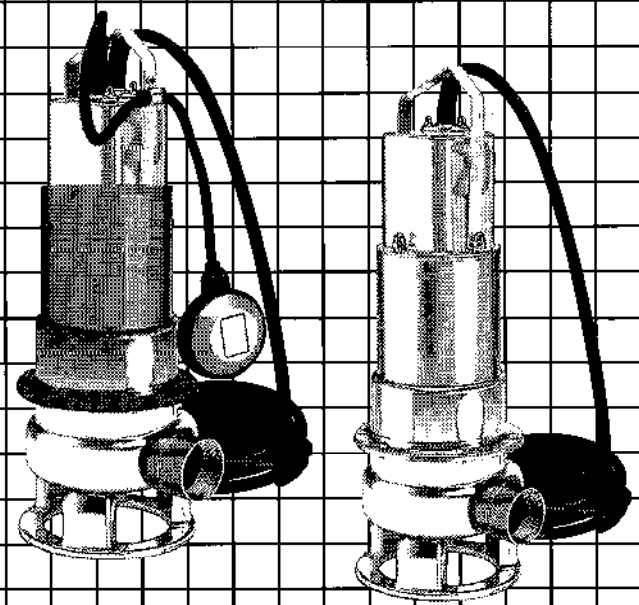
HONDA
Power
Equipment

Owner's Manual

SUBMERSIBLE PUMP
WSP50 •WSP100

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By: EBARA

1. MANUFACTURER AND PUMP IDENTIFICATION DATA

1.1 MANUFACTURER DATA
EBARA INTERNATIONAL CORPORATION
1651 CEDAR LINE DRIVE
ROCK HILL, SC 29730

1.2 PUMP DATA

Description:	*SUBMERSIBLE SOLIDS PUMP*
Model:	*WSP50AM, WSP50AA, WSP100AM, WSP100AA*
Year of manufacture:	*see plate on the pump.*

2. INFORMATION ON TECHNICAL ASSISTANCE

If the malfunction of the pump is not among those included in the troubleshooting table (chapter 14.1), contact the nearest appointed dealer.

3. INTRODUCTION

This publication contains all the necessary information and instructions for use and maintenance of your submersible sewage pump.
Follow the advice given to obtain optimum performance and correct operation of the pump. For any other information you may require, please contact the nearest appointed distributor.

IT IS STRICTLY FORBIDDEN TO REPRODUCE THE ILLUSTRATIONS AND THE TEXT, EVEN IN PART.

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5. GENERAL SAFETY WARNINGS

FAILURE TO OBSERVE THESE WARNINGS AND /OR TAMPERING WITH THE PUMP RELIEVES THE MANUFACTURER OF ANY RESPONSIBILITY IN THE EVENT OF DAMAGE TO PERSONS OR OBJECTS AND/OR TO THE PUMP.

Before starting the pump it is important for the user to know how to perform all the operations described in this manual and to apply them at all times during use or maintenance of the pump.

5.1. PREVENTIVE MEASURES TO BE TAKEN BY THE USER



The user must comply with all the accident-prevention regulations in force in the country in which the pump is being used; the indications given in chapters 7.1 and 7.2 must be scrupulously followed.



During pump repairs or maintenance, remove the plug from the socket and/or turn off the switch (if provided), thus interrupting the supply of electric power to the pump. This will prevent accidental starting which could cause damage to persons and/or objects.
All maintenance operations, installations or shifting of the pump with the electric system live may cause severe or fatal injury.
During operation, avoid moving or shifting the pump.
Before using the pump, always check that the cable and all the electric devices are in working condition
Never start the pump (by inserting the plug in the socket and/or switching on the switch) with bare feet, with your feet in the water, or with wet hands.
The user must not carry out under his own initiative any operations or jobs not recommended in this manual.

5.2 GENERAL SAFETY WARNINGS



WSP50 AND WSP100 pumps are designed in such a way that all the moving parts are protected by the use of casings. The manufacturer declines all responsibility in the event of damage caused as a result of tampering with these devices.



Each lead or live part is electrically insulated to ground: there is also a further safety device in that the accessible conductive parts are connected to a ground lead so that the parts within reach do not become electrically charged in the event of failure of the principal insulation.

6. DESCRIPTION

6.1 GENERAL DESCRIPTION

WSP50 and WSP100 series pumps are all similar from the functional and constructive point of view; the only differences are the following:

-power
-flow rate
-head
-weight
-dimensions

WSP50 and WSP100 series pumps are used for handling water, even at high temperatures (chapter 7.1). Thanks to their small bulk and ease of transport, they may be used for fixed or temporary installations, with or without automatic start.

