HONDA
Power
Equipment

OPERATOR'S MANUAL

SUBMERSIBLE PUMP

WSP33AA • WSP53AA • WSP73AA

Click here to save this manual to your computer.

Thank you for purchasing this Honda Stainless Steel Sump Pump. We hope you are pleased with your purchase and that our pumps will provide you with long service life and exceptional performance.

To ensure satisfactory service life, there are several considerations regarding proper installation, operation and power source. Please review the recommendations outlined within this operator's manual.

Please contact your supplier (supplying dealer or contractor) if service is necessary or if you have any questions or need further assistance.

Please retain the following information for your records and to help expedite service:

Purchase Date: _____

Purchased From: _____

_____

Serial No: _____

(Located on the pump nameplate)

Important Safeguards

To reduce risk of injury, ***always*** follow these instructions and safety precautions when using this pump and to maintain warranty.

Read All Instructions Prior to Installation
(SAVE THESE INSTRUCTIONS)

Installation/Operation:

- Never lift or carry pump by the electrical cord. Use a chain or rope affixed on handle to install/remove pump. To reduce potential damage to the pump from inadvertent lifting by the electrical cord, please refer to "Proper Lifting" located on the following page.
- This pump must be operated fully submerged. Pump must be shutdown if sump, pit or pond level drops below the motor housing.
- Pump is designed to pump clean water (maximum temperature of 122° F) with suspended solids up to 3/16 of an inch. Larger solids will clog the suction strainer plate leading to dry running and subsequent failure (***Note:*** *Pumping sand, gravel, and other hard debris will shorten the life of the pump)*. Elevate the pump with bricks or other support above the sump, pit or pond bottom if debris is present.
- Clean filter basin when cleaning inlet filter media when pump is shutdown.
- If used with a float switch, the float must have a full range of motion to operate properly without obstruction. Refer to installation instructions, page 9.
- Pump should be mounted upright only (vertical). Never lay the pump on its side.

Electrical Requirements:

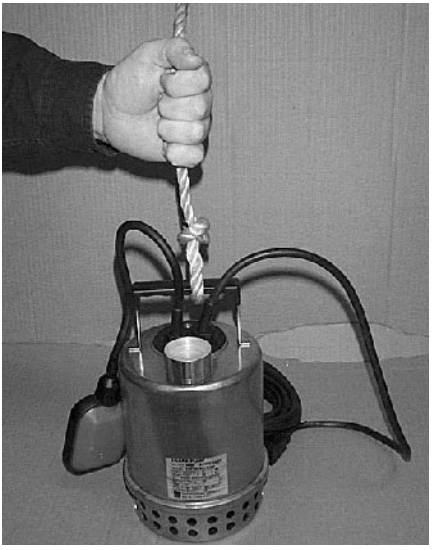
- Pump must be operated with a GFI breaker of at least 20 amps.
- High OR Low Voltage can damage the pump. Power from your utility or generator set cannot be more or less than 10% of the rated voltage shown on the pump.
- Maximum distance from power source and pump must not exceed 100 feet using 16/3 electrical cables. This distance is from the breaker box and includes the pump cord. If the run is longer, consult a qualified electrician or your dealer.
- Lightning strikes can destroy the capacitor in your pump. Ensure proper protection is provided.
- Consult this manual for additional operation and application information.

Important Safeguards

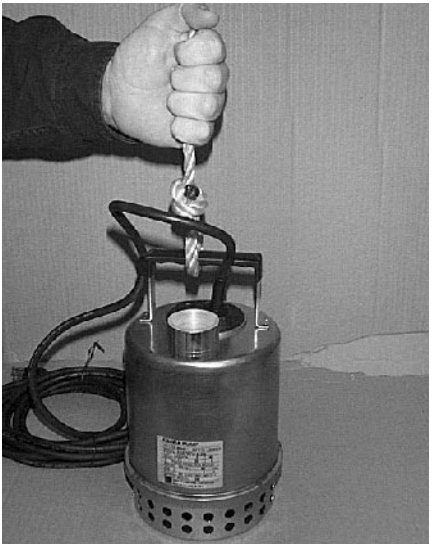
Proper Lifting:

A separate chain or rope should be attached to the handle for normal lifting.

Please note that this will help prevent damage due to inadvertent lifting of the pump by the power cord.



Rope attached to automatic pump for lifting and installation.



Rope attached to manual pump for lifting and installation.

