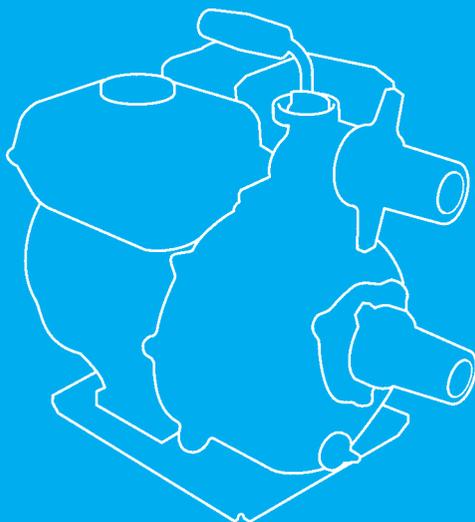




WATER PUMP

WH15X • WH20X



OWNER'S MANUAL
MANUEL DE L'UTILISATEUR
BEDIENUNGSANLEITUNG
MANUAL DE EXPLICACIONES

CONTENTS

1. SAFETY INSTRUCTION	3
2. SAFETY LABEL LOCATIONS	5
CE mark and noise label locations	7
3. COMPONENT IDENTIFICATION	8
4. PRE-OPERATION CHECK	10
5. STARTING THE ENGINE	16
Carburetor Modification for High Altitude Operation.....	19
6. OPERATION	20
7. STOPPING THE ENGINE	21
8. MAINTENANCE	22
9. TRANSPORTING/STORAGE	29
10. TROUBLESHOOTING.....	31
11. SPECIFICATIONS.....	33
12. MAJOR Honda DISTRIBUTOR ADDRESSES IN EUROPE	36

Thank you for purchasing a Honda water pump.

This manual covers the operation and maintenance of Honda water pump: WH15X/WH20X

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 pump and should remain with the pump if it is resold.

The illustrations in this manual are based on: WH15X model

Pay special attention to statements preceded by the following words:

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

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

NOTE: Gives helpful information.

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

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

- The illustration may vary according to the type.

1. SAFETY INSTRUCTION

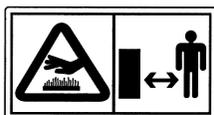
⚠ WARNING

To ensure safe operation —



- Honda water pump is designed to give safe and dependable service if operated according to instructions.

Read and understand the Owner's Manual before operating the water pump. Failure to do so could result in personal injury or equipment damage.



- 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 water pump indoors.

The engine exhaust system will be heated during operation and remain hot immediately after stopping the engine.

To prevent scalding, pay attention to the warning marks attached to the water pump.

- Always make a pre-operation inspection (page 10) before you start the engine. You may prevent an accident or equipment damage.
- For safety, never pump flammable or corrosive liquids such as gasoline or acid. Also, to avoid pump corrosion, never pump sea 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 building walls and other equipment during operation. Do not place flammable objects close to the pump.
- Children and pets must be kept away from the area of operation due to a possibility of burns from the hot engine components.
- Know how to stop the pump quickly, and understand the operation of all controls. Never permit anyone to operate the pump without proper instructions.

⚠ WARNING

To ensure safe operation —

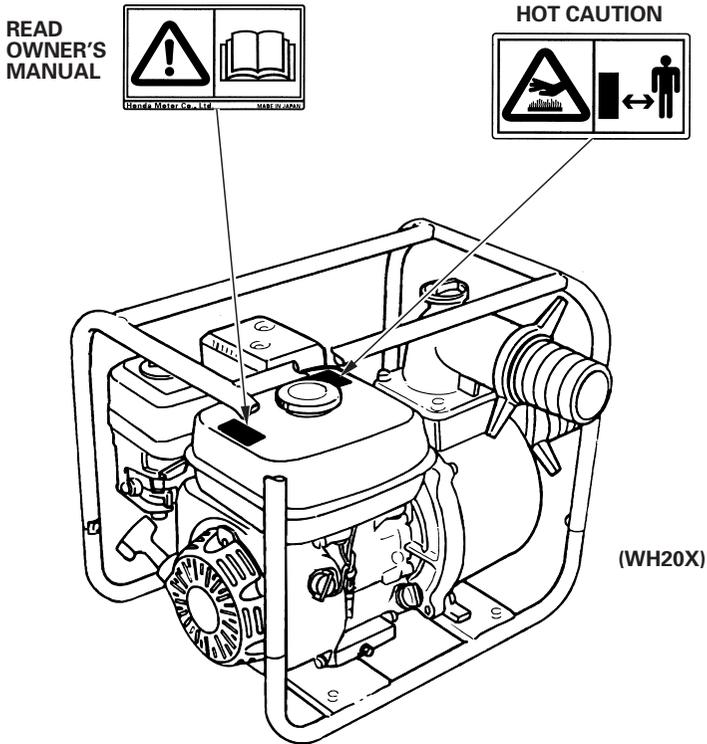
- **Gasoline is extremely flammable and is explosive under certain conditions.**
 - Refuel in a well-ventilated area with the engine stopped. Do not smoke or allow flames or sparks in the refueling area or where gasoline is stored.
 - Do not overfill the tank. After refueling, make sure the tank cap 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.**
- **Never run the engine in an enclosed or confined area. Exhaust gas contains poisonous carbon monoxide gas; exposure can cause loss of consciousness and may lead to death.**

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.

[DFE and DXE types only]



[Except DFE and DXE types]

WARNING

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

*

AVERTISSEMENT

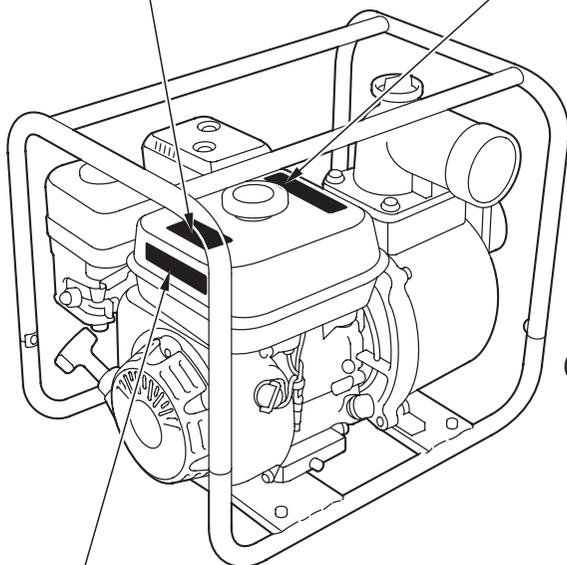
NE POMPEZ PAS DE MATÉRIEAUX
INFLAMMABLES OU CORROSIFS.
UNE EXPLOSION OU UN INCENDIE
POURRAIENT S'ENSUIVRE ET VOUS
CAUSER DES BLESSURES GRAVES.

