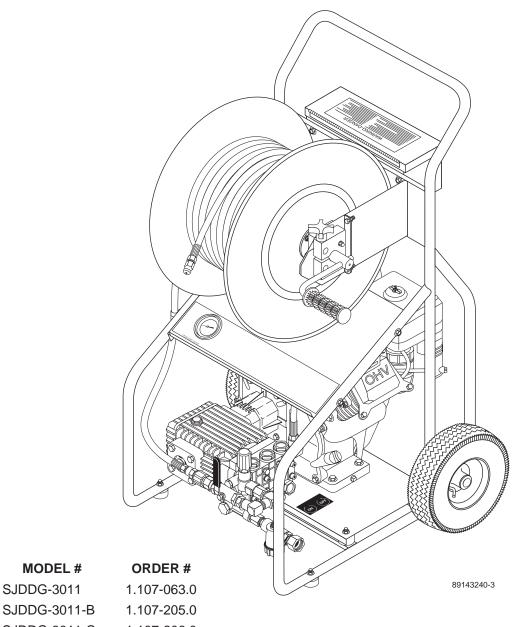


# **SJDDG-3011**

# **OPERATOR'S MANUAL**



SJDDG-3011-B SJDDG-3011-C 1.107-206.0

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Model Number	
Serial Number	
Date of Purchase	
The model and serial numbers will be found on a	
decal attached to the machine. You should record both s	
number and date of purchase and keep in a safe place f	or

future reference.

### INTRODUCTION

Thank you for purchasing a Shark® Jetter.

This manual covers the operation and maintenance of model SJDDG-3011. All information in this manual is based on the latest product information available at the time of printing.

Shark reserves the right to make changes at any time without incurring any obligation.

# **Owner/User Responsibility:**

The owner and/or user must have an understanding of the manufacturer's operating instructions and warnings before using this Shark® Jetter. Warning information should be emphasized and understood. If the operator is not fluent in English, the manufacturer's instructions and warnings shall be read to and discussed with the operator in the operator's native language by the purchaser/owner, making sure that the operator comprehends its contents.

Owner and/or user must study and maintain for future reference the manufacturers' instructions.

#### SAVE THESE INSTRUCTIONS

This manual should be considered a permanent part of the machine and should remain with it if machine is resold.

When ordering parts, please specify model and serial number. Use only identical replacement parts.

This machine is to be used only by trained operators.

### MACHINE SAFETY



CAUTION: To reduce the risk of injury, read operating instructions carefully before using.

- Read the owner's manual thoroughly. Failure to follow instructions could cause malfunction of the machine and result in death, serious bodily injury and/or property damage.
- 2. All installations must comply with local codes. Contact your electrician, plumber, utility company or the selling distributor for specific details.



CAUTION: Risk of asphyxiation. Use this product only in a well ventilated area.

3. Avoid installing machines in small areas or near exhaust fans. Exhaust contains poisonous carbon monoxide gas; exposure may cause loss of consciousness and may lead to death. It also contains

chemicals known, in certain quantities to cause cancer, birth defects or other reproductive harm.



RISK OF FIRE. DO NOT ADD FUEL WHEN OP-ERATING MACHINE. WARNING: Flammable liquids can create fumes which can ignite causing property damage or severe injury.

WARNING: Risk of fire. Do not add fuel when the product is operating.

WARNING: Risk of explosion — do not spray flammable liquids.

- 4. Do not place machine near flammable objects as the engine is hot.
- Allow engine to cool for 2 minutes before refueling. If any fuel is spilled, make sure the area is dry before testing the spark plug or starting the engine. (Fire and/or explosion may occur if this is not done.)

Gasoline engines on mobile or portable equipment shall be refueled:

- (a) outdoors;
- (b) with the engine on the equipment stopped;
- (c) with no source of ignition within 10 feet of the dispensing point; and
- (d) with an allowance made for expansion of the fuel should the equipment be exposed to a higher ambient temperature.

In an overfilling situation, additional precautions are necessary to ensure that the situation is handled in

a safe manner.





SKIN AND TISSUES.



CAUTION: High pressure stream of water that this equipment can produce can pierce skin and its underlying tissues, leading to serious injury and possible amputation.

CAUTION: Do not touch engine during operation. The muffler and other parts of the engine get hot and can cause severe burns.

WARNING: High pressure spray can cause particles to become airborne and fly at high speeds.

- Eye safety devices, rubber gloves, ear plugs and foot protection must be worn when using this equipment.
- 7. High pressure developed by these machines will cause personal injury or equipment damage. Use caution when operating. Do not direct discharge stream at people or severe injury or death will result.

- 8. Never make adjustments on machine while it is in operation.
- Do not operate valve in the off position for extensive periods of time as this may cause damage to the pump.
- 10. The best insurance against an accident is precaution and knowledge of the machine.
- 11. Shark will not be liable for any changes made to our standard machines, or any components not purchased from Shark.
- 12. Read engine safety instructions provided.



WARNING: Keep water spray away from electric wiring or fatal electric shock may result.

- 13. Never run pump dry.
- 14. Do not allow children to operate the Shark® Jetter at any time.
- 15. Inlet water supply must be cold and clean fresh water.

#### **ASSEMBLY**

Upon arrival, inspect the shipping crate for damages. Uncrate and examine all parts. Note any damage to machine or components for claims against freight carrier.

The tires on the jets may be partially deflated for packing and shipment. Reinflate tires to the pressure specified on the side of the tire before using the machine.

Jets have antifreeze in the pump to protect it from freezing conditions during shipment and storage. If machine will be stored and operated in a cold climate, follow Freeze Protection instructions on page 11.

# PRE-OPERATION CHECK

- ☐ Pump oil (SAE 30W non-detergent oil, General)
- ☐ Cold clean fresh water supply (6 gpm 3/4" (15.875mm) 20 psi)
- ☐ Hose, nozzle
- ☐ Fuel (unleaded 86 or higher octane)
- ☐ Engine oil (SAE 10W40)

# **SET-UP PROCEDURES**

These machines are meant to be used at or near the working area and under operator supervision. If machine must be located out of sight of the operator, special controls may be required for proper machine operation and operator safety.

Locate the equipment on a solid level area with slopes for drainage. Avoid areas where water can be sprayed at machine. Before using the jet, make sure there are no impurities in the incoming water supply. Turn the water source on for at least 15 seconds, to remove any possible debris in the water before connecting hose to water inlet swivel.

The inlet screen located inside the filter should be cleaned before each use. To clean the inlet screen, unscrew cap beneath the filter, remove the screen and rinse thoroughly with water. Then replace screen.

Connect one end of a garden hose (not included) to the water faucet — water supply not to exceed 100 psi (6.9 bar) and the other end to the water inlet of the jet machine. (See component identification drawings on next pages.) Use heavy duty 3/4" hose of no more than 50 ft. (15m) in length. If run without an adequate water supply, the pump will cavitate. Cavitation causes the pump to vibrate, causing damage to the pump. **NOTE:** Lack of water supply can lead to seal damage, causing a loss of pressure and will void the warranty to the pump.

Maximum temperature from the water source should not exceed 140°F (60°C). Using water hotter than 140°F (60°C) can cause damage to the pump and void the warranty. If jet is being used to clear ice blockages, see instructions on page 10.

Remove oil plug on top of pump and replace with dipstick supplied. Fill engine with oil. Refer to engine manual for quantity.

