



481 Panet Road Winnipeg, MB

R3C 2W7

WATER PUMP

INSTRUCTION MANUAL

ITEM # 8000880, 8000881

GENERAL INFORMATION

The purpose of this manual is to assist you in operating and maintaining your Water Pump unit. Please read it carefully as it furnishes information, which will help you achieve years of dependable trouble free operation.

WARRANTY-PARTS-SERVICE

To obtain prompt, efficient service, always remember to give the item number and serial number. Whenever you need parts or repair service, contact Princess Auto Ltd. at:

Telephone # **1-800-665-8685**

Fax # **1-800-265-4212**

This equipment has been designed and manufactured for water transfer applications such as ditch draining, filling/draining dug-outs, filling large water tanks, light irrigation, etc...

I) SAFETY GUIDELINES

DEFINITIONS

Safety symbols identify important safety messages that alert to the possibility of personal injury or death. Review them carefully before operating the unit and before performing maintenance or repairs. Check the rules and regulations at your operating site and identify possible hazards. The appropriate signal word for each message has been selected using the following guidelines:

⚠ DANGER - Danger indicates an immediate and specific hazard, which **will** result in **severe personal injury** or **death** if the proper precautions are not taken.

⚠ WARNING - Warning indicates a specific hazard or unsafe practice, which **could** result in **severe personal injury** or **death** if proper precautions are not taken.

⚠ CAUTION - Caution indicates potentially hazardous situation, which **may** result in **minor or moderate injury** or **damage to unit** if proper practices are not taken.

IMPORTANT SAFETY INSTRUCTIONS



Read and understand the operator's manuals and all safety alerts before operating or maintaining your water pump. Be certain that everyone operating this equipment is familiar with the recommended operating and maintenance procedures and follows all the safety precautions. Never let children or untrained adults operate this equipment.

⚠ WARNING



RISK OF EXPLOSION OR FIRE

Spilled gasoline and its vapors can become ignited from cigarette sparks, electrical arcing, exhaust gases, and hot engine components such as the muffler.

Heat will expand gas vapours in the tank, which could result in spillage possibly causing a fire or an explosion.

Never refuel the engine while hot or running. Move unit away from refueling area before starting engine.

Operate and fuel equipment in well ventilated areas free from obstructions. Equip areas with fire extinguishers suitable for gasoline fires.



RISK OF CARBON MONOXIDE POISONING

Do not operate equipment in enclosed area. Engine exhaust contains carbon monoxide, an odorless, colorless, deadly poison.



RISK OF HOT SURFACES

Contact with hot surfaces, such as engines exhaust components could result in serious burn.

⚠ CAUTION

These pumps are capable of handling the occasional solids up to 5/8" diameter [8000880] and 3/4" diameter [8000881]. Any solids, larger than specified, that are allowed to enter the pump may cause catastrophic failure of the pump and/or engine.

Clear the area of people before starting and operating.

This pump is **NOT** to be used to transfer potable water for human consumption.

DO NOT run this pump without water in the pump housing. Doing so will damage the internal mechanical seal of the pump.

Do not modify the equipment in any way. Unauthorized modification may impair the function and/or safety and could affect the life of the equipment.

II) OPERATION

APPLICATION

ITEMS # 8000880, 8000881

These semi-trash centrifugal pumps are ideal for transferring large volumes of water in a short period of time. They should be used primarily to “push” water, as opposed to “pulling” or “sucking” water due to the limited suction head available.

These pumps are used in such applications as draining full ditches, draining/filling dugouts, light-duty irrigation [nurseries, commercial garden crops, orchards, golf courses...], filling water tanks [spraying crops, hauling water for livestock...], etc.

HOSES

Water pumps require, at least, a non-collapsible suction hose and in most applications a discharge hose. For a selection of hoses to suit your needs, please see your nearest Princess Auto retail store.

Keep hoses in good repair. Repair or replace immediately if leaks occur. It is recommended to use 2 hose clamps where every hose end is joined with a fitting.

FITTINGS

Keep fittings in good repair. Tighten, repair or replace immediately if leaks occur.