**CAUTION! DO NOT RUN WITHOUT
PRIMING WATER. DRY OPERATION
WILL BURN THE SEAL.**

**PRECAUCIÓN! NO HAGA FUNCIONAR
SIN CEBADO FUNCIONAMIENTO
SECO QUEMA EL SELO.**

**VORSICHT! VOR DEM ANLAUFEN
BEI TESTUND LEERLAUF GEHÄUSE
MIT WASSER BEFÜLLEN. TROCKEN-
LAUF ZERSTÖRT DIE DICHTUNGEN.**

**PRECAUTION! NE FAITE PAS FON-
CTIONNER SANS AMORÇAGE.
FONCTIONNEMENT AU SEC
BRÛLE LE JOINT D'ÉTANCHÉITE.**



(WH20X)

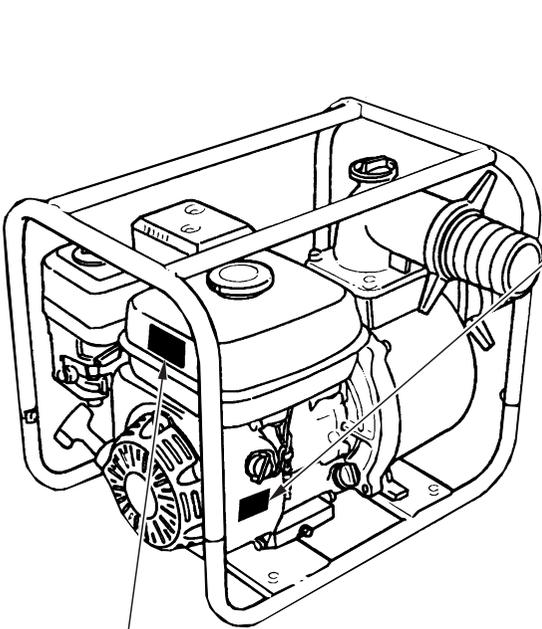
■ **READ OWNER'S MANUAL BEFORE OPERATION.**
■ **LIRE LE MANUAL D'UTILISATEUR AVANT USAGE.**
■ **VOR INBETRIEBNAHME UNBEDINGT
BEDIENUNGSANLEITUNG DURCHLESEN.**
■ **NO UTILIZAR SIN ANTES NO HABER LEIDO EL MANUAL.**

Honda Motor Co., Ltd. MADE IN JAPAN

* : French labels come with the water pump.

CE mark and noise label locations

[DFE and DXE types only]



NOISE LABEL



[Example: WH20X NOISE LABEL]

CE MARK

Manufacturer and address

Honda Motor Co., Ltd.
2-1-1 Minamiaoyama, Minato-ku,
Tokyo, Japan

Model

Year of manufacture

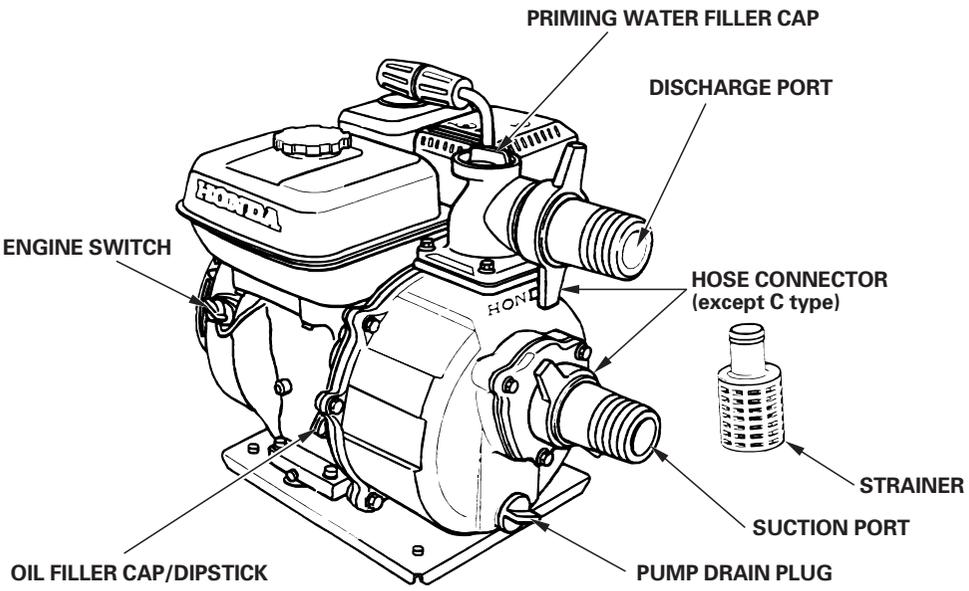
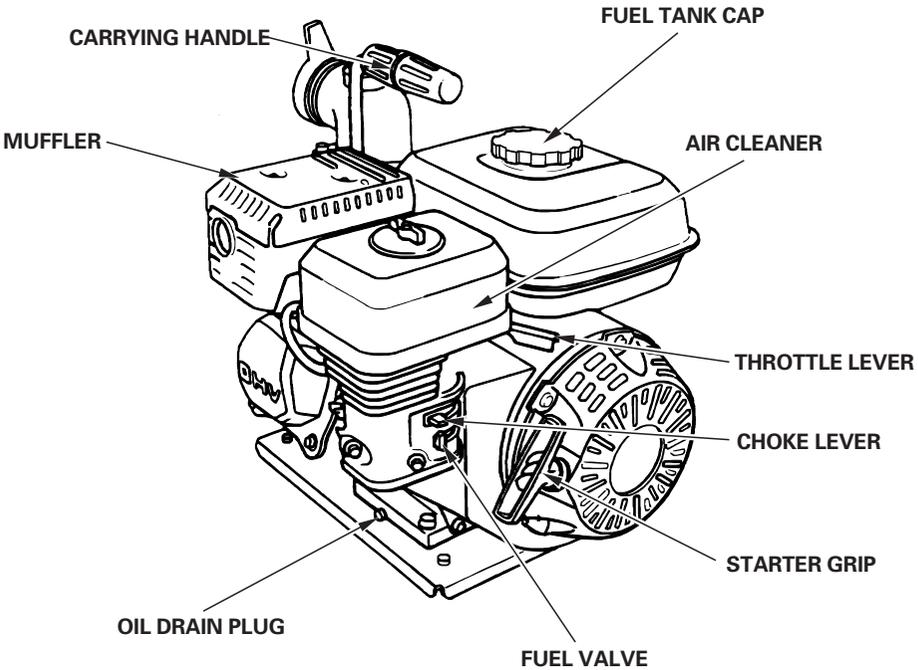
Machine mass (Standard specification)

