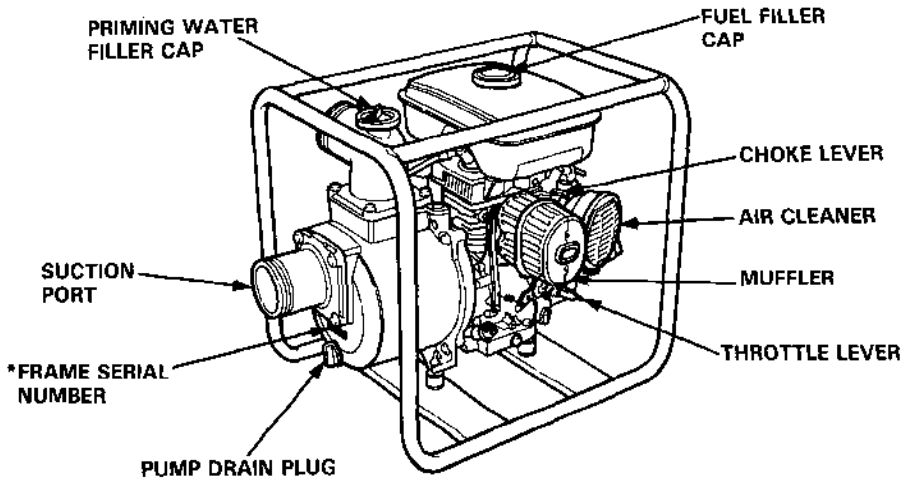


▲ WARNING

To ensure safe operation —

- For safety, never pump flammable or corrosive liquids such as gasoline or acid. Also, to avoid pump corrosion, never pump sea water, muddy water, chemical solutions, or caustic liquids such as used oil, wine, or milk.
- Place the pump on a firm, level surface. If the pump is tilted or overturned, fuel spillage may result.
- To prevent fire hazards and to provide adequate ventilation, keep the pump at least 1 meter (3 feet) away from buildings and other equipment during operation. Do not place flammable objects close to the pump.
- A spark arrester is available as an optional part for this pump. It is illegal in some areas to operate an engine without a spark arrester. Check local laws and regulations before operating.
- Know how to stop the pump quickly, and understand the operation of all controls. Never permit anyone to operate the pump without proper instructions.
- Do not allow children to operate the pump. Keep children and pets away from the area of operation.
- Gasoline is extremely flammable and is explosive under certain conditions. Do not smoke or allow flames or sparks where the pump is refueled or where gasoline is stored. Refuel in a well-ventilated area with the engine stopped. Do not overfill the tank. Make sure that the filler cap is closed securely.
- Exhaust gas contains poisonous carbon monoxide. Avoid inhalation of exhaust gasses. Never run the pump in a closed garage or confined area.
- 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 pump indoors.

2. COMPONENT IDENTIFICATION



Record the frame and engine serial numbers for our reference. Refer to the serial numbers when ordering parts, and when making technical or warranty inquiries (see page 30).

Frame serial number: _____

Engine serial number: _____

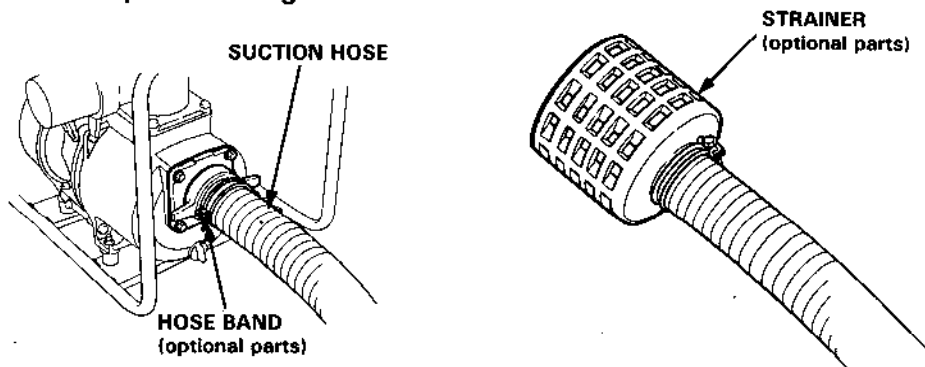
3. PRE-OPERATION CHECK

1. Suction hose (commercially available)

Use a reinforced-wall or wire braided hose to prevent suction collapse. Since the pump's self-priming time is directly proportional to hose length, a short hose is recommended.

Secure the hose with the hose band.

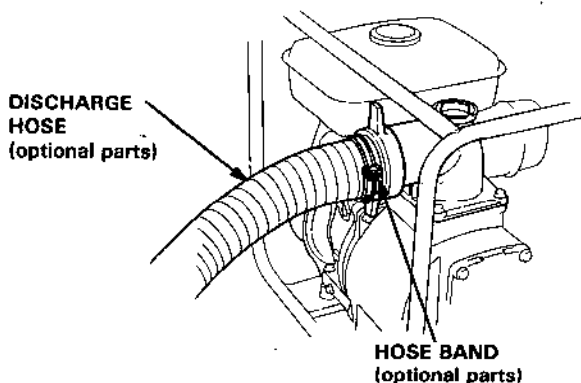
IMPORTANT NOTICE Always install the strainer on the end of the suction hose before pumping. Gravel or debris sucked into the pump will cause serious impeller damage.