Contents

General Application Information

The Sump and Installation

If your basement does not currently have a sump installed, it would be necessary to check local plumbing codes as to the acceptable type of sump that may be used. Materials commonly specified are: clay tile, fiberglass, steel, concrete and polyethylene. It may be necessary to cut a hole in the basement floor and excavate for the sump. Plumbing and electrical contractors can advise on proper installations of drain tiles, sump, pump and electrical service. Honda recommends that a solid sump base be provided. The sump is fed by drain tile placed around the outside and/or inside basement walls at the footings. If applications where a gravel base must be used, to relieve hydraulic pressure under the basement floor, be sure to provide a permanent and solid base for the pump (bricks or a steel plate). A sump cover capable of supporting 200 pounds should be employed to contain odors and for obvious safety reasons.

Electrical Installation

Electrical service for any sump pump installation must be grounded and separately fused or breakered directly from the entrance box with a single grounding type receptacle at the pump. The receptacle should not be less than four feet above the basement floor for

General Application Information *(cont.)*

safety reasons. You should never touch a sump pump or discharge piping while the pump is connected to electrical power and water is present. The pump should be disconnected from the electrical source before handling in all cases.

Discharge Piping Installation

To assure the maximum performance from your sump pump, the discharge pipe size and piping fittings should not be smaller than the discharge port of the pump. Smaller pipe will add to friction losses and reduce the capacity of the pump. Normally accepted materials are galvanized pipe, rigid plastic pipe or acceptable flexible pipe or hose. A piece of flexible hose between the pump discharge and the discharge piping will provide for ease in alignment, reduce vibration and noise, and will act as a union when it is necessary to remove the pump. Where the discharge pipe is long, a check valve is often employed to prevent the water from flowing back into the sump when the pump turns off. If the discharge is directed into a sanitary sewer, a suitable anti-siphon device or a free flow check valve should be inserted in the line to prevent backflow into the pit. Sump pumps are not designed to handle **raw** sewage (see page 9, Septic Tank Installation). Do not attempt to adapt one for this type of application. A sewage ejector pump especially designed to handle solids must be used.

Pump Installation

When the sump, electrical and discharge plumbing installation is complete and ready for the pump, clean all solid debris from the pit. Complete the plumbing connection to the pump and then plug the pump into the electrical outlet. A few extra minutes to test the sump pump installation are now in order. Fill the sump with water, note the turn on and turn off level of the pump, and the pumping cycle. This will allow you to calculate the approximate discharge flow of the pump system. If everything is operating properly, install the sump cover.

Pump Selection

The pump should be of sufficient capacity and head to satisfy anticipated use requirements.

Basement perimeter water intrusion varies by area and region. Typically a 1/3 HP or 1/2 HP DRAINAGE PUMP WILL EVACUATE MOST HOME SUMP PITS.
Commercial and industrial drainage applications require that calculations of pumping volume and pumping head be performed to determine the proper size pump is applied.
NOTE: Pumping volume may vary seasonally due to rainfall and area run-off.

General Application Information *(cont.)*

Basin and Cover

The basin should not be less than 18 inches in diameter and 24 inches deep. Larger diameters are advisable in instances of increased pump capacity requirements:

Required Pump Capacity	Minimum Basin Diameter
up to 35 GPM	18"
over 35 GPM	24"
over 60 GPM	30"
over 100 GPM	36"
over 150 GPM	48"

The basin should be located such that all water flows into the basin due to gravity. Outdoor installations should be at a sufficient depth to ensure protection from freezing.

Maintenance Tips

- **Every three or four months:**
  1) Clean the pump screen or inlet opening. If your sump collects the discharge from an automatic washing machine, cleaning will be required more often. (Before removing the pump be sure to disconnect the unit from electrical power; and reconnect after completion of cleaning);
  2) Pour enough water into the sump to cycle the pump and assure its proper functioning.
- **Annually:**
  Remove and clean the pump. Clean the sump pit also.

Safety Information and Introduction

⚠ WARNING

Before handling this pump, always disconnect the power first.

This pump should only be serviced by a qualified person or a factory trained person.

⚠ CAUTION

This instruction manual includes necessary items for installation, operation and maintenance. Read this manual carefully to ensure correct installation, operation and maintenance.

Be sure to keep this instruction manual on hand for future reference.

General Specifications

⚠ CAUTION

Be careful not to exceed the given specifications in the use of your products.