CE ■ [] ■ [] ■ [] kg

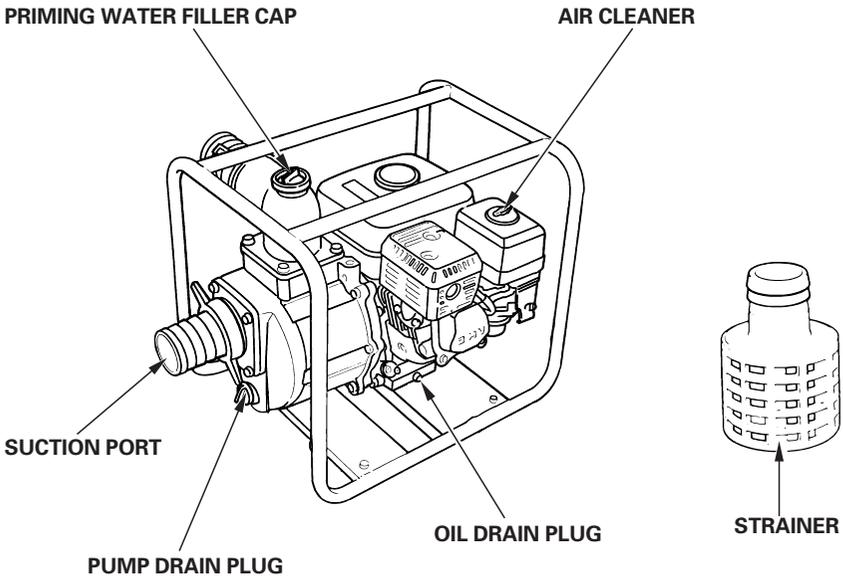
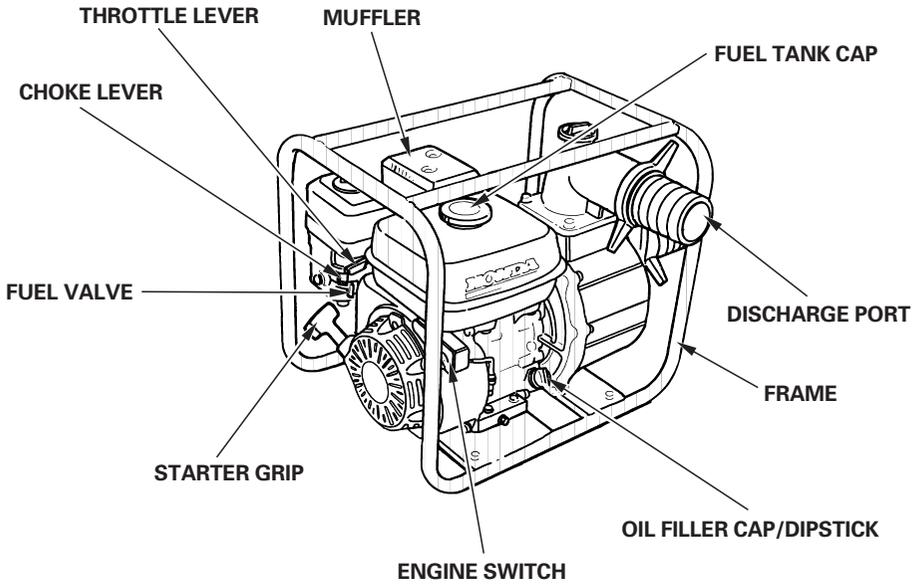
A large rounded rectangle containing the CE mark and manufacturer information. The CE mark is on the left. To its right are three sets of markings: a solid black square followed by a dashed box, another solid black square followed by a dashed box, and a solid black square followed by a dashed box and the text 'kg'. Arrows from the labels 'Model', 'Year of manufacture', and 'Machine mass' point to these respective dashed boxes. An arrow from 'Manufacturer and address' points to the text above.

3. COMPONENT IDENTIFICATION

<WH15X>



〈WH20X〉 DF type



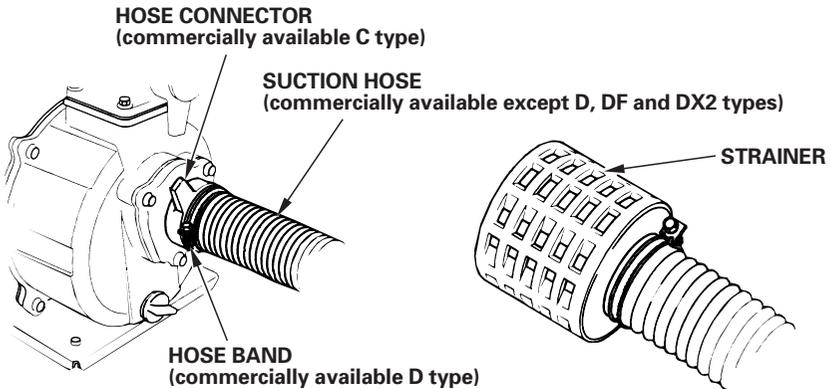
4. PRE-OPERATION CHECK

1. Connect the suction hose.

Use commercially available hose, hose connector, and hose bands. The suction hose must be of reinforced, noncollapsible construction. Suction hose length should not be longer than necessary, as pump performance is best when the pump is not far above the water level. Self-priming time is also proportional to hose length. The strainer that is provided with the pump should be attached to the end of the suction hose with a band, as shown.

CAUTION:

Always install the strainer on the end of the suction hose before pumping. The strainer will exclude debris that can cause clogging or impeller damage.



NOTE:

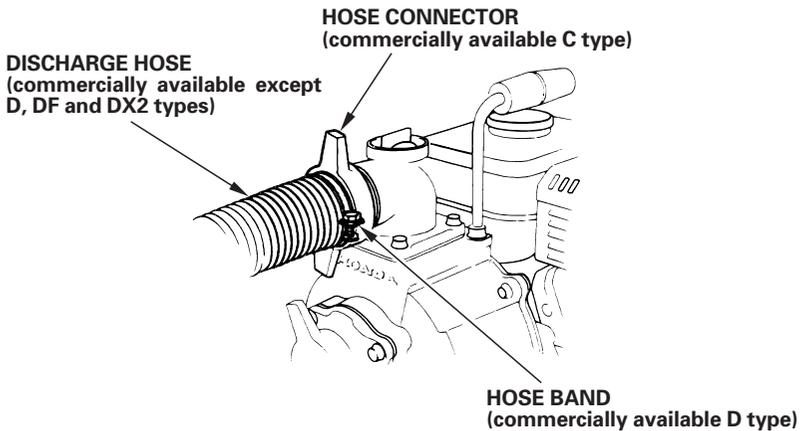
Tighten the hose connector and bands to prevent air leakage and loss of suction. A loosely connected suction hose will reduce pump performance and self-priming ability.

2. Connect the discharge hose.

Use a commercially available hose, hose connector, and hose band. A short, large-diameter hose is most efficient. Long or small-diameter hose increases fluid friction and reduces pump output.

NOTE:

Tighten the hose band securely to prevent the hose from disconnecting under high pressure.



3. Check the engine oil level.

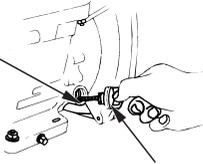
CAUTION:

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

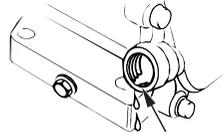
Remove the oil filler cap/dipstick and wipe it clean.

Insert the filler cap/dipstick into the oil filler neck, but do not screw it in. If the level is low, fill to the top of the oil filler neck with the recommended oil.

OIL FILLER NECK



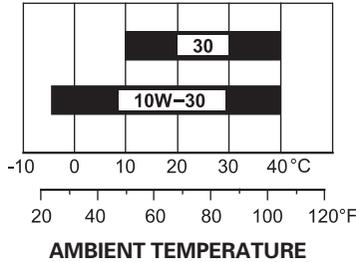
OIL FILLER CAP



UPPER LEVEL

RECOMMENDED OIL

Use 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).



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.

Oil Alert System (Where equipped)

The Oil Alert System is designed to prevent engine damage caused by an insufficient amount of oil in the crankcase. Before the oil level in the crankcase can fall below a safe limit, the Oil Alert System will automatically stop the engine (the engine switch will remain in the ON position).

If the engine stops and will not restart, check the engine oil level before troubleshooting in other areas.

CAUTION:

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

4. Check the fuel level.

Remove the fuel tank cap and check the fuel level. Refill the tank if the fuel level is low.

Use automotive 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 refueling area or where gasoline is stored.**
- **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.**

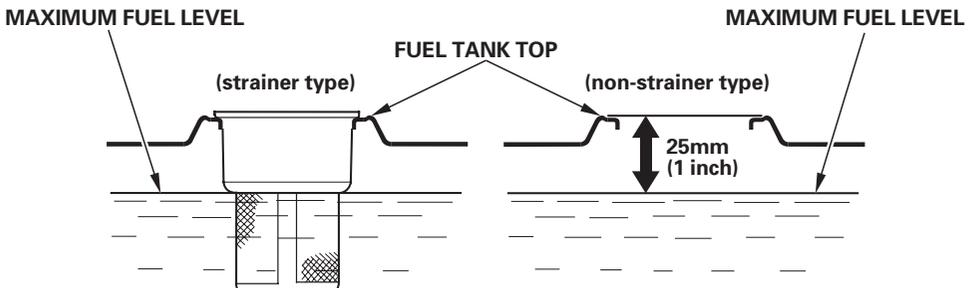
KEEP OUT OF REACH OF CHILDREN.