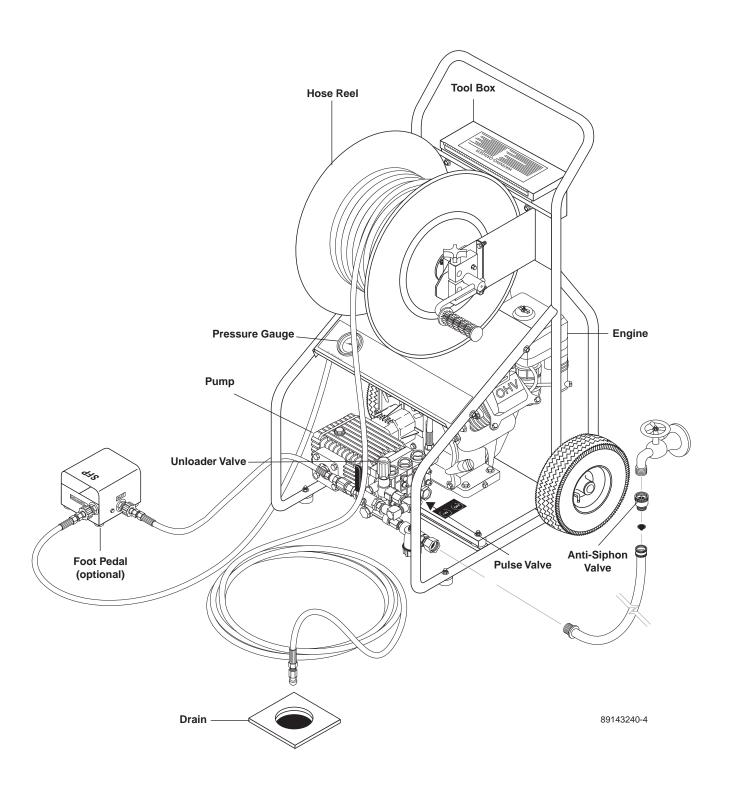
#### **Hose Selection Guide**

Select the proper hose diameter for the line to be cleaned. When using new hose, run water through it to clean it out before attaching the nozzle.

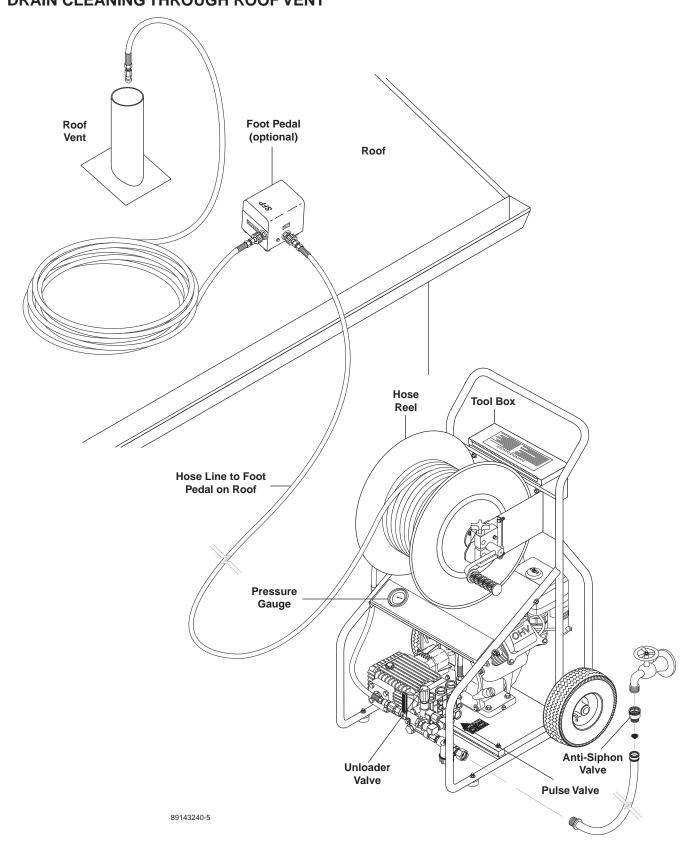
Hose Size (ID)*	Pipe Size	Typical Applications
3/8" or 5/16"	4" to 8"	Floor drains, septic lines
(9.925mm or 7.938mm)	(102mm to 203mm)	long runs
1/4"	2" to 4"	Kitchen sinks, laundry
(6.35mm)	(51mm to 102mm)	drains, clean outs
1/8"	1-1/2" to 2"	Small lines, bathroom
(3.175mm)	(38mm to 51mm)	sinks, tight bends

When selecting hose size, consider that pressure is lost as the water travels down the length of the hose. As the length increases, the pressure decreases. In addition, the smaller the diameter of the hose, the greater the loss of pressure per foot will be. As an example, at 2 GPM (.13L/sec) a 1/4" (6.350mm) hose will lose 180 lbs. (12.4 bar) of pressure over 100 ft. (30.5m) of hose, yet a 3/8" (9.925mm) hose will only lose 25 lbs. (1.7 bar) of pressure over the same length and at the same flow rate. At 4 GPM, a 3/8" hose will lose 90 lbs. (6.2 bar) of pressure over a 100 ft. (30.5m) length. The gauge reflects pressure from the pump only, not pressure at the end of the hose. It is important to select the largest possible hose size in order to have as much pressure as possible at the end of the hose.

# COMPONENT IDENTIFICATION AND USE DRAIN CLEANING



# COMPONENT IDENTIFICATION AND USE DRAIN CLEANING THROUGH ROOF VENT



Hoses of the same diameter may be coupled together using a screw coupling, but it is not recommended for use in lines smaller than 8" (203mm) in diameter. The long length of the hose connectors and coupling together can get caught in bends in the line.

PART NUMBER	ADAPTER SIZE (FPT)
8.705-364.0	1/4" x 1/4"
8.705-366.0	3/8" x 3/8"
8.705-369.0	1/2" x 1/2"
8.705-371.0	3/4" x 3/4"

Coupling two different size hoses can be done through the spray wand trigger or foot pedal.

It is not advisable to have two different hose sizes coupled in a drain line. There is a tremendous loss of pressure when combined, aside from the difficulty of getting around bends.

The 3/8" (9.925 mm) and 1/4" (6.35 mm) hoses may be attached to the fitting in the core of the hose reel using the swivel at one end of the hose. The 3/8" hose may also be attached directly to the accessory outlet by using a twist connect. The 1/4" and 1/8" (3.175mm) hoses may be connected directly to the accessory outlet if an adapter fitting is used between the hose and quick connect. Adapters may be ordered separately.

Often, the 1/8" hose is used in conjunction with the spray wand trigger to give the operator finger tip control. Remove the spray wand from the trigger and attach the 1/8" hose using the appropriate adapter.

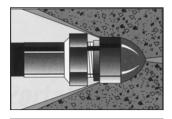
A SFP valve is available that can be used as a safety shut-off valve for all hose sizes. See foot pedal section for installation and operating instructions.

#### **Nozzles**

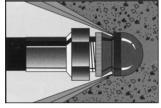
A number of types of nozzles are available for drain cleaning. Each has a different spray pattern. Some nozzles may have a hole in the front to cut though the stoppage. All will have holes in the back to drive the hose down the line and clean the walls of the pipe. A combination of nozzles may be required to clear a line. Always turn off the machine and shut off valve before changing nozzles.

Make sure the nozzle you are using matches the pump size. A 3000 psi (207 bar) pump requires a different nozzle orifice than a 1500 psi (104 bar) pump. Mismatching nozzles with pump size will either cause too little pressure which may not clear the drain, or too much pressure which may damage the machine.

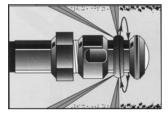
Check nozzles before and after each use for clogged holes which can cause pressure to increase to dangerously high levels and damage the pump. A clogged hole can be cleared by simply using a nozzle cleaning tool. Use the nozzle selection guide to determine what nozzle you will need for various applications.