2. Discharge hose (commercially available)

When using a fabric hose, always use a hose band to prevent the hose from disconnecting under high pressure.

NOTE: A short, large-diameter hose will provide lower fluid friction and improve efficiency.



3. Engine Oil

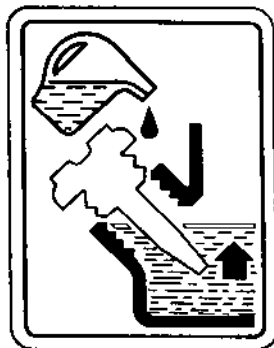
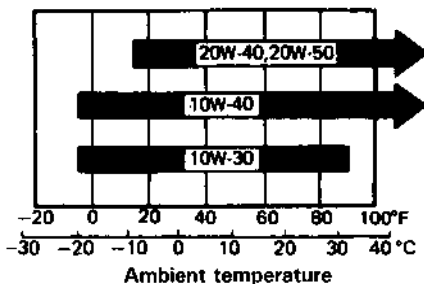
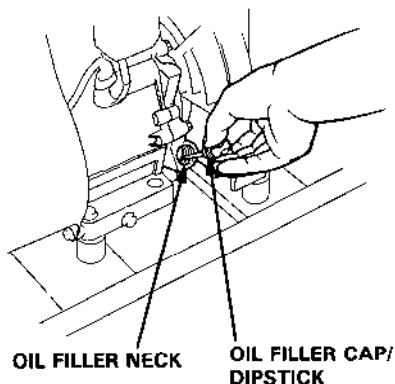
IMPORTANT NOTICE Running the engine with low oil level will cause serious engine damage.

1. Place the water pump on a level surface.
2. Remove the oil filler cap/dipstick and wipe it clean.
3. Check the oil level by inserting the dipstick in the filler neck without screwing it in.
4. If the level is low, fill to the top of the oil filler neck with the recommended oil.

Use high-detergent, premium quality 4-stroke engine oil, certified to meet or exceed U.S. automobile manufacturer's requirements for API Service Classification SG, SF/CC, CD.

IMPORTANT NOTICE Using nondetergent oil or 2-stroke engine oil could shorten the engine's service life.

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



4. Fuel

Unscrew the fuel filler cap. Check the fuel level.

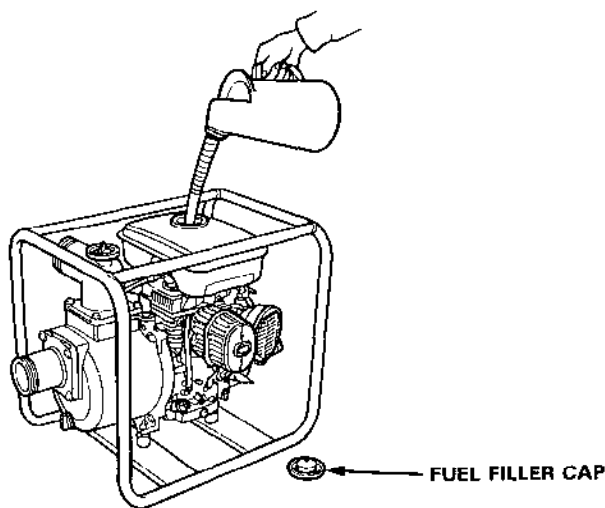
**FUEL TANK CAPACITY: WB20T...2.7 ℓ (0.71 US gal, 0.59 Imp gal)
WB30T...3.6 ℓ (0.95 US gal, 0.79 Imp gal)**

▲WARNING

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

- **Refuel in a well ventilated area with the engine stopped. Keep flames and sparks away, and do not smoke in the area.**
- **Gasoline vapors or spilled gasoline may ignite.**
- **Refuel carefully to avoid spilling gasoline. Avoid overfilling the fuel tank (there should be no gas in the filler neck). After refueling, tighten the fuel cap securely. If any gasoline was spilled, make sure the area is dry before starting the engine.**
- **After use, store the water pump on a level surface. Be sure the storage area is well ventilated; do not allow flames or sparks in the storage area.**

After refueling, be sure to tighten the fuel filler cap firmly.



Gasoline Recommendation

Pump octane rating: 86 or higher

We recommend unleaded gasoline because it produces fewer engine and spark plug deposits and extends the exhaust system life.

If “spark knock” (metallic rapping noise) or persistent “pinging” occurs at a steady engine speed under normal load, change brands of gasoline. If spark knock or pinging persists, see an authorized Honda water pump dealer.

IMPORTANT NOTICE Running the engine with persistent spark knock or pinging can cause engine damage.

Running the engine with persistent spark knock or pinging is considered misuse, and the Distributor’s Limited Warranty does not cover parts damaged by misuse.

Occasionally you may hear light spark knock while operating under heavy loads. This is no cause for concern. It simply means your engine is operating efficiently.