With the engine stopped and on a level surface, remove the fuel tank cap and check the fuel level.

Refill the tank if the fuel level is low.

Do not fill the fuel tank completely. Fill tank to approximately 25 mm (1 inch) below the top of the fuel tank to allow for fuel expansion. If may be necessary to lower the fuel level depending on operating conditions.

After refueling, make sure the tank cap is closed properly and securely.



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 (clogged carburetor, stuck valve).

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 13).
- 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 29).

Gasolines containing alcohol

If you decide to use a gasoline containing alcohol (gasohol), be sure it's 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 methanol (methyl or wood alcohol) that does not also contain cosolvents and corrosion inhibitors for methanol. Never use gasoline containing more than 5% methanol, even if it has cosolvents and corrosion inhibitors.

NOTE:

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

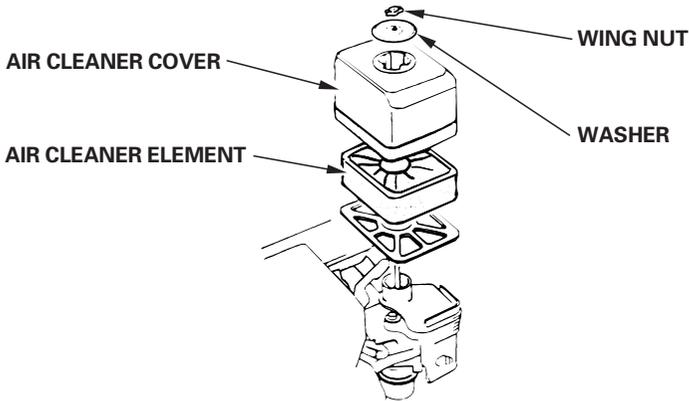
Honda cannot endorse the use of gasoline containing methanol since evidence of its suitability is as yet incomplete.

- 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 gasoline that contains alcohol, or one that you think contains alcohol, switch to a gasoline that you know does not contain alcohol.

5. Check the air cleaner element.

Remove the wing nut, washer and air cleaner cover. Check the element for dirt or obstruction. Clean the element if necessary (see page 25).



CAUTION:

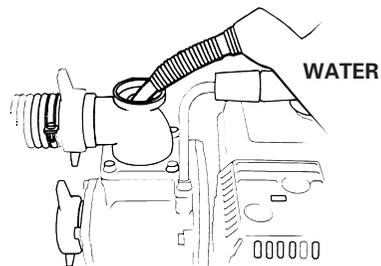
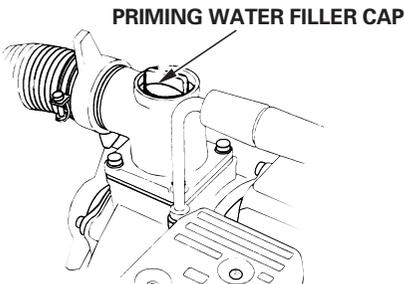
Never run the engine without the air cleaner. Rapid engine wear will result from contaminants such as dust and dirt being drawn through the carburetor into the engine.

6. Check the priming water.

The pump chamber should be primed with full of water before operating.

CAUTION:

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.

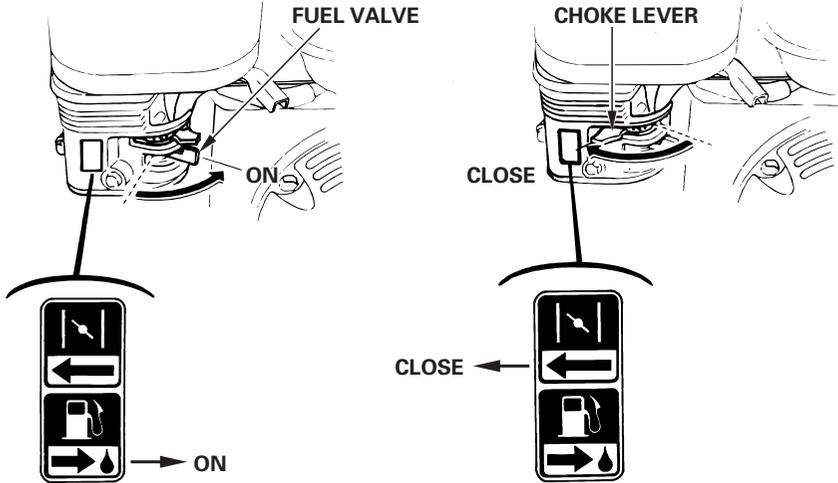


5. STARTING THE ENGINE

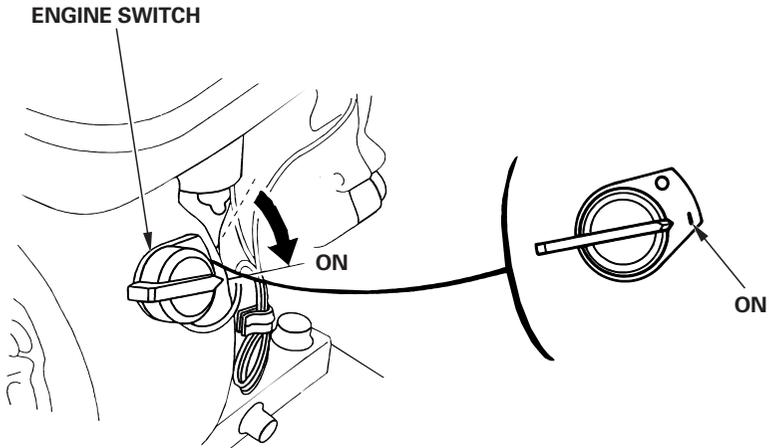
1. Turn the fuel valve ON.
2. Close the choke lever.

NOTE:

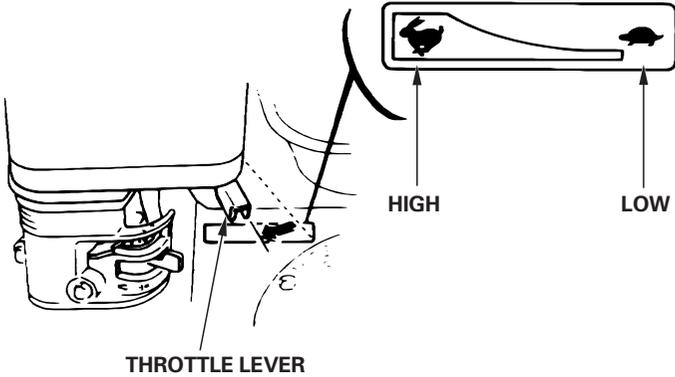
Do not use the choke if the engine is warm or the ambient temperature is high.