These pumps guarantee long life and constant performance if used according to the indications given in chapter 8 and chapter 14.

7. TECHNICAL DATA CARD

7.1. PUMP TECHNICAL DATA

Max. fluid temperature	*104°F/40°C*
Max. dimension suspended solids	*2 inch*
Max. immersion depth	*33 feet*
Length of power cable	*25 feet*
Type of impeller	*single channel*
Type of seal on the shaft	*double mechanical seal in an oil chamber*
Type of bearing	*shielded ball bearing*

Delivery diameter	*2 inch*	*NPTF*
Impeller material		*stainless steel*
Pump structure material		*stainless steel*
Motor structure material		*stainless steel*
Seal cover material		*stainless steel*
Intake side cover material		*stainless steel*
Pump body variable features		*threaded with feet*

7.2. MOTOR TECHNICAL DATA WSP50/WSP100

Power (Versions)	*1/2 hp* *1 hp*
Type	
Poles	*2*
Insulation class	*F*
Degree of protection	*IP58*
Type of duty	*continuous*
Phase-frequency-voltage	*single-phase* *60Hz 115*
Overload protection	*thermal protection* *single-phase*
Motor structure material	*molded steel*
Shaft material	*stainless steel*
Cable material	*SOW-A/SO*

THE MANUFACTURER RESERVES THE RIGHT TO ALTER THE TECHNICAL DATA IN ORDER TO MAKE IMPROVEMENTS AND BRING THEM UP-TO-DATE.

8. RECOMMENDED AND NON-RECOMMENDED USE

ATTENTION ***Failure to respect the prescribed limits constitutes a situation of use that is technically improper and endangers the safety of persons, RELIEVING THE MANUFACTURER OF ANY RESPONSIBILITY IN THE EVENT OF ACCIDENTS TO PERSONS OR DAMAGE TO OBJECTS OR TO THE PUMP, AND ALSO RENDERING THE GUARANTEE INVALID.***

8.1. RECOMMENDED CONDITIONS OF USE

WSP50 and WSP100 series pumps may be used for handling dirty or semi-dirty water or water with suspended bodies with a diameter no greater than 50 mm; for draining garages,cellars, basements, swimming pools, basins, tanks, fountains, drains, cesspools, sewage collection drains from cesspools; for draining excavations, flowing irrigation from ditches, rainwater tanks or streams.

The pump may be used for continuous duty only if totally submerged.

Use the pump in keeping with its technical characteristics (chapter 7).

8.2. NON-RECOMMENDED CONDITIONS OF USE

WSP50 and WSP100 series pumps cannot be used for handling water containing acids and corrosive liquids in general, water with temperatures higher than 40°C, sea-water, flammable and generally dangerous liquids.

WSP50 and WSP100 pumps must never be allowed to run without water.

9. HANDLING AND TRANSPORT

9.1. UNPACKING

Check that there are no breaks or severe dents in the packing; if there are, point this out immediately to the person who delivers the material. After removing the pump from the package, check that it has not suffered any damage during transport; if damage is found, inform the dealer within 8 days of delivery. Then check that the characteristics stated on the plate of the pump are the same as you requested in your order.

9.2. HANDLING AND DISCONNECTING

ATTENTION ***FAILURE TO FOLLOW THESE INSTRUCTIONS MAY CAUSE THE PUMP TO FAIL, SUFFERING SEVERE DAMAGE. DO NOT USE THE POWER CABLE TO LIFT OR DRAG THE PUMP.***

To handle or disconnect the pump you must:
-remove the plug from the power socket and/or turn off the switch, if provided;
-roll up and hold the electric power cable in your hand;
- lift the pump and the delivery pipe with the handle provided or with a cable fixed to the handle.

If the pump is set for fixed applications, perform the following operations before handling it:

-remove the plug from the power socket and/or turn off the switch , if provided;
-unscrew any clamps and remove the delivery pipe;
-roll up and hold the electric power cable in your hand;
-lift the pump with the handle provided or with a cable fixed to the handle.

9.3 TRANSPORT

The pump is packed in a cardboard box for transport; as its total weight and bulk are not excessive (fig. 1), transport presents no problems.