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

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 (see Gasoline Recommendation on page 9). There are two types of "gasohol": one containing ethanol, and the other containing methanol.

IMPORTANT NOTICE Using gasohol that contains more than 10% ethanol, or gasoline containing methanol (methyl or wood alcohol) that does not also contain cosolvents and corrosion inhibitors for methanol, can cause serious fuel system damage and poor engine performance.

Never use gasoline containing more than 5% methanol, even if it has cosolvents and corrosion inhibitors.

Honda cannot endorse the use of gasoline containing methanol since evidence of its suitability is as yet incomplete.

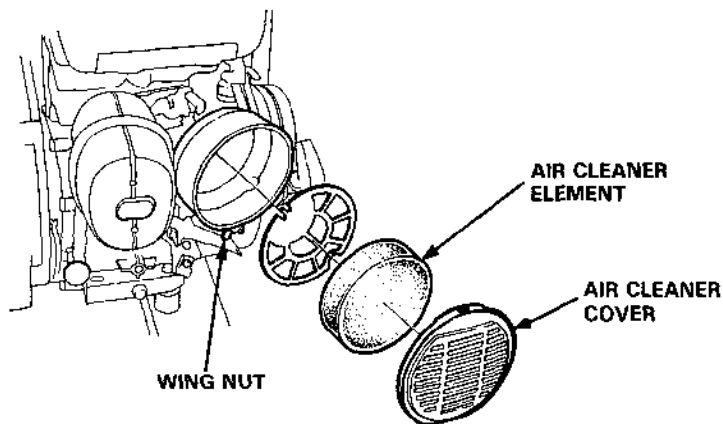
NOTE: Fuel system damage or engine performance problems resulting from the use of gasoline that contains alcohol is not covered under the warranty.

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.

NOTE: If you notice any undesirable operating symptoms while using a gasoline that contains alcohol, or one that you think contains alcohol, switch to a gasoline that you know does not contain alcohol.

5. Air cleaner

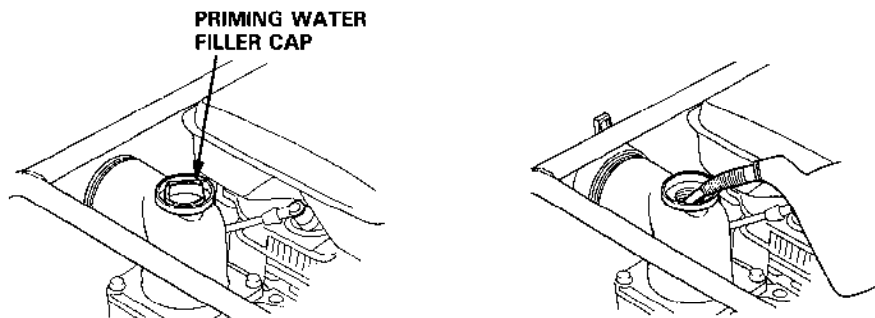
Loosen the wing nut and remove the air cleaner cover. Check the element for dirt or obstruction. Clean the element if necessary (see page 20).



6. Priming water

The pump chamber should be completely filled before operating.

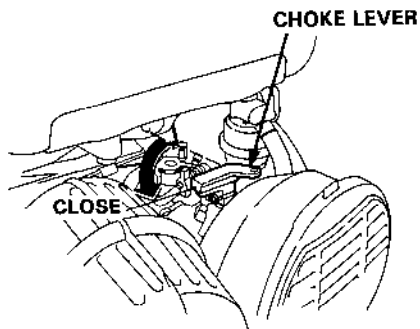
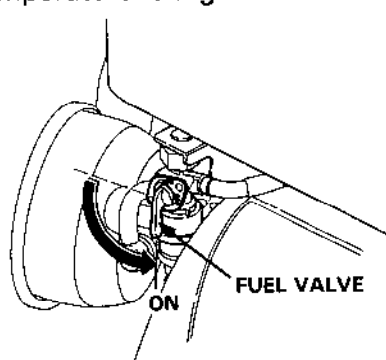
IMPORTANT NOTICE Never attempt to operate the pump without priming water or the pump will overheat. Extended dry operation will destroy the pump seal. If the unit has been operated dry, stop the engine immediately and allow the pump to cool before adding priming water.



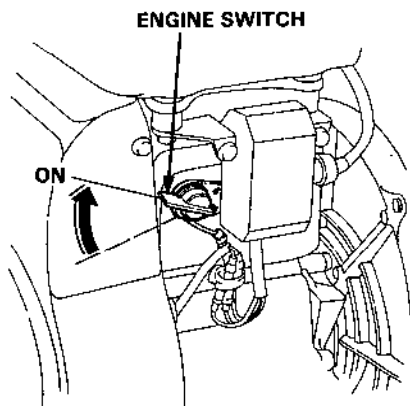
4. STARTING THE ENGINE

1. Turn the fuel valve ON.
2. Close the choke lever.

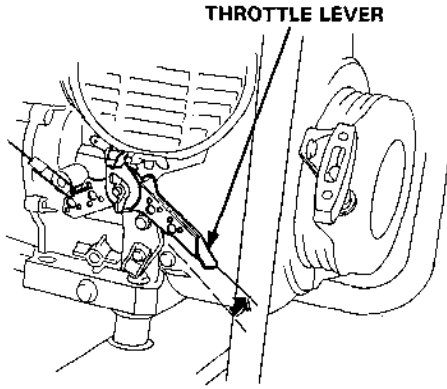
NOTE: Do not use the choke if the engine is warm or the ambient temperature is high.