3. Turn the engine switch to the ON position.

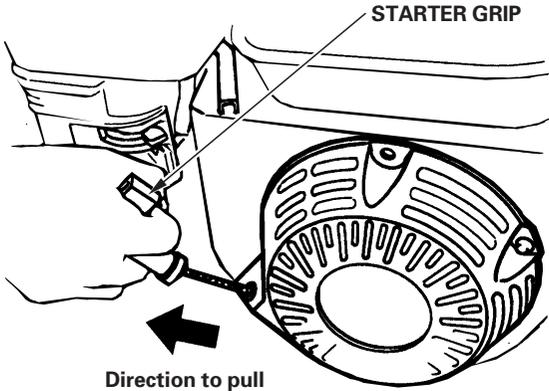


4. Move the throttle lever slightly to the left.

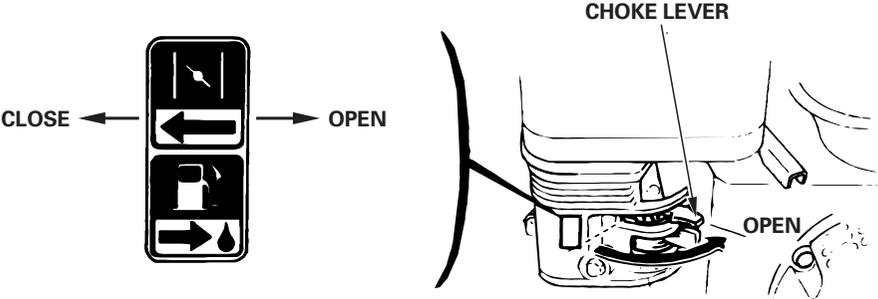


5. Pull the starter grip lightly until you feel resistance, then pull it briskly in the direction of the arrow as shown below.

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 lever has been moved to the CLOSE position, move it gradually to the OPEN position as the engine warm 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 water pump at altitudes above 1,500 meters (5,000 feet), have your authorized Honda 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:

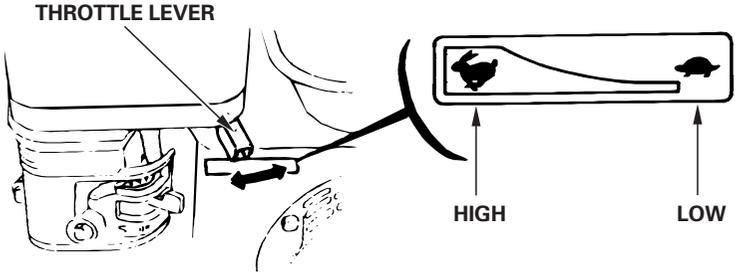
When the carburetor has been modified for high altitude operation, the air-fuel mixture will be too lean for low altitude use. Operation at altitudes below 1,500 meters (5,000 feet) with a modified carburetor may cause the engine to overheat and result in serious engine damage. For use at low altitudes, have your servicing dealer return the carburetor to original factory specifications.

6. OPERATION

CAUTION:

Never use the pump for muddy water, rejected oil, wine, etc.

- 1. Start the engine according to the procedures described in page 16.
- 2. Set the throttle at the desired speed.

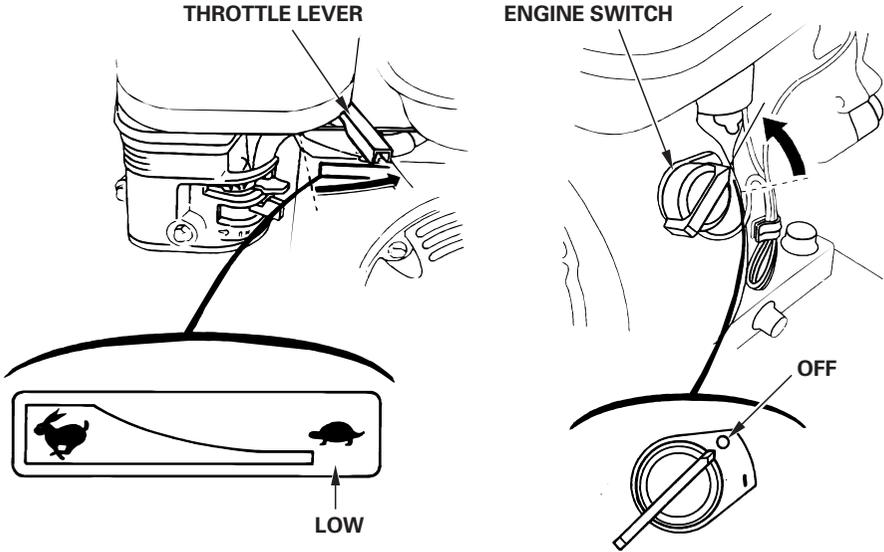


7. STOPPING THE ENGINE

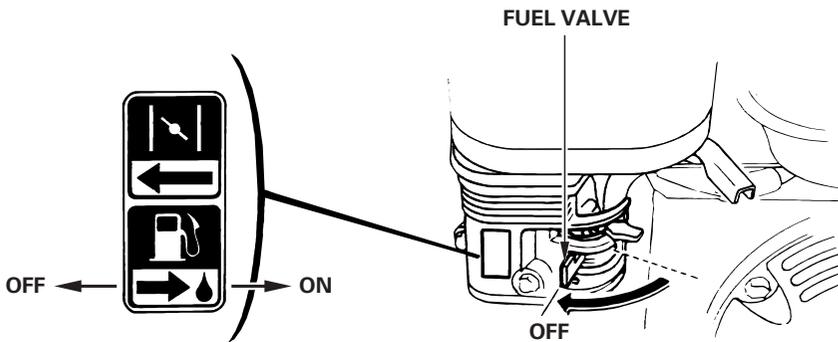
To stop the engine in an emergency, turn the engine switch to the OFF position.

To stop the engine in normal circumstances:

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



3. Turn the fuel valve OFF.



8. MAINTENANCE

Periodic inspection and adjustment of the pump are essential if high level performance is to be maintained. Regular maintenance will also help to extend service life. The required service intervals and the kind of maintenance to be performed are described in the table on the next page.

▲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; exposure can cause loss of consciousness and may lead to death.

CAUTION:

- **If the pump has been used with sea water, etc., pump clean, fresh water immediately afterward to reduce corrosion or remove sediment.**
- **Use genuine Honda parts or their equivalent for maintenance or repair. Replacement parts which are not of equivalent quality may damage the pump.**

Maintenance schedule

REGULAR SERVICE PERIOD (3) Perform at every indicated month or operating hour interval, whichever comes first.		Each use	First month or 20 hrs.	Every 3 months or 50 hrs.	Every 6 months or 100 hrs.	Every year or 300 hrs.
Item						
Engine oil	Check level	○				
	Change		○		○	
Air cleaner	Check	○				
	Clean			○(1)		
Sediment cup	Clean				○	
Spark plug	Check-adjust				○	
	Replace					○
Spark arrester (applicable types)	Clean				○	
Idle speed	Check-adjust					○(2)
Valve clearance	Check-adjust					○(2)
Combustion chamber	Clean	After every 500 hrs (2)				
Fuel tank and filter	Clean				○(2)	
Fuel tube	Check	Every 2 years (Replace if necessary) (2)				
Impeller	Check					○(2)
Impeller clearance	Check					○(2)
Pump inlet valve	Check					○(2)

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

(2) These items should be serviced by your servicing dealer, unless you have the proper tools and are mechanically proficient. Refer to Honda shop manual for service procedures.

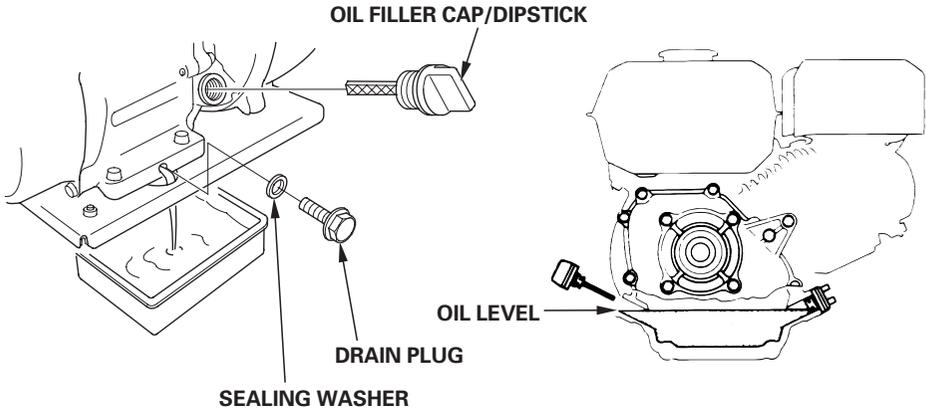
(3) For commercial use, log hours of operation to determine proper maintenance intervals.