START-UP

1. Place the water pump on a level surface. Clear the area of people, especially small children. Keep the pump at least 1m away from buildings, obstructions and flammable objects. Do not aim engine exhaust at materials that could catch fire.
2. Check that all fasteners and plugs are tight. Inspect suction and discharge hoses and fittings for wear cracking or fatigue. Repair or replace if damaged.
3. Fill engine fuel tank with gasoline and add oil to engine crankcase. Check engine Operator's manual for correct amount and type. If engine will not start refer to troubleshooting section of this manual and/or Honda engine owner's manual.
4. Connect suction and discharge fittings to pump. Lay out necessary hoses. Attach the strainer to one end of the non-collapsible suction hose.
5. Connect suction and discharge hoses to respective fittings on the pump, fastening them with hose clamps.
6. Remove priming plug on discharge port of pump. Using a container suitable for water, fill pump with water to prime unit. Once filled, replace priming plug.
7. Place hoses in proper position. Start the engine. Run at slow idle for 3-5 min. to allow engine to warm up.

Since this pump is self-priming there is no need to fill suction hose or install a foot valve at the strainer.

Once engine is warmed up, position throttle to approx. 2/3 throttle. If properly primed and there are no leaks in the suction line (at fittings or in hose itself), water should begin to slowly work its way up the suction line towards the pump.

Once the water reaches the pump, the engine should begin to labour, the discharge hose should fill and water should flow through end of discharge hose.

Move engine throttle to desired position.

SHUTDOWN

1. Move the engine control lever to idle for a short time and then turn the engine switch to "OFF" position.
2. Remove drain plug from bottom of pump allowing the water from the discharge hose and pump to be drained.
3. Disconnect suction fitting from pump to allow water in suction hose to drain.
4. Allow water pump to cool down before enclosing in a small area for transportation or storage.

STORAGE

To prepare engine for transportation or storage refer to the engine's owners manual.

Water pump should be stored in a cool, dry environment, which is not subject to rapid temperature changes.

III) MAINTENANCE

MAINTENANCE SAFETY

1. Read and understand Operator's manual before maintaining this unit.
2. Before servicing, adjusting or repairing the water pump, stop the engine and wait for all moving parts to stop.
3. Allow the engine to cool off before servicing or refueling.
4. Do not smoke or work near open flames or sparks while performing maintenance.
5. Clean up all spilled fuel and engine oil before restarting the engine.

ENGINE MAINTENANCE

Consult the Engine Owner's Manual for the manufacturer's recommendations for any and all maintenance.

PUMP MAINTENANCE

If pump begins to loose performance, i.e. loss of flow or pressure at max. output, and if pump has run longer than 100 hrs, install brass washer. The brass washer should be included in a sealed bag in the pump instruction manual bag. The brass washer should be installed between impeller and shaft shoulder. Doing this will restore pump performance.

SERVICING INTERVALS

1. Before and / or after use
 - a) Check fuel level – add as required
 - b) Check engine oil level – add as required
 - c) Inspect pump for signs of leaks.
 - d) Clean machine
2. 50 hours or every two-week service
 - a) Clean engine air filter – follow manufacturer's suggested procedures
 - b) Check all fittings and connections – ensure they are tight.
3. 100 hours or quarterly
 - a) Change engine oil – use recommended oil
 - b) Change engine air filter – use manufacturer recommended parts

Service more frequently if used in dirty or dusty conditions.

SEALS

Damaged or worn seals can cause leaks.

If you find a water pump seal that is damaged or worn, see your nearest Princess Auto retail store for the proper replacement seals.

LEAKS

If a leak is found between two pump housing components or between a pump housing component and a plastic plug, check seal for condition.

If a leak is apparent between the pump flange and engine, check mechanical seal. There are two components to the mechanical seal; the rubber seal that is spring loaded and spins with the impeller, and the stationary ceramic seal, that is pressed into the pump flange.

1. First check the rubber seal for damage and/or wear. Crucial areas are the surface opposite the spring and the inside surface of the seal. If nothing found, proceed to next check.
2. Second, check rubber gasket around ceramic seal. Check that the seal is properly seated in the aluminum casting. If the seal is not seated properly, apply pressure to seat the seal at the bottom of its intended groove.

IV) TROUBLESHOOTING

PROBLEM	CAUSE	SOLUTION
Engine will not start or stalls under low load conditions	Engine switch off	Turn engine switch on
	Fuel valve off	Turn fuel valve on
	Fuel level low	Add fuel
	Engine oil low	Add engine oil
	Engine oil very high	drain to normal level
	Fuel not reaching carburetor	Refer to engine manual for proper procedure
	Grinding or malfunctioning pump	See dealer
Engine runs but Pump does not move water	Low HP/weak engine	See dealer
	Suction line leaking air	repair hose or tighten clamps at fittings
	Damaged impeller or volute	See dealer
	Plugged strainer	Inspect strainer and clean as required
—	Plugged check valve	Disconnect suction hose and inspect check valve.
	—	—
Engine stalls under load	Low HP/ weak engine	See Dealer