3. Turn the engine switch to the ON position.

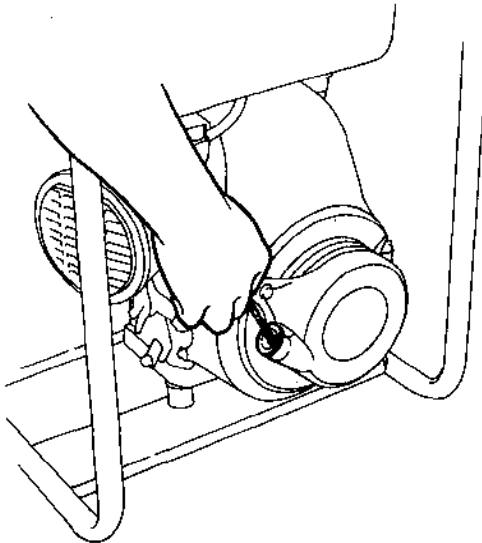


4. Raise the throttle lever slightly.



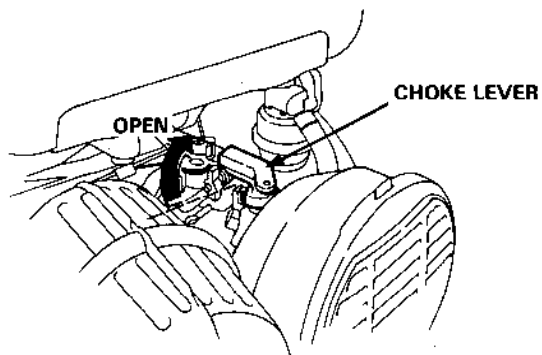
5. Pull the starter grip lightly until resistance is felt, then pull it briskly.

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

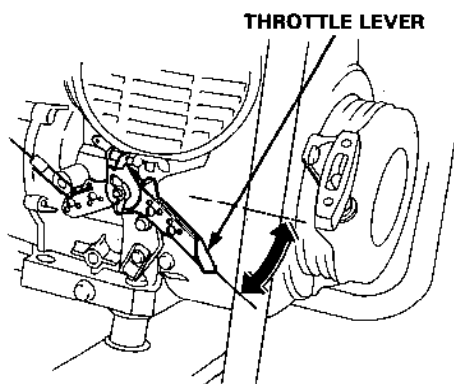


5. OPERATION

1. As the engine warms up, gradually open the choke.



2. Set the throttle at the desired speed.



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 fuel mixture may also foul the spark plugs and cause hard starting.

High altitude performance can be improved by installing a smaller diameter main fuel jet in the carburetor and readjusting the pilot screw. If you always operate the engine at altitudes higher than 6,000 feet above sea level, have an authorized Honda water pump dealer perform this carburetor modification.

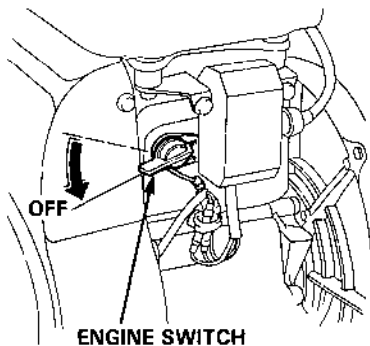
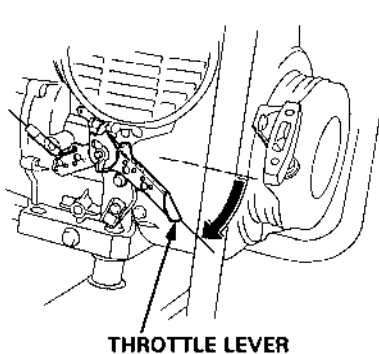
Even with carburetor modification, engine horsepower will decrease about 3.5% for each 1,000 feet increase in altitude. The effect of altitude on horsepower will be greater than this if no carburetor modification is made.

IMPORTANT NOTICE Once a carburetor is jetted for high altitude use, operation at lower altitudes without rejetting may result in reduced performance, overheating, and serious engine damage.

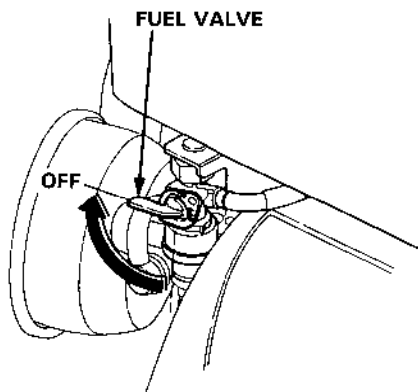
It is especially important to rejet a carburetor when going from a higher altitude to a lower one. At lower altitudes, the air/fuel mixture may become excessively lean.