Check the nameplate for your pump's head (HEAD), discharge volume (CAPACITY), speed (SPEED), motor voltage and current. Other specifications are noted in the chart below:

Model	Discharge Diameter (Inch)	Motor Output (HP)	Motor Phase	Voltage	Weight (LB)
WSP33AA	1 1/4	1/3	1	115	11
WSP53AA	1 1/2	1/2	1	115	27
WSP73AA	1 1/2	3/4	1	115	27

Tools Needed

- Screw driver
- Pipe wrench
- Adjustable wrench (medium-large)
- Hacksaw with 24-tooth blade for cutting plastic pipe
- Knife or round file for smoothing inside of all plastic pipe connections

Materials Needed

- PVC or ABS pipe cement *(read manufacturer's instructions carefully)*
- PVC or ABS pipe;
  – 1 1/4" for WSP33AA
  – 1 1/2" for WSP53AA, WSP73AA
- PVC adapter
  – 1 1/4" for WSP33AA
  – 1 1/2" for WSP53AA, WSP73AA
- In line check valve
- Sump basin 18" or larger diameter plastic, fiberglass or concrete.
  (See page 5 for minimum diameter basin size by pump capacity.)
- Optional: gate valve
  (see installation drawing on page 11)

Installation Instructions

Step 1 Inspection: Your pump has been carefully packaged to prevent damage during shipping. However, occasional damage does occur due to rough handling. Carefully inspect the pump for damage that could cause it to fail.

Step 2: Attach desired length of PVC or ABS discharge pipe to pump outlet, using PVC adapter (1¼" pipe and adapter for WSP33AA, 1½" WSP53AA, WSP73AA). Make sure open end of pipe will be above top of basin.

Step 3: Clear sump basin of any water, debris or sediment.

Step 4: Lower pump into basin.

Step 5: Attach in line check valve to discharge pipe 12" to 18" above pump discharge with arrow pointing away from the pump (with the flow). Connect other end of check valve securely to drain pipe and tighten clamps.
Note: Do not put check valve directly into pump discharge opening.

Step 6: Drill a 1/8" relief hole in the discharge pipe 5" above pipe connection to pump.

Step 7: Plug in pump and fill sump basin with water to test unit. Pump should turn on at 13" to 14" water level. Allow pump to go through several ON-OFF cycles to assure satisfactory operation.
Note: If pump does not operate properly, see the troubleshooting checklist on page 14.

Septic Tank Installation

The WSP pumps can be used to pump septic tank effluent (not containing greater than 3/8" solids), but must be installed as follows:

- Install pump in separate compartment at the discharge side of the septic tank. Never install pump in main tank where sludge collects.
- Use with a junction box.

WARNING: Sump basin must be vented in accordance with local plumbing codes. These pumps are not designed for and CANNOT be installed in locations classified as hazardous in accordance with the National Electric Code, ANSI/NEPA 70-1984.

Electrical information

• Pumps are 115 V, 60 Hz and are grounded to prevent electrical shock.

WARNING: Risk of electric shock—this pump is supplied with a grounding conductor and grounding-type attachment plug. To reduce the risk of electric shock, be certain that it is connected only to a properly grounded, grounding-type receptacle.

- Use a separate 15 amp circuit breaker or 15 amp fuse block with the pump.
- **Do not** use an extension cord with the pump.
- **Do not** cut off the ground pin or use an adapter fitting.
- **Do not** work on the pump or switch until any or all power cords are unplugged.

IMPORTANT INSTRUCTIONS BEFORE INSTALLATION

Failure to follow these instructions may cause serious bodily injury and/or property damage.

1. Before installing or servicing your pump, BE CERTAIN pump power source is disconnected.
2. Installation and electrical wiring must adhere to state and local codes and must be complete before priming pump. Check appropriate community agencies, or contact local electrical and pump professionals.
3. CALL AN ELECTRICIAN WHEN IN DOUBT. Pump should be connected to a separate 15 amp circuit breaker or 15 amp fuse block. Plugging into existing outlets may cause low voltage at motor, causing blown fuses, tripping of motor overload, or burned out motor.
4. Do not connect pump to a power supply until permanently grounded. For maximum safety, ground pump to a circuit equipped with a fault interrupter device.
5. Voltage of power supply must match the voltage of the pump.
6. Before installing pump, clear sump basin of any water, debris, or sediment. **WARNING: Sump basin must be vented in accordance with local plumbing codes. Honda WSP pumps are not designed for and CAN NOT be installed in locations classified as hazardous in the National Electric Code, ANSI/NFPA 70.**
7. The sump basin should be between 18" and 24" in diameter and made of plastic, fiberglass, or concrete.
8. The following may cause severe damage to pump and will void warranty:
   - Using an extension cord.
   - Cutting off the ground pin or using an adapted fitting.
   - Working on pump or switch while plugged in.
   - Removing motor housing, unscrewing impeller, or otherwise removing impeller seal.