V) SPECIFICATION

ITEM	8000880	8000881		
1) Pump Max. Volume @ 0 ft. head Max. discharge head Max. suction head Rpm range Max pressure discharge Outlet port (discharge) Inlet port (suction)	Centrifugal Semi-trash 158 GPM (U.S.) 85 ft. 26 ft. 2000-4000 36.8 PSI 2" 2"	Centrifugal Semi-trash 264 GPM (U.S.) 98 ft. 26 ft. 2000-4000 42.5 PSI 3" 3"		
2) Engine Engine type Max. output RPM Oil capacity Fuel tank cap.	Honda ® GX 120 OHV W/ Oil Alert 4 HP 3600 .6 liters 2.5 liters	Honda ® GX 160 OHV W/ Oil Alert 5.5 HP 3600 .6 liters 3.6 liters		
3) Frame Overall Dimensions (in) (LxWxH)	18.25x13.75x14	20x14.5x19.25		

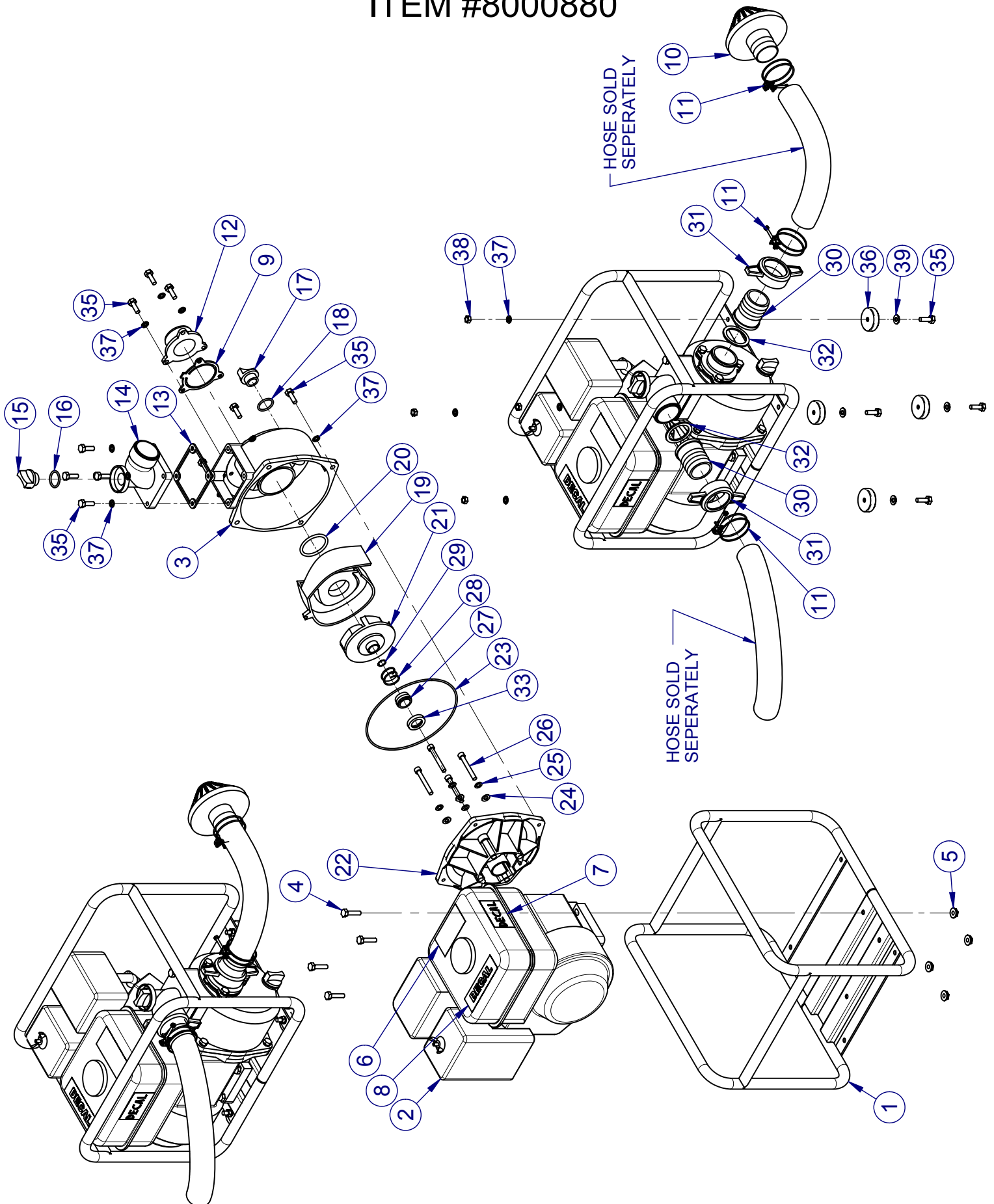
VI) FRAME

Designed to protect pump and engine from damage. Also, facilitates carrying of unit. Frame is of welded steel construction.