6. STOPPING THE ENGINE

1. Move the throttle lever down fully.
2. Turn the engine switch to the OFF position.



3. Turn the fuel valve OFF.



NOTE: To stop the engine in an emergency, turn the engine switch to the OFF position.

7. MAINTENANCE

The purpose of the maintenance and adjustment schedule is to keep the pump 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.

IMPORTANT NOTICE Use only genuine HONDA parts or their equivalent for maintenance or repair. Replacement parts which are not of equivalent quality may damage your water pump.

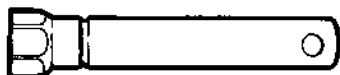
Maintenance Schedule

ITEM	REGULAR SERVICE PERIOD	EACH USE	FIRST MONTH OR 20 HRS	EVERY 3 MONTHS OR 50 HRS	EVERY 6 MONTHS OR 100 HRS	EVERY YEAR OR 300 HRS
	Perform at every indicated month or operating hour interval, whichever comes first.					
Engine oil	Check level	○				
	Change		○		○	
Air cleaner	Check	○				
	Clean			○(1)		
Sediment Cup	Clean				○	
Spark plug	Check-Clean				○	
Spark arrester (Optional part)	Clean				○	
Valve clearance	Check-Adjust					○(2)
Combustion Chamber	Clean-Lap valves					○(2)
Fuel tank and strainer	Clean					○(2)
Impeller	Check					○(2)
Impeller clearance	Check					○(2)
Casing Cover	Check					○(2)
Pump inlet valve	Check					○(2)
Fuel line	Check (Replace if necessary)		Every 2 years (2)			

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.

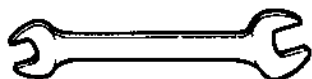
TOOL KIT



SPARK PLUG WRENCH



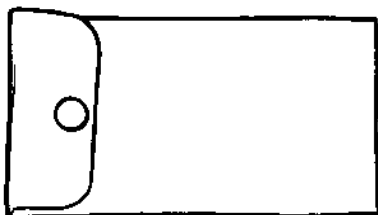
WRENCH HANDLE



10 x 12 mm WRENCH



14 x 17 mm WRENCH



TOOL BAG

1. Oil change

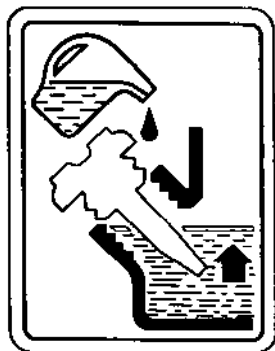
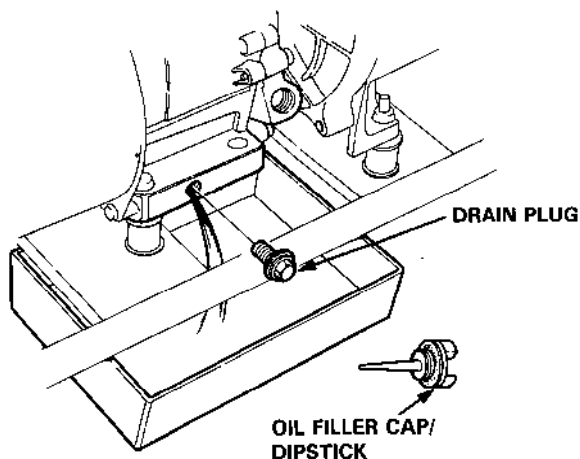
Drain the oil while the engine is still warm to assure rapid and complete draining.

CAUTION Used motor oil may cause skin cancer if repeatedly left in contact with the skin for prolonged periods.

Although this is unlikely unless you handle used oil on a daily basis, it is still advisable to thoroughly wash your hands with soap and water as soon as possible after handling used oil.

1. Remove the oil filler cap and the drain plug to drain the oil.
2. Reinstall the drain plug and tighten securely.
3. Refill with the recommended oil (see page 7) to the specified level.

OIL CAPACITY: 0.7 l (0.74 US qt)



NOTE: Please dispose of used motor oil in a manner that doesn't harm 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 or down a drain.

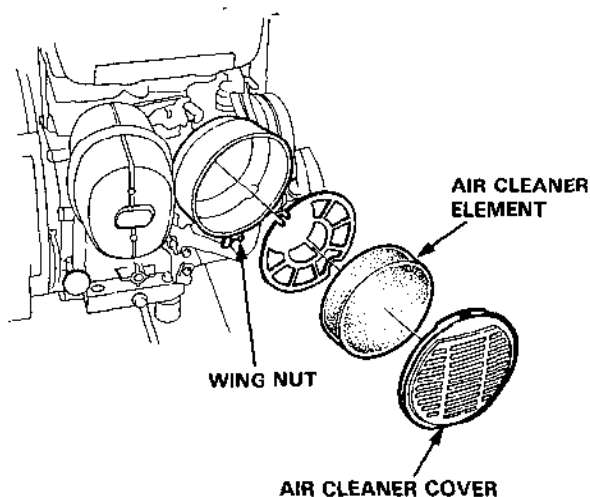
2. Air cleaner service

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 pump 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.