Powerful penetrating nozzle cuts through grease and ice.



Wide spray flushing nozzle cleans inside of pipe thoroughly.



Rotary nozzle scours walls of pipe crystal clear

#### **NOZZLE SELECTION GUIDE**

	1/8"	1/4"	3/8"
No Forward Jet	8.710-875.0	-	-
1 FWD / 3 Back	8.751-950.0	8.710-878.0	8.751-951.0
Rotating Nozzle	8.710-889.0	8.710-898.0	-

#### **Rotary Nozzles**

Rotary nozzles are useful as a finishing tool. After the line has been cleared, you may switch to the rotary nozzle to more thoroughly clean the walls of the pipe. Use these nozzles only in a predominantly straight run since they are longer than regular nozzles and may get caught in tight bends. Please note that the rotating nozzles will operate at a lower pressure than the standard nozzle. Rotary nozzles can be adapted using the nozzle adapters and bushings below:

#### **NOZZLE ADAPTERS AND BUSHINGS**

Part Number	FPT x MPT
9.803-054.0	1/4" x 1/8"
8.705-185.0	3/8" x 1/8"
9.804-007.0	3/8" x 1/4"
9.803-564.0	1/8" x 1/4"
8.705-129.0	1/4" x 3/8"

## **Pre-Operation Checklist**

Be sure you understand all safety precautions and have been trained to use the machine.

Wear goggles or a face shield to protect your eyes from spray and from any product of the spray.

Wear gloves, rubber boots and other protective clothing as required.

Be sure you understand all safety precautions for

Be sure you understand all safety precautions for the detergent use.

Check the labels of any substance you will spray. If the label recommends any antidote or treatment, be ready to use it.

Check that all lines and hoses are clear.

Check that the machine is connected to an adequate water supply and that the water supply is on.

Check that traffic has not made the hose weak, worn or damaged. Check the hose for pinching or kinking.

- Replace any damaged hose.
- Tighten all fluid connections securely.

Check gasoline and oil level of engine. See enclosed manufacturer's manual for engine and oil types.

# **OPERATING INSTRUCTIONS**

- □ Read engine warning and operating instructions. Failure to follow instructions can cause serious injury and damage to equipment. Be familiar with all pre-operation checklists.
- ☐ Check all hoses for wear and damage. Tighten all connections securely.
- □ Check oil level of pump.
- ☐ Check engine fuel and oil levels.
- ☐ To begin, turn the water faucet on fully and purge air from system.
- ☐ Insert end of the jet hose 2 to 3 feet into the drain line. Then turn the valve on.

WARNING: Never point the end of the jet hose at a person while operating.

### **Gas Engine Start-Up**

- Make sure that the ball valve is turned on and water is flowing.
- 2. Turn fuel valve to the open position.
- 3. Move choke lever to the closed position. **NOTE:** Do not use choke if engine is warm or ambient air temperature is high.
- 4. Move throttle lever to the midpoint position.
- 5. Turn the engine switch to the ON position.
- 6. Pull the starter grip lightly until resistance is felt, then pull briskly.

- 7. As the engine warms up, gradually move the choke lever to the open position.
- 8. Position the throttle to the desired engine speed.

# **Pulse Technology**

Pulsation makes the hose vibrate, helping the jet go longer distances and around tight bends easier.

The pulse control valve is located on the front of the pump. Simply turn the valve on to engage the pulse.

Pulse technology causes a pressure drop when it's engaged. The pulse is most effective in a 1/8" hose. You'll note less vibration with a 1/4" hose and almost none with a 3/8" hose. However the pulse is still effective, causing the water to burst from the nozzle hundreds of times per second.

If you are still having difficulty getting a hose around a tight bend, switch to a smaller diameter hose.

Turn the pulsation valve off before turning machine off.

#### **Shut Down Instructions**

After drain cleaning or spray washing is completed, run clear water through the system. Always leave ball valve in open position when turning off engine. Reduce engine to idle, turn off engine and then be sure to turn off fuel valve. Turn off water supply and drain as much water from pump as possible. Remove water supply hose from inlet. If you are in a cold climate, see Freeze Protection.

#### Shark® Jetter Hose Reels

Use the SHR-200 or SHR-300 hose reels when clearing inside drain lines with the gas jet in order to use the high pressure jet without the danger of fumes in the building. Position the reel at the drain site. Connect the hose from the jet machine to the inlet on the reel. Select and attach a nozzle to the hose on the reel. Put the hose 2 to 3 ft. into the drain line. Open the ball valve on the reel. Follow the start up procedures.

# **SFP Foot Pedal (Optional)**

The foot pedal is used with any jetter manufactured by Shark® (see pages 6 or 7). It interrupts the flow of water between the pump and the nozzle while leaving both hands free to guide the hose. The pump will continue to run in by-pass mode. Do not leave pump in by-pass for more than a few minutes or the pump can be damaged. (See Regulating Pressure Unloader).

The foot pedal may be hooked up either at the machine or remotely at the drain site. To use the foot pedal at the machine, remove the hose going to the swivel on the hose reel and attach it to the inlet side of the foot pedal. Then, connect the accessory hose #8.918-190.0 between the outlet of the pedal and the swivel on the hose reel. Some jet models may need the added length of the accessory hose on the inlet side of the pedal.

For remote hookup, pull the hose from the hose reel to the drain site. Attach the hose to the inlet of the pedal. The pedal is designed for 3/8" hose fittings. If using a 1/4" hose, use adapter #8.705-129.0 as well. Then attach the smaller hose (1/8" or 1/4") to the outlet side of the pedal. Use the smaller hose to clear the drain line.

#### Ice Blockages

High pressure water can be used to clear an ice blockage. A 3000 psi (207 bar) gas jet can clear a 4" (102mm) line at an approximate rate of one foot per minute. The smaller electric jet will take twice as long. Ambient air temperature will effect these times. Use a nozzle with a forward jet. DO NOT allow the incoming water supply to exceed 140°F (60°C) or it could cause damage to the pump. Remember to follow the cold weather precautions found in the freeze protection section.

#### **Spray Wand (Optional)**

Follow the same procedures listed previously for safety, set-up, operation and maintenance. To operate the spray wand, connect the high pressure hose and trigger to the machine. Turn on the water supply, then squeeze the trigger to purge air from the system. Continue to squeeze trigger as you start the machine.

Use caution when pressure washing. Wear goggles and rubber gloves and boots. Analyze angle of spray and anticipate angle of back splash. Do not point spray at anyone including yourself. Do not put your hand in front of water spray. It can penetrate the skin and cause a need for amputation. It is best to start at a 45° angle at a 7 to 10 ft. (2 to 3m) distance from object to be cleaned. Direct spray at close range can be powerful enough to cause damage.

**NOTE:** Typical industry standard stipulates you hold the high pressure spray nozzle approximately 6-8" from the surface to be cleaned. When cleaning with a detergent, apply from bottom up with an even left to right movement. Rinse from top down with a similar motion. This will help reduce potential streaking. Always apply soap to a dry surface. This will enhance penetration and detergent cling and reduce dilution of detergent with an already wet surface.

If you have the dual-lance wand (optional) you may draw detergents through the spray wand in conjunction with the detergent injector mounted on the machine. First set up the detergent injector system (see Detergent Injector).

Then simply turn the knob on the wand counterclockwise so that water is flowing through the wide spray nozzle. To spray water only, turn the knob to the clockwise position so that the water flows through the narrow spray nozzle.