PIPING
Plastic PVC pipe is shown in the illustrations, but galvanized steel or copper pipe may be used if desired. All piping must be clean and free of all foreign matter to prevent clogging. Use thread compound on all threaded joints unless specified otherwise.

Submersible Pump Installation

Refer to the installation illustration on the following page for the following instructions. Be certain sump basin is clean and all power to pump is shut off. If pump fails to operate properly after installation, refer to the troubleshooting checklist on page 14 or contact Honda servicing dealer.

General Materials Needed

- One can PVC cement (read instructions carefully)
- One can thread compound (read instructions carefully)
- One male PVC adapter: 1¼" for ⅓ HP; 1½" for ½ and ¾ horsepower models.
- Enough rigid PVC pipe and couplings to reach from bottom of sump basin to discharge: 1¼" for ⅓ HP; 1½" for ½ and ¾ horsepower models.
- One Check Valve.

Tools Needed for all pump installations:
Pipe wrench, slot screwdriver, 24-tooth hacksaw, knife or round file.

Step 1 – Thread male PVC adaptor into pump discharge opening.

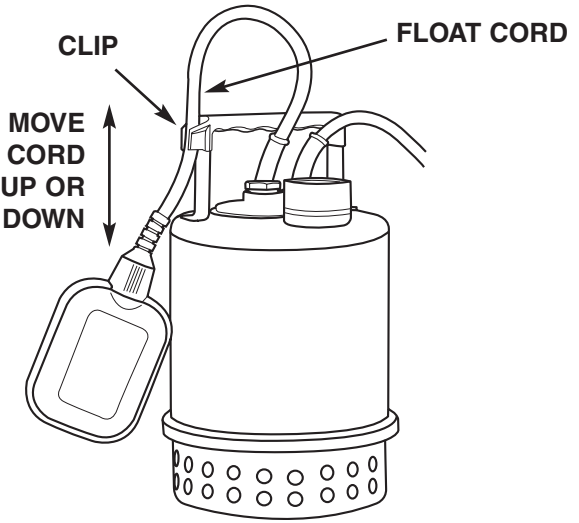
Step 2 – Cement a 15" piece of PVC pipe to adaptor. Use appropriate diameter piping. Drill a 1/8" relief hole in the pipe 5" above pump connection. This hole prevents pump from air-locking.

Step 3 – Clamp Check Valve to top of 15" PVC pipe with water flow arrow pointing away from pump.

Step 4 – Lower pump into basin. Clamp needed PVC discharge pipe and fittings to open end of Check Valve.

Submersible Pump Installation *(cont.)*

Step 5 – Plug in and fill sump basin with water. Pump should turn on at 13" to 14" water level. If it does not turn on at 13" to 14" water level, remove the float cord from the clip and reattach in a higher or lower position, so that the pump turns on at the 13" to 14" water level.