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

1. Loosen the wing nut, remove the air cleaner cover and remove the air cleaner element.
2. Wash the air cleaner element in a solution of household detergent and warm water, then rinse thoroughly, or wash in nonflammable or high flashpoint solvent. Allow the element to dry thoroughly.
3. Soak the element in clean engine oil, and squeeze out the excess oil. The engine will smoke during initial start-up if too much oil is left in the foam.
4. Reinstall the air cleaner element and the cover.



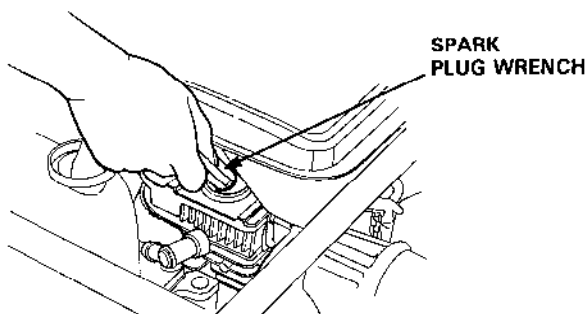
3. Spark plug service

Recommended spark plug: BP4HS-10 (NGK)

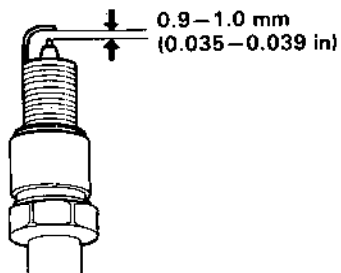
To ensure proper engine operation, the spark plug must be properly gapped and free of deposits.

1. Remove the spark plug.

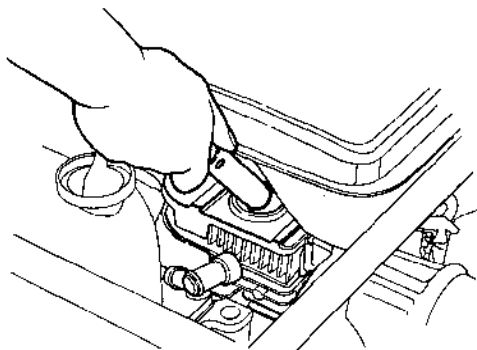
⚠ WARNING If the engine has been running, the muffler will be very hot. Be careful not to touch the muffler.



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. The gap should be 0.9–1.0 mm (0.035–0.039 in). Correct as necessary by bending the side electrode.



-
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.

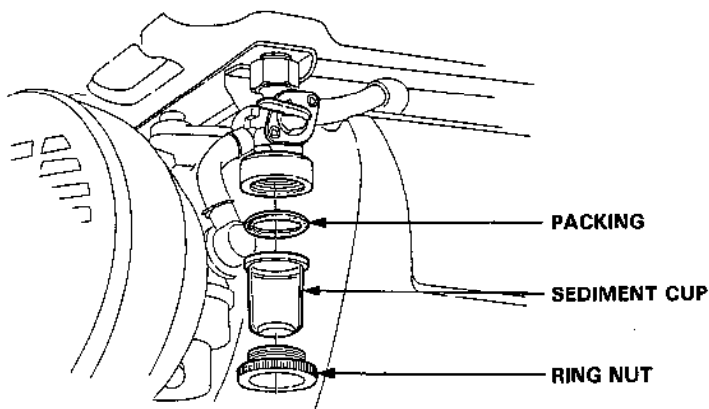
NOTE: If installing a new spark plug, tighten $1/2$ turn after the spark plug seats to compress the washer. If reinstalling a used spark plug, tighten $1/8 - 1/4$ turn after the spark plug seats to compress the washer.

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

4. Clean sediment cup

Turn the fuel valve to the OFF position. Loosen the ring nut and remove the sediment cup and packing.

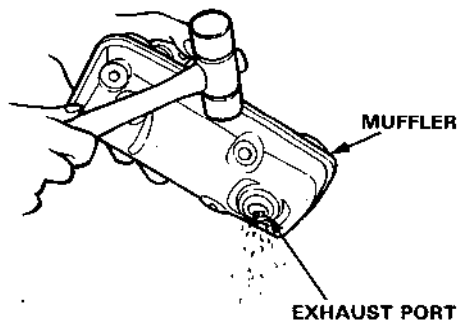
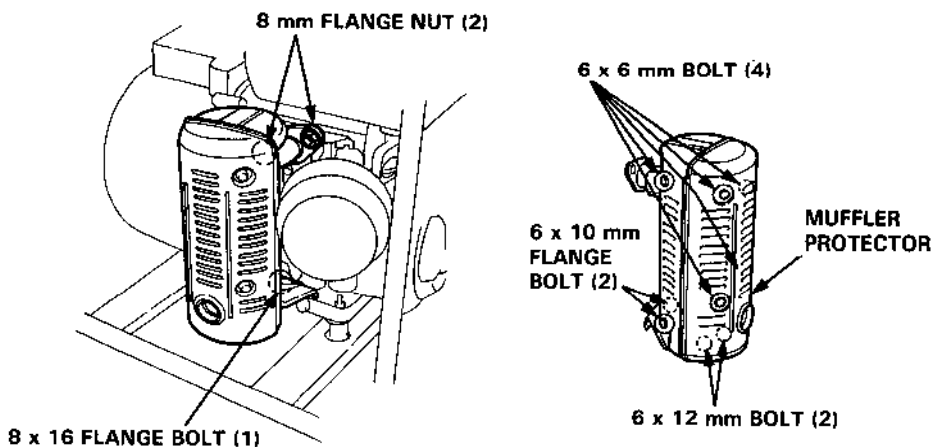
Wash removed parts in solvent, dry them thoroughly and reinstall them securely. Turn the fuel valve ON and check for leaks.