The spray wand option with the other jets may also be used to spray detergent. To do so, simply turn the nozzle on the end of the wand counterclockwise. As the spray

widens, more of the detergent will be drawn through the wand. Turn the nozzle clockwise to reduce the detergent flow and narrow the water spray pattern and return to high pressure.

# **Detergent Injector (Optional)**

The detergent injector is an option with the SJDDG-3011 and can be attached to the free end of the ball valve. Do not attach detergent injector to the inlet side of the pump. Detergents can damage pump.

To use the detergent injector, attach one end of siphon hose to the injector and put the filter end in the detergent solution. Be sure the end of the hose is at the bottom of the container or bucket. Some models have adjustable valves to control the amount of detergent drawn through the hose.

REMEMBER: Do not use corrosive material. See warning previously listed.

#### Regulating Pressure Unloader

The machine is equipped with a regulating pressure unloader to prevent pressure overload in the event that the nozzle is plugged or the ball valve or trigger is shut off. When the machine is in the by-pass mode, the pump will continue to run. However running in by-pass mode for extended periods will cause damage to the pump; no more than 5 minutes with the SJDDG-3011 pump. Excessive temperatures will damage the pump and void the warranty.

The machine also comes with thermal overload protection. When water temperature in pump increases to 140°F (60°C), the thermal relief valve will release hot water and allow cool water to enter pump from fresh water supply. To adjust unloader, loosen lock nut and turn the knob clockwise to increase pressure and counterclockwise to decrease pressure. **Caution:** Do not overtighten unloader. Tighten lock nut after adjustments are made.

#### **Freeze Protection**

To protect your machine from severe damage caused by water freezing inside the components, it is important to winterize it whenever it is subjected to freezing temperatures.

The best way to protect the system is to keep it out of the cold. Barring that, the next best way is to flush the system with anti-freeze. To do so, simply attach a short garden hose (not to exceed four feet) to inlet on the pump and put other end into the anti-freeze container. Be sure to remove the nozzle from the hose. Turn the machine on to draw anti-freeze into the system. When anti-freeze flows out of the end of the hose, turn the machine off. Connect high pressure hose and trigger and follow above procedure. Cycle trigger on/off so that the anti-freeze will flow into unloader and injector section of machine.

When preparing to operate equipment the next time, remove the anti-freeze. To do so, reconnect water source, turn pump on and direct flow of anti-freeze back into container. Be careful not to dilute anti-freeze with incoming water supply. Anti-freeze, if kept relatively undiluted can be used again and again.

Hoses can also be protected from freezing by using compressed air to clear them of residual water. Remember to remove nozzle from jet hose and hold trigger of spray wand in open position.

# **MAINTENANCE**

Regular inspection is the key to preventing breakdowns and prolonging the life of the equipment. Follow this simple procedure religiously.

#### **DAILY**

Check that the water supply is adequate.

Check that the nozzle on the spray wand is not clogged or worn out.

Check that the PUMP OIL LEVEL is within operating range on dipstick or sight glass.

Check that the engine FUEL LEVEL is full.

Check that the ENGINE OIL LEVEL is within operating range on dipstick.

Check the INLET FILTER.

#### **WEEKLY**

Check the PRESSURE HOSE for wear and damage. Damaged hose can be repaired at a local service dealer or by your equipment dealer.

Check the FUEL FILTER for dirt and sediment.

Check the AIR FILTER for dirt. Clean and replace as required.

#### **Maintenance Schedule**

Use the following maintenance schedule at the stated intervals or when your routine turns up a problem.

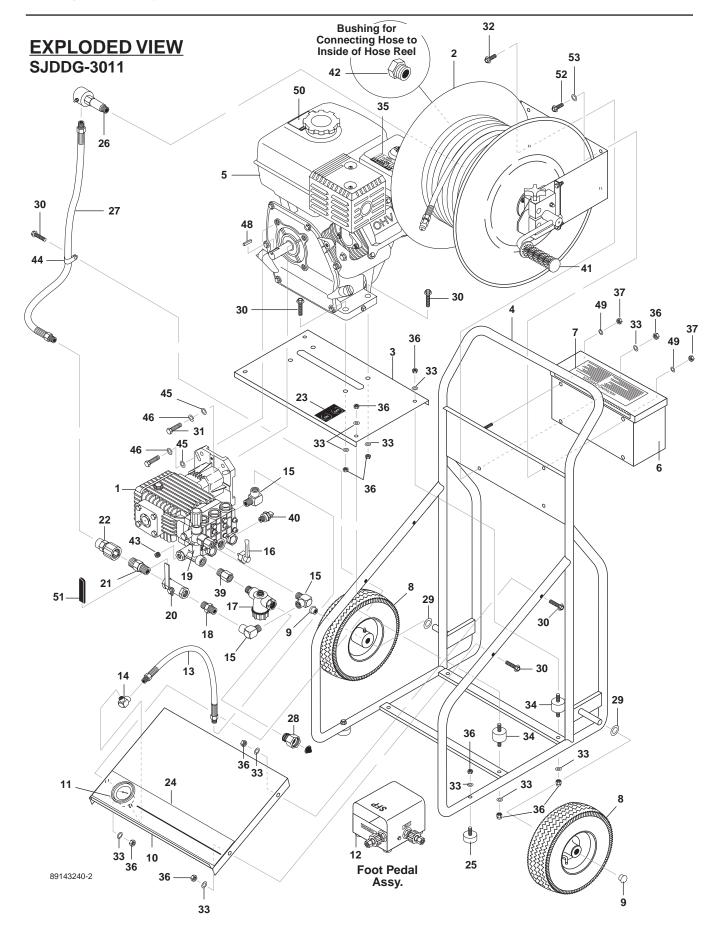
Shut off gas engine before attempting any repairs or maintenance.

ITEM TO BE SERVICED	TO BE SERVICED		MONTHS OR HOURS OR SERVICE		
	1	1st 3 Months or 50 Hours	Every 3 Months or 50 Hours	Every 6 Months or 100 Hours	Every Year or 500 Hours
Pump Crankcase Oil Change*		Х			Х
Engine Oil Change**	Х			Х	
Air Filter Cleaning		Х	Х		
Fuel Filter Change				Х	
Spark Plug Change				Х	

<sup>\*</sup> Use SAE 30W Non-Detergent Motor Oil to full mark on dipstick or to dot on sight glass.

<sup>\*\*</sup> Refer to engine manufacturer's specifications for correct oil viscosity when adding to engine oil.

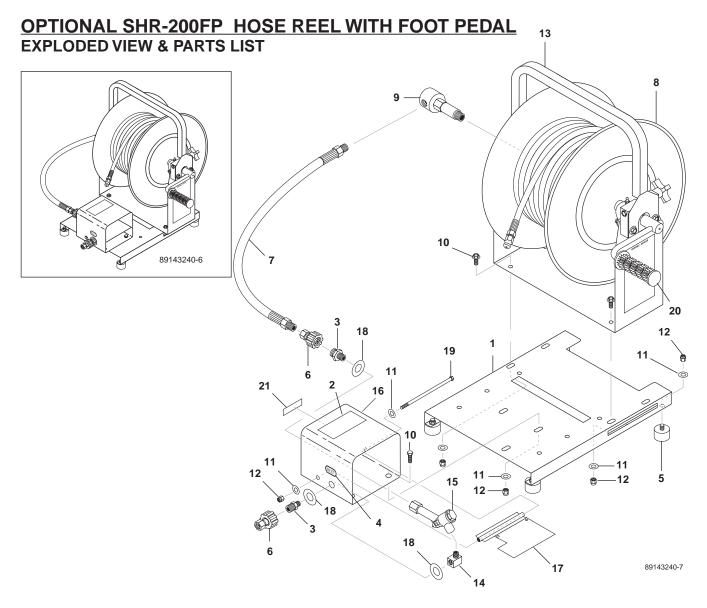
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# **EXPLODED VIEW PARTS LIST SJDDG-3011**