1. Changing oil

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

1. Remove the oil filler cap/dipstick and the drain plug, then drain the oil.
2. Install the drain plug securely using a new sealing washer.
3. Refill with the recommended oil (see page 12) to the specified level.
4. After replacing the oil, securely tighten the oil filler cap.

OIL CAPACITY: 0.6 ℓ (0.6 US qt , 0.5 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 pump in extremely dusty areas.

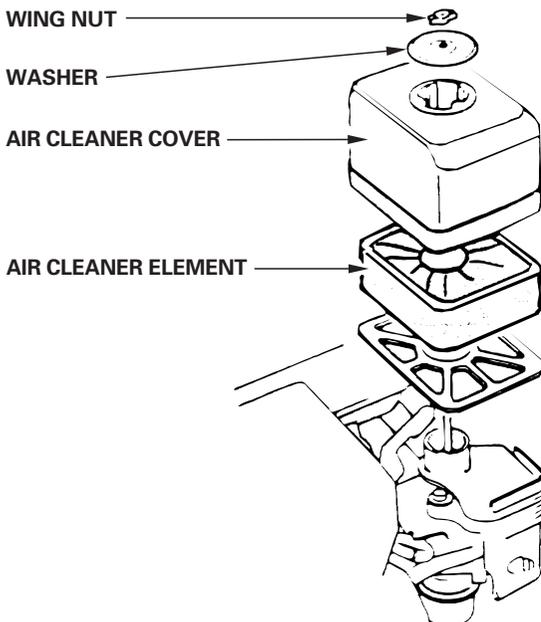
▲ WARNING

Do not use gasoline or low flash point solvents for cleaning. They are flammable and explosive under certain conditions.

CAUTION:

Never run the engine without the air cleaner. Rapid engine wear will result from contaminants such as dust and dirt being drawn through the carburetor into the engine.

1. Unscrew the wing nut, remove the washer and the air cleaner cover, and remove the element.
2. Wash the element in a nonflammable or high flash point solvent and dry it thoroughly.
3. Soak the element in clean engine oil and squeeze out the excess oil.
4. Reinstall the air cleaner element, washer and the cover.
5. Screw the wing nut securely.



3. Spark plug service

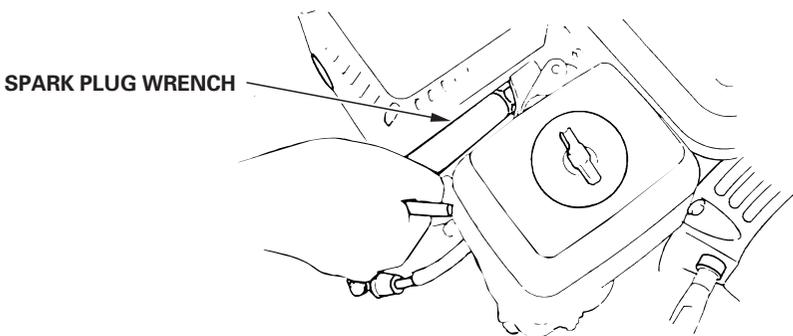
Recommended spark plug: BPR6ES (NGK)
W20EPR-U (DENSO)

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

▲WARNING

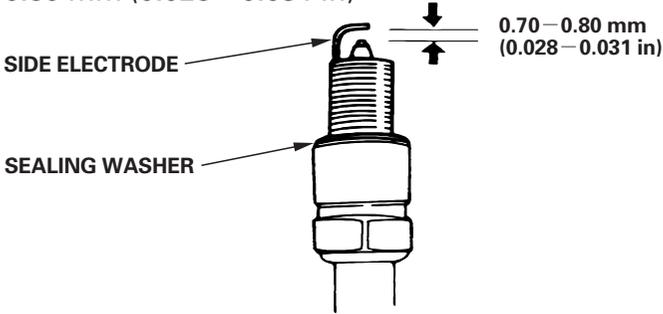
If the engine has been running, the muffler will be very hot. Be careful not to touch the muffler.

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

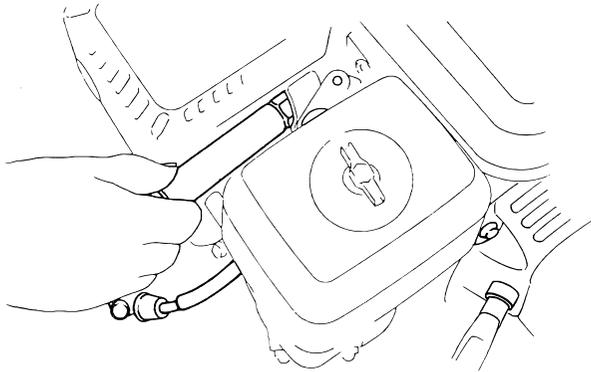


3. Visually inspect the spark plug. Replace the spark plug if there is apparent wear, or if the insulator is cracked or chipped. Clean the spark plug with a wire brush if it is to be reused.

-
4. Measure the plug gap with a feeler gauge.
Correct as necessary by bending the side electrode.
The gap should be:
0.70–0.80 mm (0.028–0.031 in)



5. Check that the sealing washer is in good condition, and thread the spark plug in by hand to prevent cross-threading.
6. 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.

CAUTION:

- **The spark plug must be securely tightened. An improperly tightened spark plug can become very hot and may cause engine damage.**
- **Use only the recommended spark plug or equivalent. Spark plugs which have an improper heat range may cause engine damage.**

7. Attach the spark plug cap securely.

4. Spark arrester maintenance (optional parts)

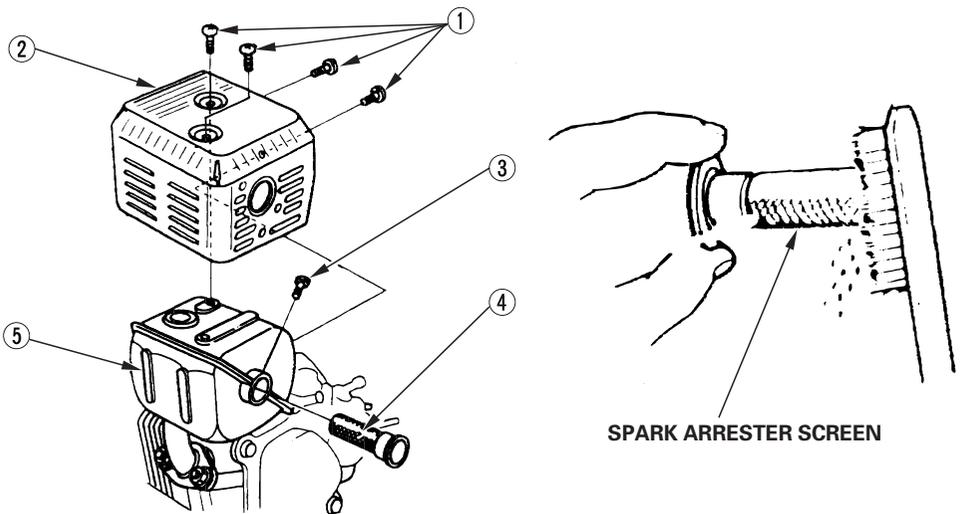
▲WARNING

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. Allow it to cool before proceeding.