5. Spark arrester maintenance (optional part)

⚠ WARNING If the engine has been running, the muffler will be very hot. Allow it to cool before proceeding.

1. Remove the 8 mm flange nuts and 8 x 16 mm flange bolt and remove the muffler.
2. Remove the 6 x 6 mm and 6 x 10 mm flange bolts and muffler protector.
3. Check the muffler exhaust port for carbon deposits; clean if necessary.
4. Loosen carbon deposits in the muffler by lightly tapping around it with a plastic hammer.
5. Install the muffler and muffler protector securely.

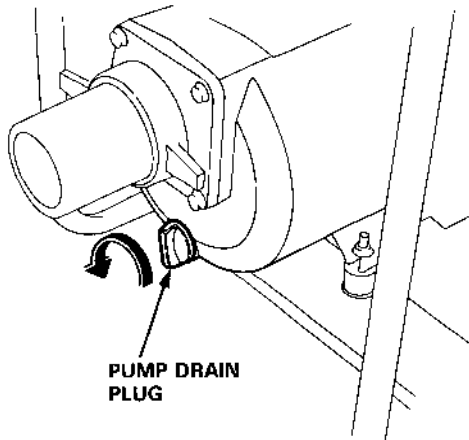


8. TRANSPORTING/STORAGE

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

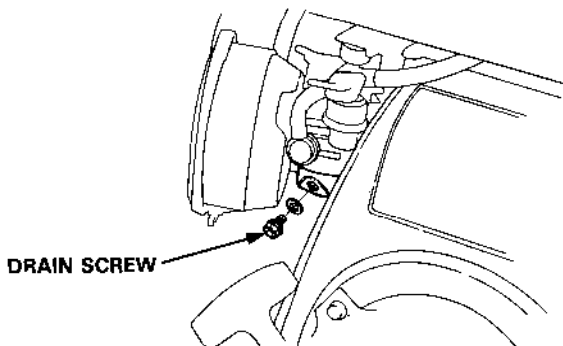
Before storing the pump for an extended period;

1. Be sure the storage area is free of excessive humidity and dust.
2. Clean the pump interior before shutting down or the impeller may be damaged when restarting. After flushing, remove the pump drain plug, drain as much water as possible from the pump housing and replace the plug.

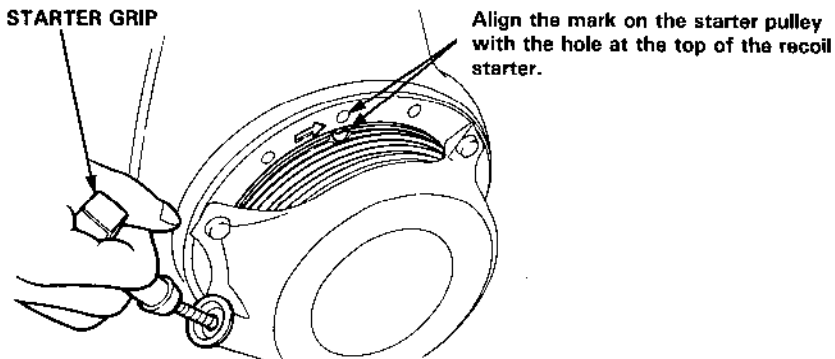


3. Drain the fuel ...
 - a. With the fuel valve in the ON position, remove the carburetor drain screw, and drain all the gasoline from the fuel tank into a suitable container.
 - b. Reinstall the carburetor drain screw.

▲WARNING Gasoline is extremely flammable and is explosive under certain conditions. Perform this task in a well ventilated area. Do not smoke or allow flames or sparks in the area during this procedure.



-
4. Change the engine oil.
 5. Remove the spark plug and pour about a tablespoon of clean engine oil into the cylinder. Crank the engine several revolutions to distribute the oil, then reinstall the spark plug.
 6. Pull the starter rope slowly until resistance is felt. Continue pulling until the notch on the starter pulley aligns with the hole on the recoil starter (see illustration below). At this point, the intake and exhaust valves are closed, and this will help to protect the engine from internal corrosion.