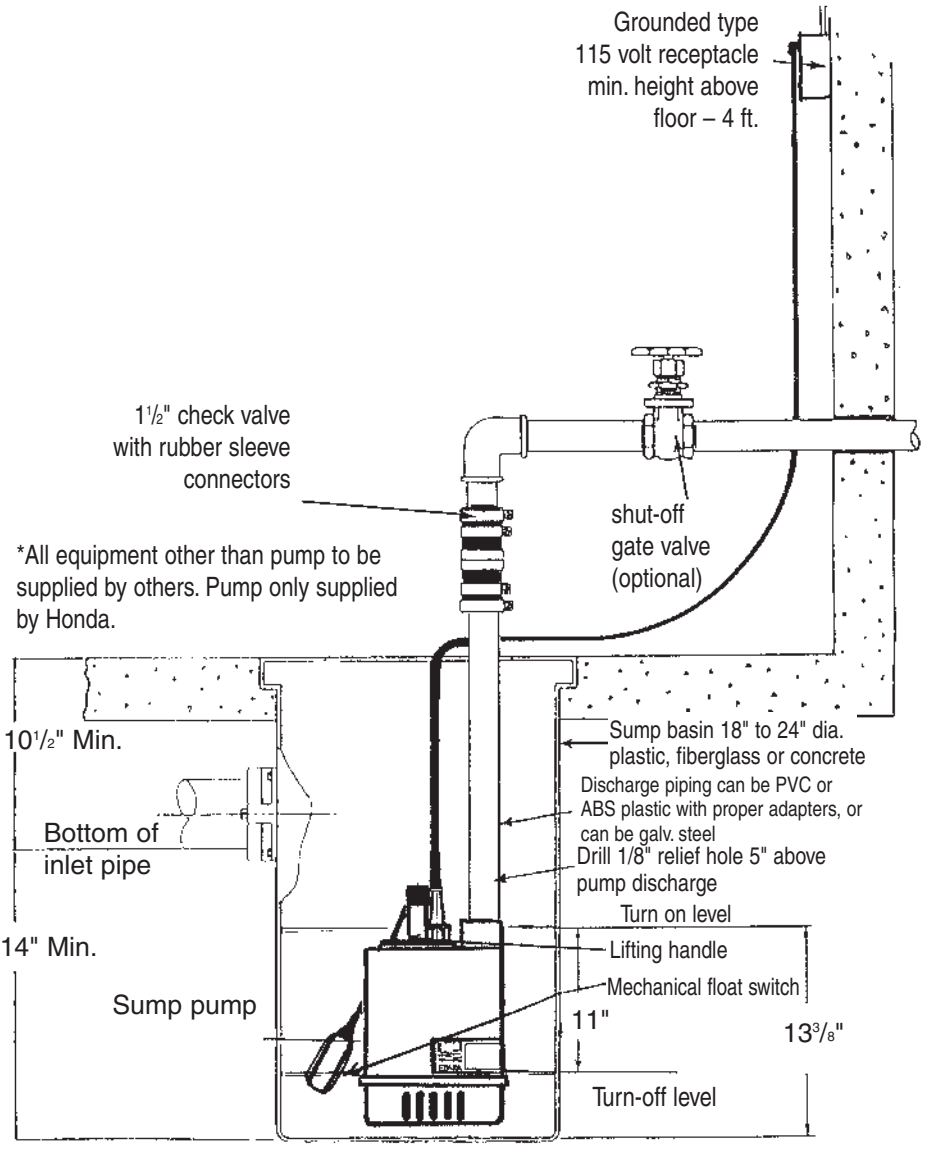


Step 6 – Perform several ON-OFF cycles to assure satisfactory operation.

Performance Table (Capacity in Gallons per Minute)

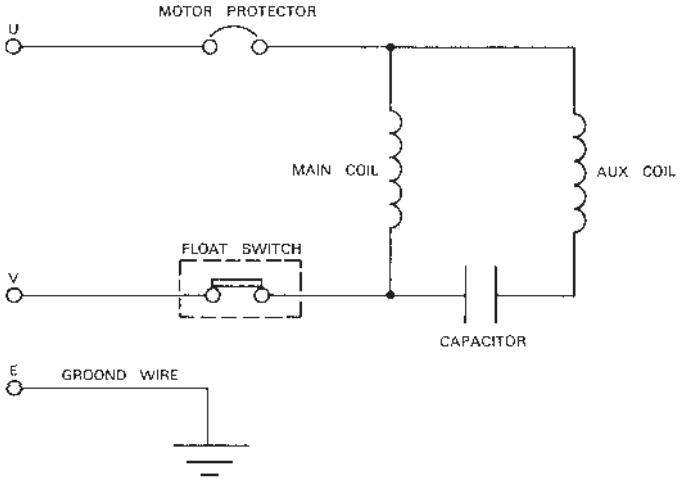
ITEM NO \ TOTAL HEAD		5	10	15	20	25	30	35	40	45	50
WSP33AA	GPM	40	37	32	22	5					
WSP53AA	GPM	69	62	55	46	37	28	19	8		
WSP73AA	GPM	73	69	64	57	49	41	33	25	16	7

WSP Submersible Pump Installation Diagram



Motor Wiring Diagram

Automatic Operation Type Output (Single Phase)



Operation

Check the water level before starting the pump.

If the pump is operated continuously for an extended period of time in a dry condition or at the lowest water level, the motor protector will be activated in single phase units. Constant repetition of this action will shorten pump service life. Do not start the pump again in such a situation until after the motor has completely cooled.