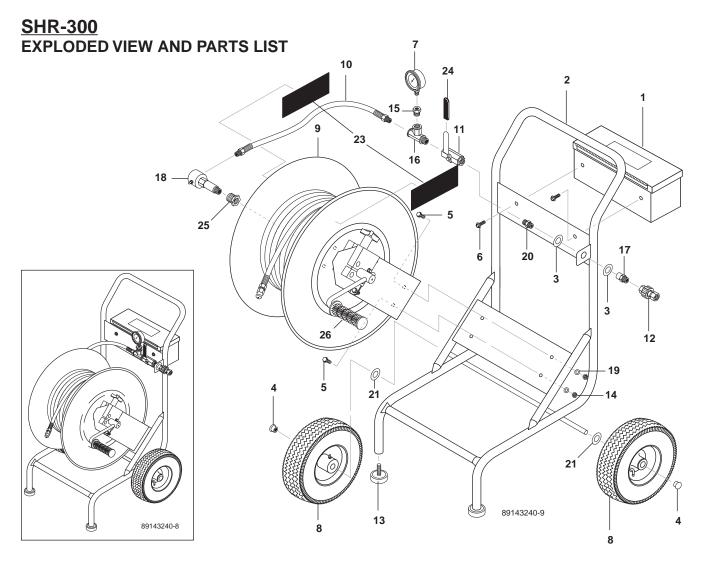
ITEM	PART NO.	DESCRIPTION	QTY
1	8.715-339.0	Pump, General TX1510G8	1
2	8.711-865.0	Assy Hose Reel, SJDDG-301	11
3	8.911-644.0	Base, Engine Mount, SJDDG-3011	1
4	8.911-643.0	Weld Frame SJDDG-3011	1
5	8.750-580.0	Engine Gas, Honda GX390	1
	8.900-967.0	▲ Tag, Caution No Oil/Engine	1
6	8.911-665.0	Box, Tool	1
7	8.900-866.0	Decal, JSG Warn Danger	1
8	9.802-270.0	Wheel Pneu-10x4.0 5/8" HUE	3 2
9	9.802-783.0	Cap Axle 5/8", BLK	2
10	8.911-645.0	Sheet, Fab Panel, SJDDG-3011	1
11	8.712-150.0	Gauge, Panel Mount, Glyceri	n 1
12	8.902-986.0	Pedal, Foot (Optional)	1
13	8.918-179.0	Hose, 1/4" x 13.25", 1/4"MS x 3/8" M	1
14	8.706-818.0	Elbow, 1/4", Fem	1
15	8.706-207.0	Elbow, 3/8" Street	3
16	8.704-195.0	Valve, Jetter, EZ Pump	1
17	9.802-163.0	Strainer, 1/2 PA, Inline Plastic	1
18	8.705-974.0	Nipple, 3/8" x Hex Steel,	1
19	9.802-361.0	Unloader, PA 8GPM @3600 PSI VB75K	1
20	8.707-204.0	Valve, 3/8" Ball, Steel	1
21	8.707-185.0	Plug, 3/8" MPT x MZZ, Screw Type	1
22	8.707-182.0	Coupler, 3/8" Female, Screw Type 7640	1
23	8.900-979.0	Label, Pulse On-Off	1
24	8.901-073.0	Decal, SJDDG-3011	1
25	9.802-058.0	Bumper, Rubber 1", w/Bolt	2
26	8.711-875.0	Swivel, 1/2" x 1/2" Pipe	1
27	8.918-201.0	Hose, 3/8" x 34", 3/8"MS x 3/8"MSW	1

ITEM	PART NO.	DESCRIPTION	QTY
28	9.802-810.0	Swivel, 1/2" MP x 3/4"	
		GHF, w/Strainer	1
29	9.802-810.0	Washer, 5/8" Flat, SAE	2
30	8.718-772.0	Bolt, Hex, 5/16" x 1-1/2" FLG	8
31	9.802-723.0	Bolt, Hex, G5 3/8" x 16 x 1-1/2"	4
32	9.803-551.0	Screw, 5/16" x 3/4" Whiz Loc	3
33	8.718-980.0	Washer, 5/16" Flat, SAE	21
34	9.802-060.0	Mount, Rubber	4
35	9.800-006.0	Label, Hot/Caliente	1
36	9.802-776.0	Nut, 5/16" ESNA, NC	21
	8.914-324.0	▲ Manual, Shark Jetters	1
37	9.802-773.0	Nut, 1/4" ESNA, NC	2
38	9.802-179.0	▲ Anti-Siphon Valve	1
39	8.706-984.0	Adapter, 1/2" x 1/2"	1
40	8.707-256.0	Pump Protector, 1/2"	1
41	9.802-069.0	Grip, 1" Handle	1
42	8.706-294.0	Bushing, 1/2" x 3/8" Steel	1
43	8.706-864.0	Plug, 1/8" Countersunk	1
44	9.802-207.0	Clamp, Screw	1
45	9.802-807.0	Washer, 3/8" Flat	4
46	9.802-814.0	Washer, 3/8" Lock, Split	4
47	8.706-742.0	▲ Plug, Garden Hose Adapter	1
48	9.802-959.0	Key, .247 Sqaure x 2-1/8"	1
49	9.802-802.0	Washer, 1/4" Flat, SAE	2
50	9.800-008.0	Label, Danger Cool Engine	1
51	8.706-690.0	Cover, Handle	1
52	9.802-701.0	Bolt, 1/4" x 20 x 1",	
		Hex Head Zinc	1
53	8.719-005.0	Washer, 1/4" x 1"	1



ITEM	PART NO.	DESCRIPTION	QTY
1	8.911-637.0	Bracket, Hose Reel Mount	1
2	8.940-374.0	Label, SHR-200	1
3	8.707-186.0	Nipple, 1/4" x M22, Twist	2
4	8.940-349.0	Label, Inlet	1
5	8.706-519.0	Foot, Rubber	4
6	8.707-182.0	Coupler, 3/8" Female Screw Type 7640	2
7	8.918-190.0	Hose, 3/8" x 17.5", 1 Wire, 3, MNPT(SLD) x 3/8" MNPT(SV	
8	8.711-866.0	Hose Reel, 13"	1
9	8.711-874.0	Swivel, 3/8" x 3/8"	1
10	9.803-551.0	Screw, 5/16" x 3/4" Whiz Loc	7
11	8.718-980.0	Washer, 5/16"	13
12	9.802-776.0	Nut, 5/16" ESNA	12
13	8.911-636.0	Hose Reel Guard	1

ITEM	PART NO.	DESCRIPTION	QTY
14	8.706-827.0	Elbow, 1/4" Street	1
15	8.718-436.0	Valve Assy, Complete	1
16	8.911-654.0	Cover, Welded Assy. Foot Valve	1
17	8.911-655.0	Plate, Foot Valve Assy	1
18	9.802-800.0	Washer, 1/2" Flat	3
19	8.718-640.0	Bolt, 5/16" x 6-1/2" HH, NC	1
20	9.802-069.0	Grip, 1" Handle, Waffle	1
21	8.940-343.0	Label, Discharge	1