7. Cover the engine and pump to keep out dust.

9. TROUBLESHOOTING

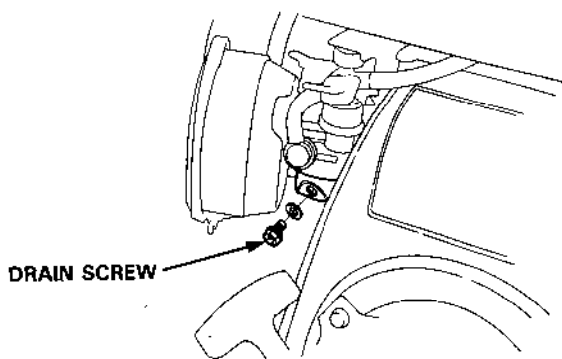
When the engine will not start:

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

To check, loosen the drain screw with the fuel valve ON.

Fuel should flow out freely.

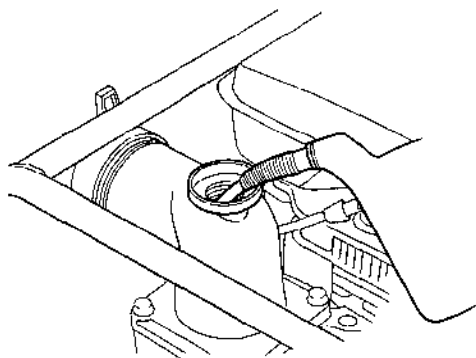
▲ WARNING If any fuel is spilled, make sure the area is dry before testing the spark plug or starting the engine. Fuel vapor or spilled fuel may ignite.



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, pull the recoil starter to see if sparks jump across the gap.
 - e. If there are no sparks, replace the plug.
Install the new plug and try to start the engine according to the instructions.
6. If the engine still does not start, take the pump to an authorized Honda water pump dealer.

When the pump does not pump water:

1. Is the pump fully primed?



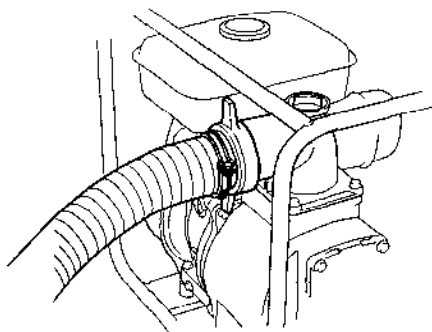
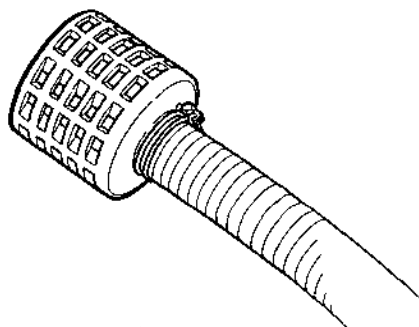
2. Is the strainer clogged?

3. Are the hose bands installed securely?

4. Are the hoses damaged?

5. Is the suction head too high?

6. If the pump still does not pump the water, take the pump to an authorized Honda water pump dealer.



10. SPECIFICATIONS

Model	WB20T	WB30T
Power equipment description code	WZAL	WZAN

Dimensions and Weight

Length x Width x Height	460 x 360 x 440 mm (18.1 x 14.2 x 17.3 in)	520 x 400 x 485 mm (20.5 x 15.7 x 19.1 in)
Dry weight (mass)	23 kg (50.7 lb)	28 kg (61.7 lb)

Engine

Model	G150	G200
Engine type	4-stroke, side valve, 1 cylinder	
Displacement [Bore x Stroke]	144 cc (8.8 cu in) [64 x 45 mm (2.5 x 1.8 in)]	197 cc (12.0 cu in) [67 x 56 mm (2.6 x 2.2 in)]
Max. output	3.5 PS/3,600 rpm	5.0 PS/3,600 rpm
Max. torque	0.72 kg-m (5.2 ft-lb)/ 3,000 rpm	1.06 kg-m (7.7 ft-lb)/ 2,800 rpm
Cooling system	Forced air	
Ignition system	C.D.I.	
PTO shaft rotation	Counterclockwise	

Pump

Suction port diameter	50 mm (2 in)	80 mm (3 in)
Discharge port diameter	50 mm (2 in)	80 mm (3 in)
Rated revolutions	3,600 rpm	3,600 rpm
Total head	32 m (105 ft)	28 m (91.9 ft)
Suction head	8 m (26.2 ft)	8 m (26.2 ft)
Capacity	600 ℓ (158.4 US gal)/min	1,100 ℓ (290.4 US gal)/min
Self-priming time	110 sec at 5 m (16.4 ft)	150 sec at 5 m (16.4 ft)

NOTE: Specifications are subject to change without notice.

11. WARRANTY SERVICE

Owner Satisfaction

Your satisfaction and goodwill are important to your dealer and to us. All Honda warranty details are explained in the Distributor's Limited Warranty. Normally, any problems concerning the product will be handled by your dealer's service department. If you have a warranty problem that 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 Power Equipment Customer Relations Department of American Honda Motor Co., Inc.

American Honda Motor Co., Inc.
Power Equipment Customer Relations Department
P.O. Box 50
Gardena, California 90247-0805
Telephone: (213) 604-2400

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 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 your 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

MEMO

HONDA
HONDA MOTOR CO., LTD. TOKYO, JAPAN

31YB3T00
00X31-YB3-T000