CAUTION:

The spark arrester must be serviced every 100 hours to maintain its efficiency.

1. Remove the four 5 mm screws ① from the muffler protector ② and remove the muffler protector.
2. Remove the 4 mm screw ③ from the spark arrester ④, and remove the spark arrester from the muffler ⑤.



3. Use a brush to remove carbon deposits from the spark arrester screen. Be careful to avoid damaging the screen.

NOTE:

The spark arrester must be free of breaks and holes. Replace it if necessary.

4. Install the spark arrester and the muffler protector in the reverse order of disassembly.

9. TRANSPORTING/STORAGE

▲WARNING

- To avoid severe burns or fire hazards, let the engine cool before transporting the pump or storing it indoors.
- When transporting the pump, turn the fuel valve to the OFF position, and keep the pump level to prevent fuel spillage. Spilled fuel or fuel vapor 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.....

Sediment will settle in the pump if it has been used in muddy or sandy water, water containing heavy debris.

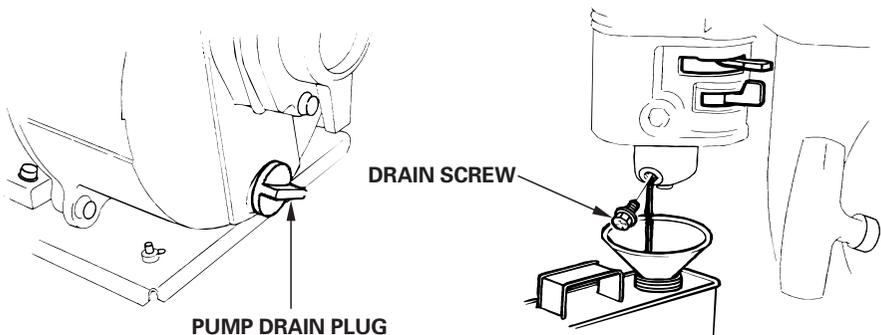
Pump clean water through the pump before shutting down or impeller may be damaged when restarting. After flushing, remove the pump drain plug, drain as much water as possible from the pump housing and reinstall the plug.

3. Drain the fuel.....

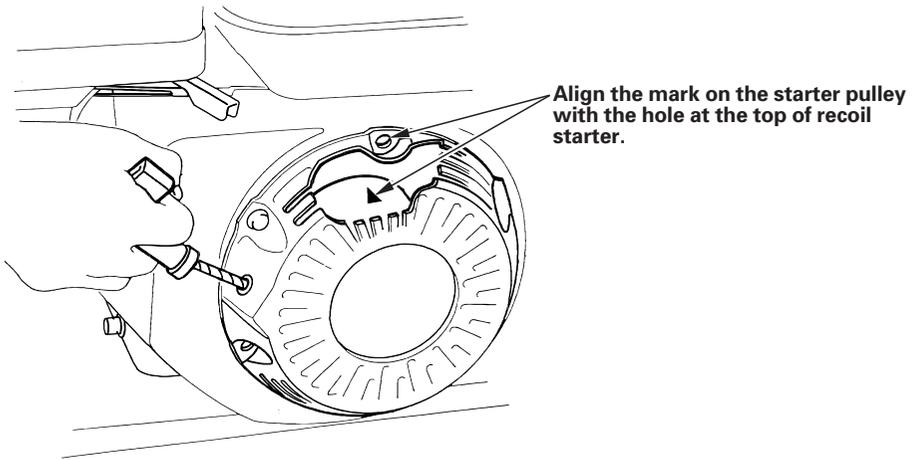
▲WARNING

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

- a. With the fuel valve OFF, remove the drain screw from carburetor float bowl and drain the carburetor. Drain the gasoline into a suitable container.
- b. Turn the fuel valve ON and drain the gasoline in the fuel tank into the suitable container.
- c. Reinstall the carburetor drain screw.



-
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 grip until you feel resistance. 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 pump to keep out dust.

10. TROUBLESHOOTING

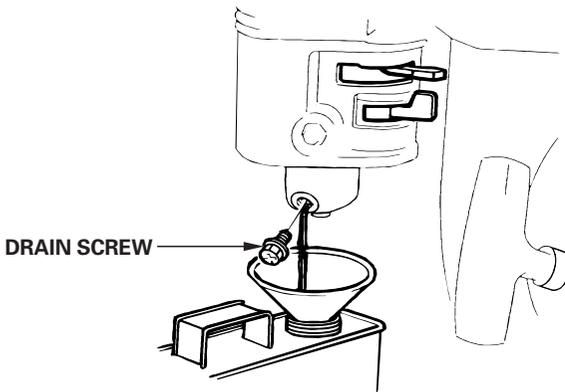
When the engine will not start:

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

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

▲WARNING

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



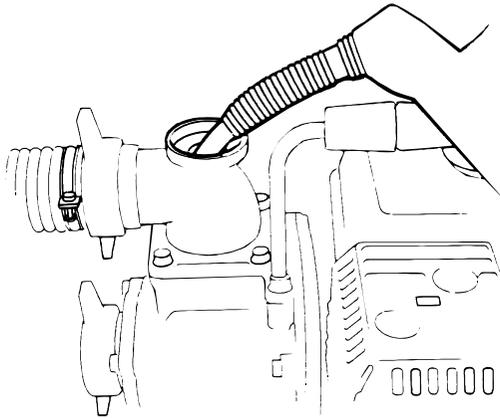
4. Is the engine switch ON?
5. Is there enough oil in the engine?
6. Is the spark plug in good condition?

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

7. If the engine still does not start, take the water pump to an authorized Honda dealer.

When the pump cannot pump the water:

1. Is the pump fully primed?



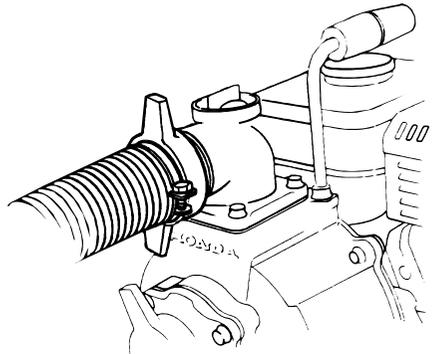
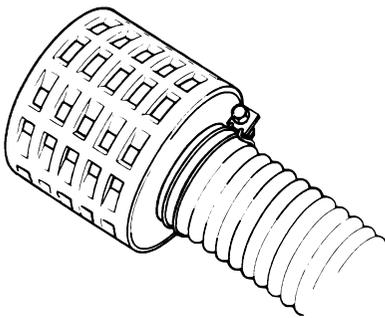
2. Is the strainer clogged?

3. Are the hose bands installed securely?

4. Are the hose damaged?

5. Is the suction head too high?

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



11. SPECIFICATIONS

Model	WH15X K1
Power product description code	WZAV

Dimensions and Weight

Length	415 mm (16.3 in)
Width	360 mm (14.2 in)
Height	405 mm (15.9 in)
Dry mass [weight]	22.0 kg (48.5 lbs)

Engine

Model	GX120 K1
Engine type	4-stroke, overhead valve, 1 cylinder
Displacement [Bore × Stroke]	118 cm ³ (7.2 cu-in) 60.0 × 42.0 mm (2.4 × 1.7 in)
Engine Net power (in accordance with SAE J1349*)	2.6 kW (3.5 PS)/3,600 rpm
Engine Max. Net torque (in accordance with SAE J1349*)	7.3 N·m (0.74 kgf·m, 5.4 ft·lb)/2,500 rpm
Fuel tank capacity	2.0 ℓ (0.53 US gal , 0.44 Imp gal)
Cooling system	Forced air
Ignition system	Transistor magneto
PTO shaft rotation	Counterclockwise

* The power rating of the engine indicated in this document is the net power output tested on a production engine for the engine model and measured in accordance with SAE J1349 at 3,600 rpm (Engine Net Power) and at 2,500 rpm (Engine Max. Net Torque). Mass production engines may vary from this value.