ITEM	PART NO.	DESCRIPTION	QTY
1	8.911-665.0	Assy, Tool Box	1
2	8.911-642.0	Assy, Frame, Cart Reel	1
3	8.719-007.0	Washer, 3/4" x 1-1/2", .102 THK Brass	2
4	9.802-783.0	Cap, 5/8" Axle, BLK	2
5	9.803-551.0	Screw, 5/16" x 3/4" Whiz	4
6	9.802-754.0	Screw, 1/4" x 1/2" HH NC, Whiz Loc	2
	9.802-773.0	▲ Nut, 1/4" ESNA	2
	9.802-802.0	▲ Washer, 1/4" Flat, SAE	2
7	8.712-141.0	Gauge, Pressure 0-5000 PS	1 2
8	9.802-270.0	Wheel & Tire Assy, 4" Tubele	SS
		Silver Rim, 5/8" Hub	2
9	8.711-865.0	Hose Reel, 18"	1
10	4-02047823	Hose, 3/8" x 23", 2 Wire 3/8" SMNPT x 3/8" SWMNP	Γ 1
11	8.707-204.0	Valve, 3/8" Ball, Steel	1

ITEM	PART NO.	DESCRIPTION	QTY
12	8.707-182.0	Coupler, 3/8" Female Screw-Type 7640	1
13	8.706-511.0	Foot, Rubber (Crutch)	2
14	9.802-776.0	Nut, 5/16" ESNA	4
15	8.706-297.0	Bushing, 3/8" x 1/4" Steel	1
16	8.706-234.0	Tee, 3/8" Street	1
17	8.707-184.0	Plug, 3/8" FX M22, Twist Coupler	1
18	8.711-875.0	Swivel, 1/2" x 3/8"	1
19	8.718-980.0	Washer, 5/16" Flat	4
20	8.705-974.0	Nipple, 3/8" Hex Steel	1
21	9.802-810.0	Washer, 5/8" Flat, SAE	2
22	8.940-342.0	Label, CR-300	1
23	8.900-862.0	Label, Sharkl Logo	2
24	8.706-690.0	Cover, Handle, LG	1
25	8.706-294.0	Bushing, 1/2" x 3/8", Steel	1
26	9.802-069.0	Grip, 1", Handle, Waffle	1

▲ Not Shown

# **SPECIFICATIONS** NOZZLES

JETTING NOZZLES								
Part Number	Size	Thread Size	Forward Jet	Rear Jets	Max PSI	Available In Set		
8.710-877.0	6.0	1/4"	1	4	4200	9.803-321.0		
8.710-878.0	4.5	1/4"	1	3	4200	9.803-319.0		
8.710-879.0	8.0	1/4"	1	3	4200	9.803-322.0		
8.710-886.0	8.5	3/8"	1	4	4200	9.803-322.0		
8.751-944.0	3.0	1/8"	0	3	5100	9.803-318.0		
8.751-945.0	3.0	1/8"	1	3	5100	9.803-318.0		
8.751-946.0	3.0	1/4"	0	3	5100	9.803-318.0		
8.751-947.0	3.0	1/4"	1	3	5100	9.803-318.0		
8.751-951.0	4.5	3/8"	1	3	4100	9.803-319.0		
8.751-952.0	6.0	1/4"	0	3	5100	9.803-321.0		
8.751-953.0	6.0	1/4"	1	3	5100	9.803-321.0		
8.751-956.0	6.0	3/8"	0	3	5100	9.803-320.0		
8.751-957.0	6.0	3/8"	1	3	5100	9.803-320.0		
8.751-958.0	6.0	3/8"	1	9	3650			

ROTATING NOZZLES						
Part Number	Size	Thread Size	Forward Jet	Rear Jets	Max PSI	
8.710-899.0	5.5	1/8"	0	3	4000	
8.710-898.0	5.5	1/4"	0	3	4000	
8.710-900.0	8.0	1/4"	0	3	4000	

DUCT CLEANER ROTATING NOZZLES						
Part Number Size Thread Size Forward Jet Side Jets Max PSI						
8.710-887.0	5.5	1/4"	0	2	4000	

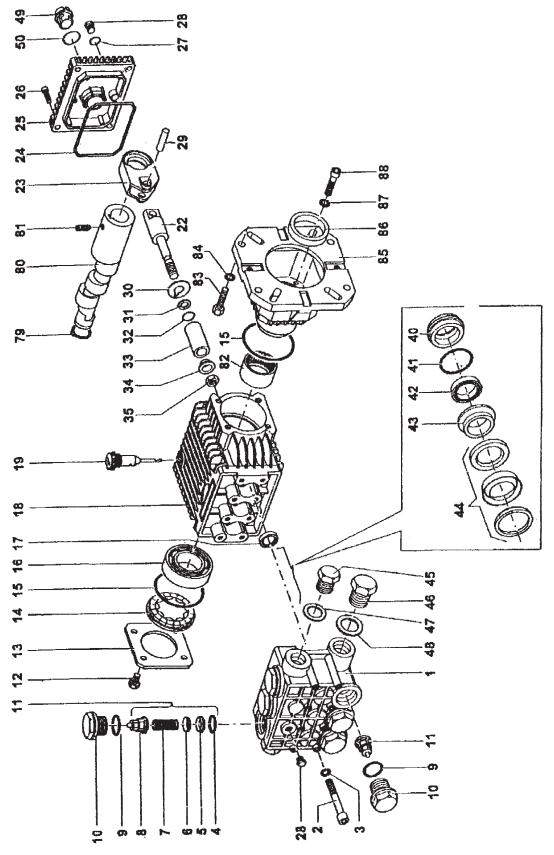
	NOZZLE SETS						
Part Number	Size	Description	Number of Nozzles				
9.803-318.0	3.0	Nozzle Kit, 1/8" and 1/4"	4				
9.803-319.0	4.5	Nozzle Kit, 1/8" and 1/4"	2				
9.803-320.0	6.0	Nozzle Kit, 3/8"	2				
9.803-321.0	6.0	Nozzle Kit, 1/4"	3				
9.803-322.0	8.0	Nozzle Kit, 1/4" and 3/8"	2				

# **SPECIFICATIONS JETTER HOSES, ADAPTERS AND BUSHINGS**

	JETTER HOSES							
Part Number	Diameter	Length (ft)	Max PSI	End 1	End 2			
8.751-927.0	1/8"	25	4800	1/8" MPT	1/8" MPT			
8.751-927.0	1/8"	50	4800	1/8" MPT	1/8" MPT			
8.751-929.0	1/8"	75	4800	1/8" MPT	1/8" MPT			
8.705-601.0	1/8"	25	4800	1/4" MPT	1/8" MPT			
8.705-602.0	1/8"	50	4800	1/4" MPT	1/8" MPT			
8.705-603.0	1/8"	100	4800	1/4" MPT	1/8" MPT			
8.705-607.0	1/4"	50	2600	1/4" MPT	1/4" MPT			
8.705-608.0	1/4"	100	2600	1/4" MPT	1/4" MPT			
8.705-610.0	1/4"	50	4400	1/4" MPT	1/4" MPT			
8.795-611.0	1/4"	100	4400	1/4" MPT	1/4" MPT			
8.751-930.0	1/4"	150	4400	1/4" MPT	1/4" MPT			
8.751-931.0	1/4"	200	4400	1/4" MPT	1/4" MPT			
8.751-932.0	3/8"	50	4000	3/8" MPT	3/8" MPT			
8.751-933.0	3/8"	100	4000	3/8" MPT	3/8" MPT			
8.751-934.0	3/8"	150	4000	3/8" MPT	3/8" MPT			
8.751-935.0	3/8"	200	4000	3/8" MPT	3/8" MPT			
8.751-936.0	3/8"	250	4000	3/8" MPT	3/8" MPT			
8.751-937.0	3/8"	300	4000	3/8" MPT	3/8" MPT			
8.751-938.0	1/2"	100	4000	1/2" MPT	1/2" MPT			
8.751-939.0	1/2"	150	4000	1/2" MPT	1/2" MPT			
8.751-940.0	1/2"	200	4000	1/2" MPT	1/2" MPT			
8.751-941.0	1/2"	250	4000	1/2" MPT	1/2" MPT			
8.751-942.0	1/2"	300	4000	1/2" MPT	1/2" MPT			
8.751-943.0	1/2"	400	4000	1/2" MPT	1/2" MPT			