VII) FITTINGS

Plastic 2 pc. fittings with gasket. Threaded portion of fitting has wing nut type design.

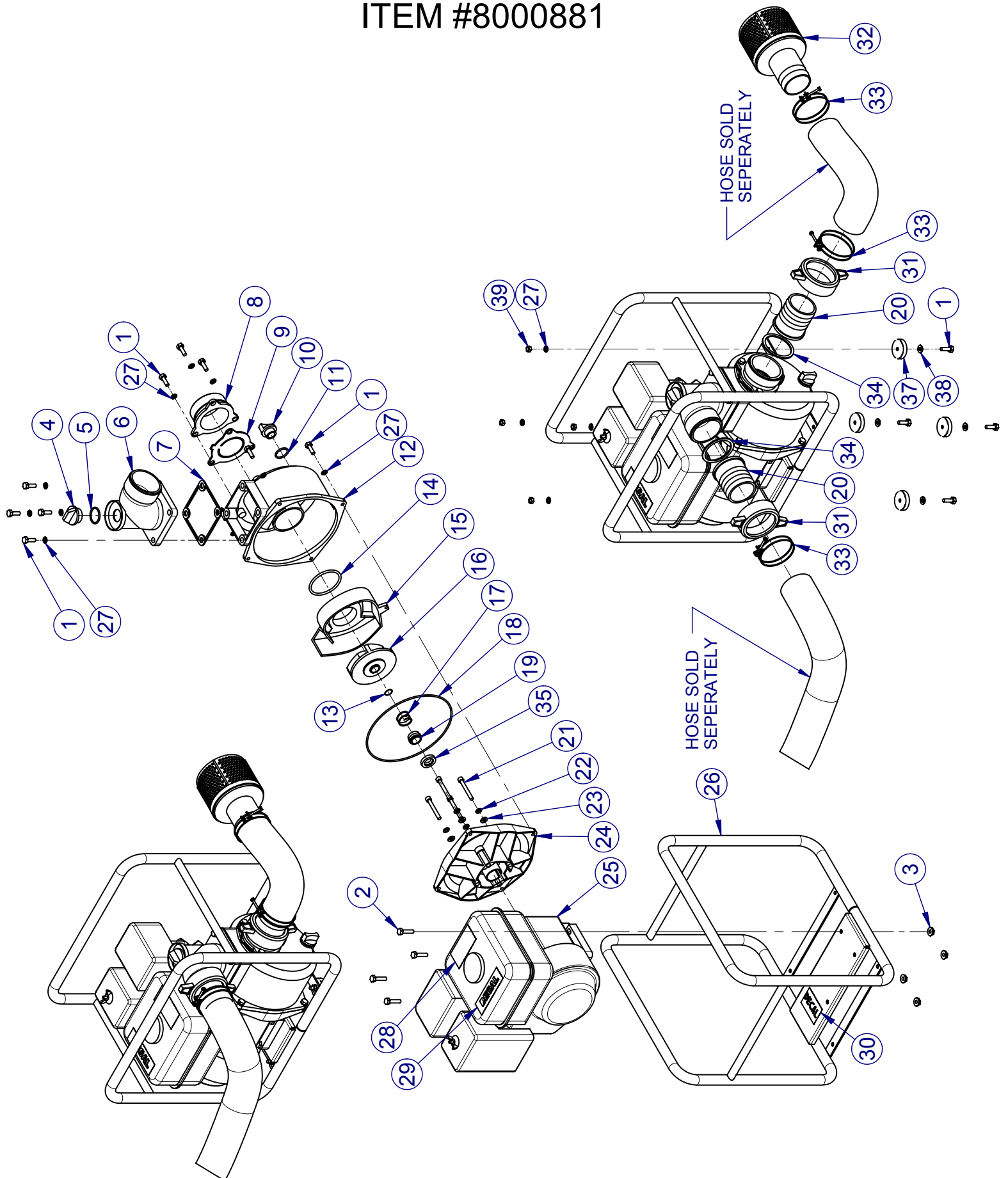
WATER PUMP 2.0" 4 HP HONDA ITEM #8000880