10. INSTALLATION

ATTENTION ***TO LIFT OR LOWER THE PUMP, USE A ROPE FIXED TO THE HANDLE; NEVER USE THE ELECTRIC POWER CABLE.***

10.1. FIXED INSTALLATION

a) The pump must be placed on a level surface.
b) Lower the pump with a cable fixed to the handle.
c) When positioning the pump, observe the minimum required distances(fig. 1) from walls, from the sides of the drain or other location, so as to allow functioning, use and maintenance operations in safe conditions.
d) It is recommended to use G 2 rigid pipes (metal or plastic), to be screwed onto the threaded delivery union of the pump.
e) It is recommended to fit a no-return valve on the delivery pipe.

10.2. TEMPORARY INSTALLATION (FOR TEMPORARY USE)

a) The pump must be placed on a level surface.
b) When positioning the pump, observe the minimum required distances (fig. 1) from walls, from the sides of the drain or other location, so as to allow functioning.
c) It is recommended to use G2 flexible pipes, with couplings of the same size if required.
d) It is recommended to fit a no-return valve on the delivery pipe.

11. ASSEMBLY AND DISASSEMBLY

The pump has no separate accessories, so no assembly is required for installation.
If the pump has to be disassembled (due to breakage or any other reason), the user must notify their dealer or the manufacturer.

FAILURE TO COMPLY WITH THIS RULE RENDERS THE GUARANTEE INVALID.

12. PREPARATION FOR USE

12.1. ELECTRIC CONNECTION

a) For connection to the power mains, the pump is provided with a 25 foot cable. When connecting, consider the installed power, and the outlet voltage (chapter 7.2).

b) The outlet must have an efficient ground system complying with the electrical standards in force in the user's country; the installer is responsible for checking this.

c) The WSP50 and WSP100 pumps have a plug with ground contact; grounding is provided by the plug itself when it is inserted in the socket.

d) We advise fitting a high-sensitivity differential switch in the electric system (0.03 A).

The electric connection must be by a licensed technician.

12.2. ADJUSTING AND REGISTERING

The only thing that needs checking once installation is complete is the length of the cable with float (in versions that have one) with respect to the minimum and maximum water level (fig. 1).

13. USE AND START-UP

13.1. AUTOMATIC PUMPS

Insert the plug and/or turn on the switch; the pump starts operating; once the pump has taken in water up to the minimum level (fig. 1) regulated by the float, it will cut out automatically.

13.2. MANUAL PUMPS

Insert the plug and/or turn on the switch; the pump starts operating; once the pump has taken in water up to the minimum level (fig. 1), remove the plug and/or switch off.

14. MAINTENANCE AND REPAIRS

ATTENTION ***BEFORE PERFORMING ANY MAINTENANCE OPERATIONS, DISCONNECT THE PLUG AND/OR SWITCH OFF. THE PUMP MUST BE DISMANTLED ONLY BY THE DEALERSHIP TECHNICIANS. FAILURE TO OBSERVE THIS RULE RENDERS THE GUARANTEE INVALID. THE SAME APPLIES TO REPAIR JOBS AND/OR REPLACEMENTS.***

To ensure correct funtioning and long life of the pump, the intake mouth must not be blocked and the impeller must be kept clean.

a) If the intake mouth is blocked it must be cleaned; always wear gloves to protect your hands.

b) If the impeller is dirty, proceed as follows (fig. 4):

-wear protective gloves to avoid cutting your hands;

-unscrew the six socket head screws (1) (not the nut, because it is welded to the pump body);

-slip off the pump body (2);

-remove the O-ring (3);

-the impeller is now uncovered; check that it is clean; check also that the space between the impeller and the protective casing is clean.

To reassemble, perform the operations listed above in reverse order.

14.1. TROUBLESHOOTING

TYPE OF FAULT

The pump does not work (the motor does not turn over)

CAUSE	*REMEDY*
No electric power.	*Check the contactor on the electric line*
Plug not inserted.	*Check power connection to the line.*
Float blocked.	*Check that the float reaches ON level.*
Impeller blocked.	*Check cause of blockage (ch.14).*
Thermal protection has tripped.	*This resets automatically*
Faulty motor or capacitor.	*Contact the nearest distributor.*
Hole in the intake cover is blocked.	*Clean the hole (ch. 14). Be certain to disconnect power.*
No-return valve blocked.	*Clean the valve and check its operation.*