Technical Specifications

Model **WSP33AA**
WSP53AA
WSP73AA

Performance: ISO 2548

	Standard	Optional
Discharge Size	1/3 HP – 1 1/4 inch 1/2 HP and 3/4 HP – 1 1/2 inch	
Range of Performance	Capacity: up to 74 GPM Head: up to 54 feet	
Limitation		
Maximum Water Temperature	122°F/50°C	
Solids	3/8" Spherical (2% by concentration)	
Speed	3600 RPM	
Materials		
Casing	304L Stainless Steel	
Impeller	304L Stainless Steel*	
Shaft	303 Stainless Steel	
Motor Frame	304L Stainless Steel	
Fasteners	304L Stainless Steel	
Shaft Seal (Double)**		
Material – Upper Side	NBR Fitted Carbon/Ceramic WSP53AA and WSP73AA	
Material – Lower Side	Viton Fitted Silicon Carbide/Silicon Carbide WSP53AA and WSP73AA	
Impeller Type	Semi-Open	
Bearing	Sealed Ball Bearing	
Motor	Air-filled, Insulation Class F, 2 Pole, Rated Continuous Duty– Permanent Split Capacitor	
Single Phase	115 Volt	
Motor Protection	Built-in Motor Protection with Auto Reset	
Power Cord	UL/CSA SJTow-A with ECS No. 250 cap plug with grounding pin – 50 Ft. Length Rated 15 Amp 125V – NEMA 5-15P	
Automatic Float Switch	Mechanical Float	

* WSP33AA - Impeller/Diffuser is Thermo Plastic-Noryl GFN2

** WSP33AA – 1/3 HP Shaft Seal is Non-Mechanical Double Oil Seal (Rubber)

Troubleshooting Checklist

PROBLEM	POSSIBLE CAUSES
Pump does not run or hums.	• Line circuit breaker is off, or fuse is blown or loose. • Water level in sump has not reached turn-on level as indicated in installation drawing. • Pump cord is not making contact in receptacle. • Float is stuck. It should operate freely in basin. • If all of the above are OK, then the motor winding may be open.
Pump runs but does not deliver water.	• Check valve is installed backwards. Arrow on valve should point in direction of flow. • Discharge shut-off valve (if used) may be closed. • Pump is air-locked. Start and stop several times by plugging and unplugging cord. Check for clogged vent hole in pump case. • Impeller or volute openings are fully or partially clogged. Remove pump and clean. • Inlet holes in pump base are clogged. Remove pump and clean the openings. • Vertical pumping distance is too high. Reduce distance or resize pump.
Pump runs and pumps out sump, but does not stop.	• Float is stuck in up position. Be sure float operates freely in basin. • Defective float switch.
Pump runs but delivers only a small amount of water.	• Pump is air-locked. Start and stop several times by plugging and unplugging cord. Check for clogged vent hole in pump case. • Vertical pumping distance is too high. Reduce distance or resize pump. • Inlet holes in pump base are clogged. Remove pump and clean the openings. • Impeller or volute openings is fully or partially clogged. Remove pump and clean.
Fuse blows or circuit breaker trips when pump starts.	• Pump impeller is partially clogged, causing motor to run slow and overload. Remove pump and clean. • Motor stator may be defective. • Fuse size or circuit breaker may be too small. Must be 15 amps. • Impeller or volute openings are fully or partially clogged. Remove pump and clean.
Motor runs for a short time, then stops.	• Inlet holes in pump base are clogged. Remove pump and clean the openings. • Pump impeller is partially clogged, causing motor to run slow and overload. Remove pump and clean. • Motor stator may be defective. • Impeller or volute openings are fully or partially clogged. Remove pump and clean.

Maintenance and Service

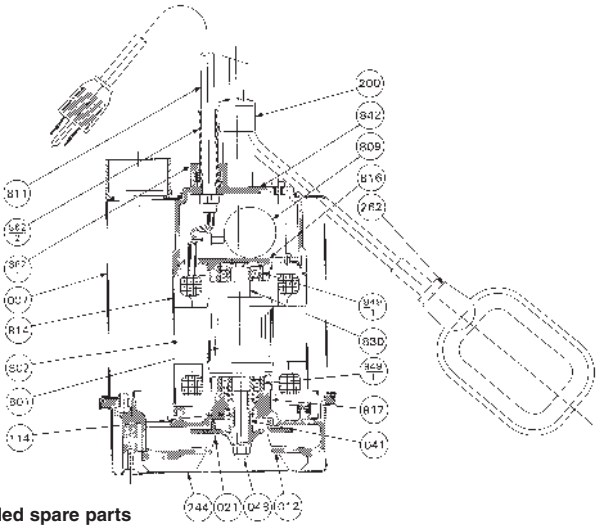
WARNING: Pump warranty becomes void if you remove motor housing, unscrew impeller, or otherwise remove impeller seal.
If pump does not operate properly, follow the steps shown under Troubleshooting.
For any work on pump or switch, always unplug power cord(s). Do not just turn off circuit breaker or unscrew fuse.