PARTS LIST
WATER PUMP 2.0" 4 HP HONDA
ITEM #8000880

No.	Item No.	Description	Qty
1	8001227	WATER PUMP FRAME 2 IN	1
2	10001057	ENGINE 4 HP HONDA OIL ALERT T-SHAFT	1
3		CASING COVER	1
4		BOLT 8-1.25 X 40 MM	4
5		NUT HEX SERATED FLANGE 8-1.25	4
6	9161274	DECAL - WARNING REFUEL	1
7	9160813	DECAL PAL SERIAL #	1
8	10001114	DECAL POWERFIST WATER PUMP 2"	1
9		CHECK VALVE/GASKET	1
10		STRAINER 2"	1
11		CLAMP HOSE 2.0"	3
12		INLET PORT	1
13		OUTLET PORT GASKET	1
14		OUTLET PORT	1
15		CASING DRAIN PLUG	1
16		CASING DRAIN PLUG O RING	1
17		PRIMARY PORT PLUG	1
18		PRIMARY PORT PLUG O RING	1
19		VOLUTE (INNER CASING)	1
20		O RING INNER CASING	1
21		IMPELLER	1
22		CASING COVER	1
23		O RING CASING SEAL	1
24		FLAT WASHER .320 ID .675 OD .065 THK STEEL	4
25		FLAT WASHER .320 ID X .600 OD .045 THK COPPER	4
26		ALLEN HEAD CAP SCREW .313 DIA. X 2.5 LG	4
27		MECHANICAL SEAL	1
28		MECHANICAL SEAL SPRING	1
29		WASHER PTD .560 ID X .705 OD X .019 THK	1
30		FITTING BARB 2.0 " X 2.50 LG	2
31		FITTING COUPLER 2.0"	2
32		WASHER RUBBER 2.25 OD X 1.75 ID X .125 THK	2
33		CERAMIC SEAL HOLDER	1
34		CERAMIC SEAL	1
35		BOLT 8-1.25 X 25 MM	15
36		FOOT RUBBER	4
37		WASHER LOCK SPLIT REG .312 PTD	15
38		NUT HEX 8-1.25	4
39		WASHER PTD .312 ID X .734 OD	4

WATER PUMP 3.0" 5.5 HP HONDA ITEM #8000881



PARTS LIST
WATER PUMP 3.0" 5.5 HP HONDA
ITEM #8000881

No.	Item No.	Description	Qty
1		BOLT 8-1.25 X 25 MM	15
2		BOLT 8-1.25 X 40 MM	4
3		NUT HEX SERATED FLANGE 8-1.25	4
4		PRIMING PORT PLUG	1
5		PRIMING PORT PLUG O RING	1
6		OUTLET PORT	1
7		OUTLET PORT GASKET	1
8		INLET PORT	1
9		CHECK VALVE/GASKET	1
10		CASING DRAIN PLUG	1
11		CASING DRAIN PLUG O RING	1
12		CASING COVER	1
13		WASHER BRASS .695 ID X .780 OD X .019 THK	1
14		O RING INNER CASING	1
15		VOLUTE (INNER CASING)	1
16		IMPELLER	1
17		MECHANICAL SEAL SPRING	1
18		O RING CASING SEAL	1
19		MECHANICAL SEAL	1
20		FITTING BARB 3.0 " X 3.50 LG	2
21		ALLEN HEAD CAP SCREW .313 DIA. X 2.5 LG	4
22		FLAT WASHER .320 ID X .600 OD .045 THK COPPER	4
23		FLAT WASHER .320 ID .675 OD .065 THK STEEL	4
24		CASING COVER	1
25	10001057	ENGINE 4 HP HONDA OIL ALERT T-SHAFT	1
26	8001228	WATER PUMP & FRAME 3"	1
27		WASHER LOCK SPLIT REG .312 PTD	15
28	9161274	DECAL - WARNING REFUEL	1
29	10001120	DECAL POWERFIST WATER PUMP 3"	1
30	9160813	DECAL PAL SERIAL #	1
31		FITTING COUPLER 3.0"	2
32		STRAINER 3"	1
33		CLAMP HOSE 3.0"	3
34		WASHER RUBBER 3.25 OD X 2.63 ID X .125 THK	2
35		CERAMIC SEAL HOLDER	1
36		CERAMIC SEAL	1
37		FOOT RUBBER	4
38		WASHER PTD .312 ID X .734 OD	4
39		NUT HEX 8-1.25	4