ADAPTERS & BUSHINGS					
Part Number	Description				
9.803-054.0	1/4" X 1/8" FPT X MPT				
8.705-185.0	3/8" X 1/8" FPT X MPT				
9.804-007.0	3/8" X 1/4" FPT X MPT				
9.803-564.0	1/8" X 1/4" FPT X MPT				
8.705-129.0	1/4" X 3/8" FPT X MPT				
8.705-364.0	1/4" X 1/4" FPT X FPT				
8.705-366.0	3/8" X 3/8" FPT X FPT				
8.705-369.0	1/2" X 1/2" FPT X FPT				
8.705-371.0	3/4" X 3/4" FPT X FPT				

# PUMP MODEL TX1510G8 JET SET MODEL SJDDG-3011, PART #8.715-339.0



SJDDG-3011 • 8.914-324.0 • REV. 11/12

# **PUMP MODEL TX1510G8** JET SET MODEL SJDDG-3011, PART #8.715-339.0

ITEM	PART NO.	DESCRIPTION	QTY
1	1-63120041	Manifold, 15mm	1
2	1-99319200	Screw, M8 x 65	8
3	1-96701400	Lockwasher, M8.4	8
4	1-90384100	O-Ring (Kit 123)	6
5	1-36200366	Valve Seat (Kit 123)	6
6	1-36200176	Valve (Kit 123)	6
7	1-94737600	Spring (Kit 123)	6
8	1-36202551	Valve Cage (Kit 123)	6
9	1-90384700	O-Ring (Kit 124)	6
10	1-98222600	Valve Cap (Kit 124)	6
11	1-36711501	Valve Assembly (Kit 123)	6
12	1-99180700	Screw, M6 x 10	8
13	1-50150074	Bearing Cover	1
14	1-44211801	Oil Level Indicator	1
15	1-90409700	O-Ring	2
16	1-91832900	Ball Bearing	1
17	1-90161400	Oil Seal (Kit 159)	3
18	1-63010022	Crankcase	1
19	1-98210300	Oil Dip Stick	1
22	1-63050066	Plunger Guide	3
23	1-63030022	Connecting Rod	3
24	1-90392000	O-Ring, Cover	1
25	1-63160022	Rear Crankcase Cover	1
26	1-99183700	Screw	4
27	1-701013	O-Ring	1
28	1-98204100	Plug, 1/4" G	2
29	1-97733500	Connecting Rod Pin	3
30	1-96707500	Finger Washer	3
31	1-660024	Anti-Extrusion Ring	3
32	1-701009	O-Ring	3
33	1-52040009	Ceramic Plunger, 15mm	3
34	1-44211570	Bushing	3
35	1-92221500	Nut, M8	3
40	1-63080070	O-Ring (Kits 162, 166)	3

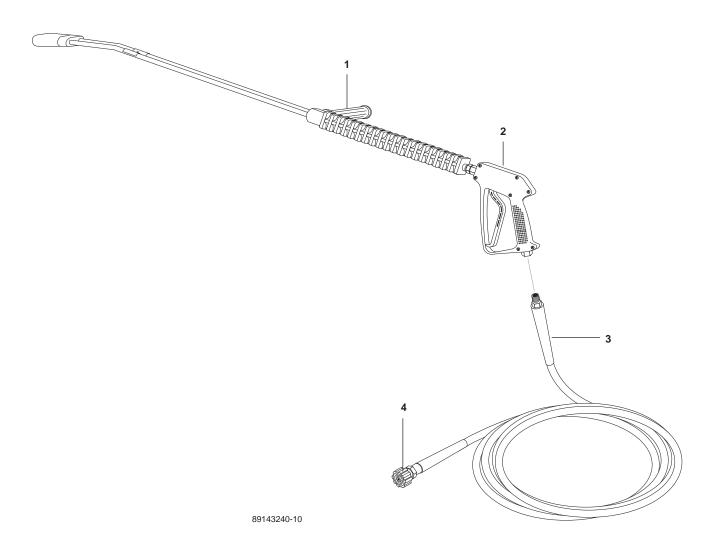
ITEM	PART NO.	DESCRIPTION QT			
41	1-90360800	O-Ring (Kits 166, 1667)	3		
42	1-90260800	Seal, LP, 15mm (Kits 160,	166)3		
43	1-63216070	Int. Ring 15mm (Kits 164,	166)3		
44	1-90261200	Packing Assy., 15mm (Kits 160, 166)	3		
45	1-98210000	Plug, 3/8" G	1		
46	1-98217600	Plug, 1/2" G	1		
47	1-96738000	Washer, M17.5	1		
48	1-96751400	Washer, M21.5	1		
49	1-63210051	Oil Level Indicator	1		
50	1-90405100	O-Ring	1		
79	1-90063500	Retaining Ring	1		
80	1-63027765	Crankshaft, 6.5	1		
	1-63028065	Crankshaft, 8	1		
	1-63028465	Crankshaft, 10	1		
81	1-99179000	Screw, M6 x 6	1		
82	1-91856800	Roller Bearing	1		
83	1-99334500	Screw, 3/8" x 1	4		
84	1-96710400	Washer	4		
85	1-10051822	Flange 1", Gas Engine	1		
86	1-90169000	Oil Seal	1		
87	1-96693800	Washer	4		
88	1-99191200	Screw, M6 x 30	1		

# Crankcase Oil Capacity, 14 oz. **Torque Specs**

Position	Ft./Lbs.	N-M
2	14.7	20
10	73.7	100
12	7.3	10
26	7.3	10
28	14.7	20
35	11.0	15
45	29.4	40
46	29.4	40
83	14.7	20
88	7.3	10

KIT NO.	123	124	159	160	162	164	166
ITEM NO'S INCLUDED IN KIT	4, 5, 6, 7, 8, (11)	9, 10	17	42, 44	40	43	40, 41, 42, 43, 44
NO. OF ASSEMBLIES	6	6	3	3	3	3	1
NO. OF CYLINDERS KIT WILL SERVICE	3	3	3	3	3	3	1

# HOSE AND SPRAY GUN ASSEMBLY (8.904-453.0) SJDDG-3011 • EXPLODED VIEW AND PARTS LIST



ITEM	PART NO.	DESCRIPTION	QTY
1	8.904-452.0	Wand, VP ARO, Soap Nozzle	e 1
	8.711-387.0	▲ Nozzle Only,	
		1/4" MEG 1504.5	1
	8.711-457.0	▲ Nozzle Only,	
		H-1/4"-U-6540, VEEJet	1
2	8.710-384.0	Spray Gun, ST-1500,	
		5000 PSI, 10.4 GPM	1

ITEM	PART NO.	DESCRIPTION	QTY
3	8.916-740.0	Hose, 3/8" x 50', 1 Wire, Tuff-Skin, 3/8" MPT x 3/8" MPTS	1
4	8.707-182.0	Coupler, 3/8" Female Screw Type 7640	1
		▲ Not Shown	

# **TROUBLESHOOTING**

These troubleshooting procedures cover pump malfunctions, delivery problems and charge system malfunction. WARNING: Before attempting any repairs or maintenance, make sure machine is shut off.