Cleaning float
If pump becomes inoperative because of trash accumulation on the float, remove pump from sump and clean float switch.
Wipe all water and dirt from the pump and float switch.
Be sure float switch operates freely after cleaning.

Cleaning impeller and volute case
Remove screws that hold lower base to housing.
CAUTION: Do not remove motor housing or unscrew impeller. Use screwdriver to pry base from housing. Pry in several places.
Be sure impeller turns freely after cleaning. Clean out holes in the pump base and wash thoroughly before replacing.

Sectional View – WSP33AA

Automatic Type Output 1/3 HP (Single Phase)

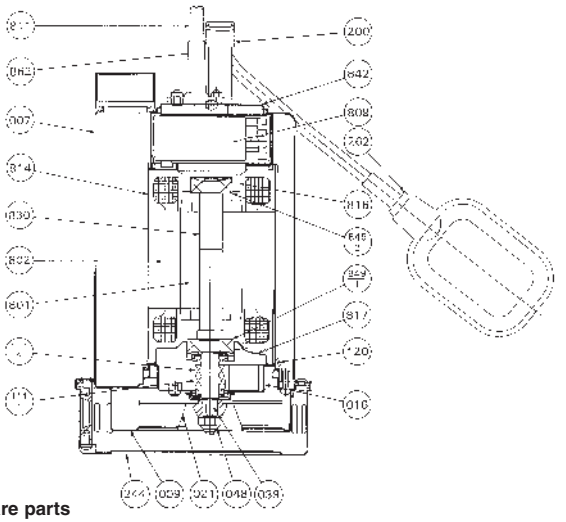


*** Recommended spare parts**

Ref. No.	Part Name	Material	ASTM, AISI Code	No. for 1 Unit
007	Outer Casing	304 Stainless	AISI 304	1
012	Suction Cover	Noryl G.F. 3		1
021	Impeller	Noryl G.F. 3		1
041	Sleeve	304 Stainless/Ceramic		1
048	Impeller Nut	304 Stainless	AISI 304	1
*114	Oil Seal	NBR		1 set
200	Lifting Hanger	304 Stainless	AISI 304	1
244	Strainer	304 Stainless	AISI 304	1
262	Float Switch	—		1
801	Rotor	—		1
802	Stator	—		1
809	Capacitor	—		1
811	Submersible Cable	—		1
814	Motor Frame	304 Stainless	AISI 304	1
816	Bracket	Alminume		1
817	Bracket	Noryl G.F. 3		1
830	Shaft	303 Stainless	AISI 303	1
842	Motor Cover	Moplen		1
*849-1	Ball Bearing	—		1
*849-2	Ball Bearing	—		1
862-1	Cable Connector	Nylon 66 G.F. 3		1
862-2	Cable Boot	NBR		1

Sectional View – WSP53AA, WSP73AA

Automatic Type Output 1/2 to 3/4 HP (Single Phase)



*** Recommended spare parts**

Ref. No.	Part Name	Material	ASTM, AISI Code	No. for 1 Unit
007	Outer casing	304 Stainless	AISI 304	1
009	Inner casing	304 Stainless	AISI 304	1
016	Seal cover	304 Stainless	AISI 304	1
021	Impeller	304 Stainless	AISI 304	1
039	Key	304 Stainless	AISI 304	1
048	Impeller nut	304 Stainless	AISI 304	1 set
*111-1	Mechanical seal	–		1 set
*111-2	Mechanical seal	–		1 set
120	Connection Band	304 Stainless	AISI 304	1
200	Lifting hanger	304 Stainless	AISI 304	1
244	Strainer	304 Stainless	AISI 304	1
262	Float switch	–		1
801	Rotor	–		1
802	Stator	–		1
809	Capacitor	–		1
811	Submersible cable	SJOW-A		1
814	Motor frame	304 Stainless	AISI 304	1
816	Bracket	304 Stainless	AISI 304	1
817	Bracket	304 Stainless	AISI 304	1
830	Shaft	316 Stainless	AISI 316	1
842	Motor cover	304 Stainless	AISI 304	1
*849-1	Ball bearing	–		1
*849-2	Ball bearing	–		1
862	Cable boot	NBR		1

Disassembly and Assembly

Disassembly

When disassembling pump, have a piece of cardboard or wooden board ready to place the different parts on as you work. Do not pile parts on top of each other. They should be laid out neatly in rows. The O-ring and gasket can not be used again once they are removed. Have replacement parts ready.
Disassemble in the following order, referring to the sectional view.
Be sure to cut off power source before beginning disassembly.