Actual power output for the engine installed in the final machine will vary depending on numerous factors, including the operating speed of the engine in application, environmental conditions, maintenance, and other variables.

Pump

Suction port diameter	40 mm (1.6 in)
Discharge port diameter	40 mm (1.6 in)
Total head	50 m (164 ft)
Suction head	8 m (26.3 ft)
Capacity	400 ℓ (105.7 US gal , 88.0 Imp gal)/min

Model	WH20X K1
Power product description code	WASJ

Dimensions and Weight

Length	425 mm (16.7 in)	520 mm (20.5 in) ^{*2}
Width	375 mm (14.8 in)	400 mm (15.7 in) ^{*2}
Height	405 mm (15.9 in)	450 mm (17.7 in) ^{*2}
Dry mass [weight]	23.5 kg (51.8 lbs)	27.0 kg (59.5 lbs) ^{*2}

Engine

Model	GX160K1
Engine type	4-stroke, overhead valve, 1 cylinder
Displacement [Bore × Stroke]	163 cm ³ (9.9 cu-in) 68.0 × 45.0 mm (2.7 × 1.8 in)
Engine Net power (in accordance with SAE J1349 ^{*1})	3,6 kW (4,9 PS)/3,600 rpm
Engine Max. Net torque (in accordance with SAE J1349 ^{*1})	10.3 N·m (1.05 kgf-m, 7.6 ft-lb)/2,500 rpm
Fuel tank capacity	3.1 ℓ (0.82 US gal , 0.68 Imp gal)
Cooling system	Forced air
Ignition system	Transistor magneto
PTO shaft rotation	Counterclockwise

* 1 The power rating of the engine indicated in this document is the net power output tested on a production engine for the engine model and measured in accordance with SAE J1349 at 3,600 rpm (Engine Net Power) and at 2,500 rpm (Engine Max. Net Torque). Mass production engines may vary from this value.

Actual power output for the engine installed in the final machine will vary depending on numerous factors, including the operating speed of the engine in application, environmental conditions, maintenance, and other variables.

* 2 DF type

Pump

Suction port diameter	50 mm (2.0 in)
Discharge port diameter	50 mm (2.0 in)
Total head	50 m (164 ft)
Suction head	8 m (26.3 ft)
Capacity	500 ℓ (132.1 US gal , 110.0 Imp gal)/min

Noise

Model	WH15X K1	WH20X K1
Sound pressure level (L _{pA}) Tested by EN12639	88 dB	91 dB
Guaranteed sound power level (L _{WA}) Tested by 2000/14/EC	104 dB	106 dB

Tune-up

ITEM	SPECIFICATION	MAINTENANCE
Spark plug gap	0.7 – 0.8 mm (0.028 – 0.031 in)	Refer to page: 26
Valve clearance	IN: 0.13 – 0.17 mm (cold) EX: 0.18 – 0.22 mm (cold)	See your authorized Honda dealer
Other specification	No other Adjustment needed.	

Specifications are subject to change without notice.

12. MAJOR Honda DISTRIBUTOR ADDRESSES

For European

NAME OF FIRM (COMPANY)	ADDRESS	TEL: FAX:
Honda (U.K.) Limited	470 London Road, Slough, Berkshire, SL38QY, United Kingdom	Tel: 01753-590-590 Fax: 01753-590-000
Honda Europe Power Equipment S.A.	Pole 45 Rue des Chataigniers 45140 Ormes France	Tel: 2-38-65-06-00 Fax: 2-38-65-06-02
Honda Motor Europe (North) GmbH.	Sprendlinger, Landstraße 166 D-63069 Offenbach/Main Germany	Tel: 069-83-09-0 Fax: 069-83-09-519
Honda Belgium H.V.	Wijngaardveld 1, 9300 Aalst Belgium	Tel: 053-725-111 Fax: 053-725-100
Honda Italia Industriale S.P.A.	Via della Cecchignola, 5/7 00143 ROMA	Tel: 06-54928-1 Fax: 06-54928-400
Honda (Suisse) S.A.	Route des Moulières 10 Case Postale Ch 1214 Vernier-Geneve, Switzerland	Tel: 022-341-22-00 Fax: 022-341-09-72
Honda Nederland B.V.	Nikkelstraat 17 2984 AM Ridderkerk Netherlands	Tel: 0180-491777 Fax: 0180-491889
Honda Austria G.M.B.H.	Honda Strasse 1 A-2351 Wiener Neudorf Austria	Tel: 223-66-900 Fax: 223-66-4130
Honda Power Equipment Sweden A.B.	Ostmästargränd 8 Stockholm-Årsta Sweden	Tel: 08-602-24-60 Fax: 08-722-36-27
Honda Produtos De Força, Portugal, S.A.	Lugar da Abrunheira S. Pedro de Penaferrim 2710 Sintra, Portugal	Tel:351-1-9150374 Fax:351-1-9111021
Berema A/S	Berghagan 5, Langhus Box 454, 1401 Ski Norway	Tel: 64-86-05-00 Fax: 64-86-05-49

For European (continued)

NAME OF FIRM (COMPANY)	ADDRESS	TEL: FAX:
OY Brandt AB	Tuupakantie 4 SF-01740, Vantaa Finland	Tel: 90-895-501 Fax: 90-878-5276
TIMA PRODUCTS A/S	Tårnfalkevej 16, Postboks 511 DK 2650 Hvidovre Denmark	Tel: 31-49-17-00 Fax: 36-77-16-30
Greens	Polig. Industrial Congost 08530, La Garriga (Barcelona), Spain	Tel: 93-871-84-50 Fax: 93-871-81-80
Automocion Canarias S.A. (AUCASA)	Apartado, de Correos, num 206 Santa Cruz de Tenerife Canary Island	Tel: 922-61-13-50 Fax: 922-61-13-44
The Associated Motors Company Ltd.	148, Rue D'Argens, Msida Malta	Tel: 356-333001 Fax: 356-340473
Two Wheels Ltd.	Crosslands Business Park, Ballymount Road, Dublin 12, Ireland	Tel: 4602111 Fax: 4566539
General Automotive Co., S.A.	P.O. Box 1200, 101 73 Athens Greece	Tel: 346-5321 Fax: 346-7329
BG Technik s.r.o.	Radlická 117/520 158 01 Praha 5 Czech Republic	Tel: 2-5694 573 Fax: 2-5694 571
Aries Power Equipment Ltd.	01-493 Warszawa, ul Wroclawska 25a Poland	Tel: 22-685 17 06 Fax: 22-685 16 03
MO.TOR.PEDO Ltd.	1134 Budapest, Dózsa Gy-út 61-63. Hungary	Tel: 1-4652080 Fax: 1-4652081

For Canadian

NAME OF FIRM (COMPANY)	ADDRESS	TEL: FAX:
Honda Canada Inc.	715 Milner Avenue Toronto ON M1B 2K8 Canada	Tel: 1-888-946-6329 Fax: 1-887-939-0909