TYPE OF FAULT

The pump works at a low flow rate

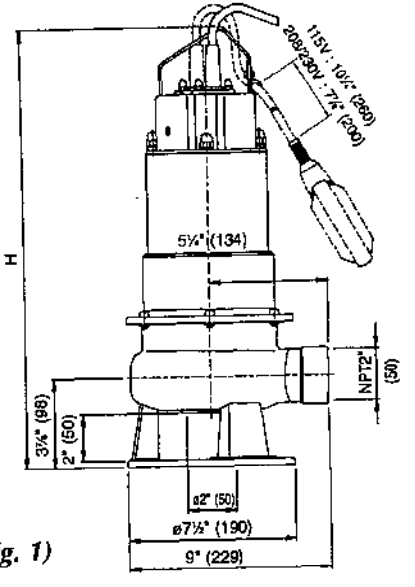
CAUSE	*REMEDY*
Dirty impeller or delivery pipes.	*Clean them (ch. 14). Be certain to disconnect power.*
No-return valve blocked.	*Clean the valve and check its operation.*
Water level too low.	*Switch off the pump.*
Wrong voltage.	*Supply the pump with the correct voltage indicated on the data plat*

TYPE OF FAULT

The pump stops after brief periods of operation (tripping of the thermal protection)

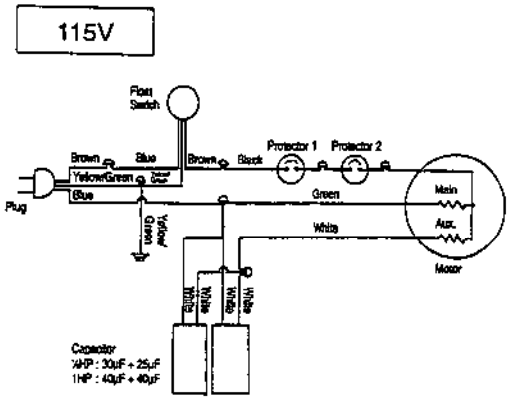
CAUSE	*REMEDY*
Impeller blocked by foreign bodies.	*Remove the foreign bodies (ch. 14). Be certain to disconnect power.*
Liquid temperature too high.	*The temperature exceeds the technical limits of the pump.*
Internal defect.	*Contact the nearest distributor.*

15.1. DIAGRAM FOR INSTALLATION WITH MINIMUM FUNCTIONAL SPACES (fig. 1)

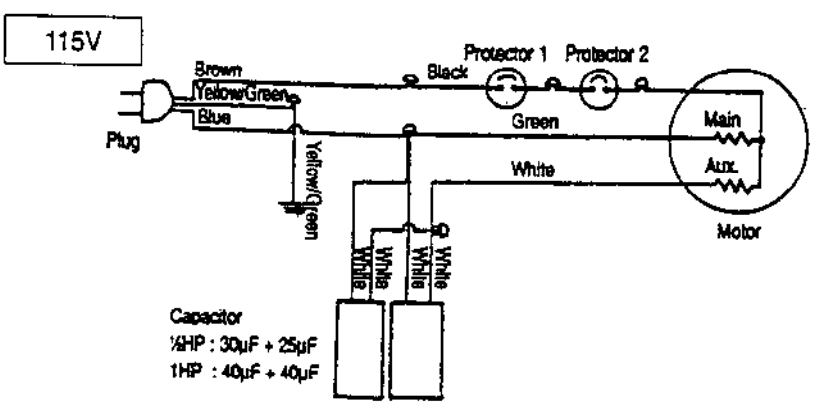


(fig. 1)

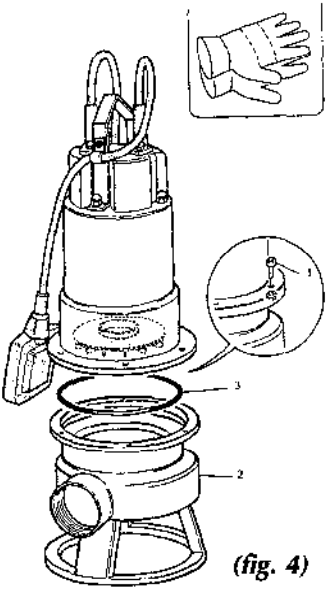
15.2. WIRING DIAGRAM WSP50AA AND WSP100AA (fig. 2)



15.3. WIRING DIAGRAM FOR WSP50AM AND WSP100AM (fig. 3)



15.4. DIAGRAM FOR PUMP IMPELLER COVER DISASSEMBLY (fig. 4)



(fig. 4)

WARRANTY SERVICE INFORMATION

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 to:	American Honda Motor Company Power Equipment Division Customer Relations Office 4475 River Green Parkway Duluth, GA 30096-2565
Or telephone:	(770) 497-6400 weekdays, 8:30 a.m. - 5:00 p.m. EST

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

- Model and serial number.
- Name of the dealer who sold you the pump.
- Name and address of the dealer who services your pump.
- Date of purchase.
- Your name, address, and telephone number.
- A detailed description of the problem.

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

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