(1) Loosen casing bolts and remove casing.
(2) Loosen bolt at end of pump shaft and lift impeller off shaft.
(3) Remove pump shaft key and mechanical seal.
(4) Loosen inner casing bolts and remove inner casing.
Note 1: Drain the lubricant oil into a container (WSP53AA, WSP73AA).
(5) Remove the mechanical seal from the main shaft.
Note 2: Be careful not to cut your fingers on the shaft key groove when pulling out the mechanical seal.
Note 3: Be careful not to scratch or bend the pump shaft during disassembly.

Assembly

Re-assemble in reverse order of disassembly.
Be careful of the following points.

(1) During re-assembly, rotate the impeller by hand and check for smooth rotation.
(2) Replace the O-ring.
(3) Replace all parts that are damaged.
(4) Tighten bolts evenly.

Please obtain O-rings, and other parts from pump dealer.

Oil Capacity: 7.7 oz. (WSP53AA, WSP73AA)
Oil Type: White, pure mineral oil; Esso Marcol 172 for pharmacology, cosmetics and agrifood industries (FDA approved)

* All specifications subject to change without notice.
In this manual, the particulars in { } are in accordance with the International System of Units (SI) and given for reference only.

Customer Service Information

Servicing 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, General Manager, or Owner can help. Almost all problems are solved in this way.

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

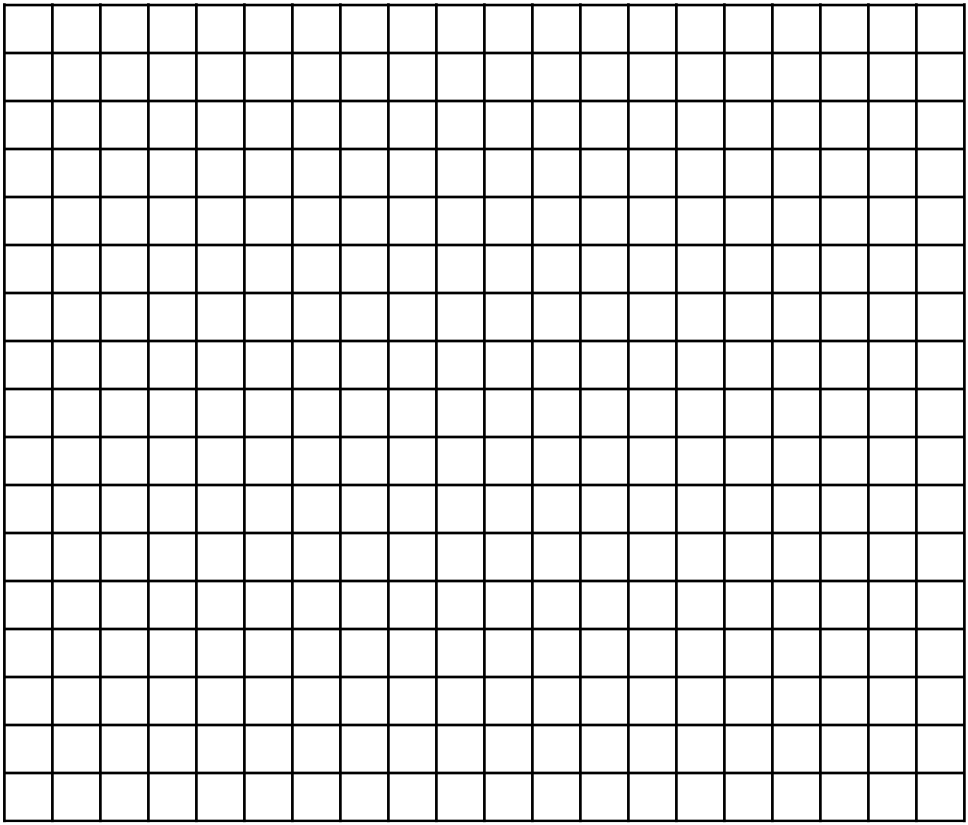
American Honda Motor Co., Inc.
Power Equipment Division
Customer Relations Office
4900 Marconi Drive
Alpharetta, GA 30005-8847

Or telephone: (770) 497-6400, 8:30 am - 6:00 pm EST

When you write or call, please provide this information:

- Model and serial number
- Name of dealer who sold the pump to you
- 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

HONDA



P/N 31WSP602

Printed on
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IPC 2200.2005.04

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