PROBLEM	POSSIBLE CAUSE	REPAIR
LOW PRESSURE	Worn or oversized nozzle	Replace worn nozzle. Check nozzle size.
	Clogged water and/or chemical inlet strainer	Clean or replace strainers.
	Worn or damaged piston cups	Replace piston cups.
	Worn or damaged inlet or discharge valve	Replace worn valve poppets or valve springs.
	Dirt or foreign particles in valve assembly	Remove any dirt particles.
	Air leak in inlet plumbing	Locate air leak. Re-seal connection or replace damaged port.
ROUGH OPERATION	Restricted inlet plumbing or air leak in inlet plumbing	Replace clogged inlet fittings. Check supply hose and ensure adequate water supply.
WITH LOSS OF PRESSURE	Damaged piston, cup or pump valve	Replace any damaged pump parts and clean out any foreign particles.
	Clogged nozzles	Clean or replace nozzles.
WATER LEAKAGE AT INTAKE	Worn manifold seals, pistons or O-rings. Or, condensation inside crankcase	Replace seals, sleeves or O-rings. Change oil at regular intervals.
MANIFOLD OR CRANKCASE	Inadequate water supply to pump creating a vacuum lock	Ensure adequate tap water supply. Clear inlet filter.
OIL LEAKS	Worn pistons and/or leaking crank seals, crankcase cover seal or drain plugs	Replace seals, sleeves or O-Rings.
EXCESSIVE WEAR	Worn or loose bearings	Replace bearings. Check bearing seals, spacers and retainers. Replace worn parts.
SHORT PISTON CUP LIFE	Scored cylinders from pumping acids	Replace cylinders. DO NOT PUMP ACID SOLUTIONS. For acid application, ask your dealer for a Pump Saver Injector.
	Abrasive particles in fluid being pumped	Replace water and detergent strainers if damaged or missing. Install additional filter if fine abrasives are still evident.
	Operator(s) running pump without water supply	Do not allow washer to be run without proper water supply.
	Hot water in pump	Do not run in bypass for more than 5 minutes. Do not let water supply exceed 140°F (60°C).
IRREGULAR SPRAY PATTERN	Worn or partially clogged nozzle	Clean or replace nozzles.

# **TROUBLESHOOTING**

# **Detergent System Malfunction**

PROBLEM	POSSIBLE CAUSE	REPAIR
WASHER FAILS	Detergent metering valve closed or valve clogged or defective	Open detergent metering valve, following procedure in operating instructions.
TO DRAW DETERGENT	Back pressure in hose (when using additional lengths of pressure hose)	Contact dealer for proper injector size when adding lengths of hose.
	Back pressure in pressure hose (when using dual lance wand)	Use proper size flood nozzle in dual lance wand (refer to parts breakdown).
	Suction tube not below liquid surface	Completely submerge suction tube and strainer in detergent solution.
	Clogged or damaged suction strainer	Clean or replace strainer.
DETERGENT SOLUTION	Air leak in detergent suction tube or inlet plumbing	Find air leak and clean or replace parts as necessary.
TOO WEAK	Clogged detergent strainer	Clean or replace strainer.
DETERGENT SOLUTION TOO CONCENTRATED	Original detergent too concentrated	Dilute product as necessary to achieve proper concentration.
DETERGENT IN RINSE CYCLE	Dual lance wand or adjustable nozzle holder in open position or detergent metering valve open	Close dual lance wand adjustable lance holder to achieve high pressure. Close detergent metering valve.
DILUTION OF DETERGENT	Worn or defective internal check valve	Repair or replace check valve or injector parts as necessary.
DURING CYCLE	Defective check valve in detergent tank	Replace parts as necessary.

# **TROUBLESHOOTING**

# **Unloader Valve Malfunction**

PROBLEM	POSSIBLE CAUSE	REPAIR
UNLOADER	Fitting leaking downstream	Tighten/replace fitting.
CYCLES	Piston or valve spring broken or worn	Replace parts as necessary.
	Clogged nozzle	Clean or replace.
FLUID LEAKING FROM BODY	O-ring worn or cut	Replace part as necessary.
UNLOADER	Foreign particle in valve	Replace or clean.
WILL NOT COME TO PRESSURE	Nozzle worn or wrong size	Replace part as necessary.
TO PRESSURE	Piston or valve worn	Replace part as necessary.
EXTREME	Adjusting nut turned completely into unloader	Back off adjusting nut.
PRESSURE SPIKES	Clogged nozzle	Clean or replace.

## LIMITED NEW PRODUCT WARRANTY SHARK JETTERS



Phone: 800-771-1881 Fax: 877-526-3246 www.sharkpw.com

#### WHAT THIS WARRANTY COVERS

All Shark Jetters are warranted by Shark to the original purchaser to be free from defects in materials and workmanship under normal use, for the periods specified below. This Limited Warranty, subject to the exclusions shown below, is calculated from the date of the original purchase, and applies to the original components only. Any parts replaced under this warranty will assume the remainder of the pressure washer's warranty period.

#### FIVE YEAR PARTS AND ONE YEAR LABOR WARRANTY

Components manufactured by Shark, such as frames, handles, float tanks, and fuel tanks. Shark crankshaft pumps have a 7 year warranty on non-wear parts.

#### ONE YEAR PARTS AND ONE YEAR LABOR WARRANTY

All other components, excluding normal wear items as described below, will be warranted for one year on parts and labor. Parts and labor warranty on these parts will be for one year regardless of the duration of the original component manufacturer's part warranty.

#### WARRANTY PROVIDED BY OTHER MANUFACTURERS

Motors, generators, and engines, which are warranted by their respective manufacturers, are serviced through these manufacturers' local authorized service centers. Shark is not authorized and has no responsibility to provide warranty service for such components.

#### WHAT THIS WARRANTY DOES NOT COVER

This warranty does not cover the following items:

- 1. Normal wear items, such as nozzles, spray guns, discharge hoses, wands, quick couplers, seals, filters, gaskets, O-rings, packings, pistons, pump valve assemblies, strainers, fuses, pump protectors.
- 2. Any components or other devices incorporated into a Shark product that are not manufactured by Shark, including, but not limited to gasoline engines, pumps, etc.
- Defects caused by improper or negligent operation or installation, accident, abuse, misuse, neglect, unauthorized modifications, repair or maintenance of the product by persons other than authorized representatives of Shark, including, but not limited to, the failure of the Customer to comply with recommended product maintenance schedules.
- 4. Shark products that have been returned by the original Customer and are ultimately re-sold by an Authorized Servicing Dealer or other sales or service outlet to another purchaser.
- 5. Shark products that are sold by any distributor or retailer that is not an official authorized dealer or retailer of Shark products.
- 6. Defects caused by acts of nature and disaster including, but not limited to, floods, fires, wind, freezing, earthquakes, tornadoes, hurricanes and lightning strikes.
- Defects caused by water sediments, rust corrosion, thermal expansion, scale deposits or a contaminated water supply (such as water in the unit with chloride content higher than that of 80 mg/liter or use of chemicals not approved or recommended by Shark).
- 8. Defects caused by improper voltage, voltage spikes or power transients in the electrical supply.
- 9. Devices or accessories not distributed or approved by Shark.
- 10. Any cost of labor arising from the removal and reinstallation of the alleged defective part by Customer.
- 11. Transportation of the product to an Authorized Servicing Dealer, field labor, replacement rental and any freight charges.

Any components, accessories or other devices provided with the product but not manufactured by Shark (such as engines, pumps, etc.) are subject to warranties and service through their respective manufacturers authorized service centers and according to the applicable terms and conditions of such manufacturers warranties. Such components or other devices not manufactured by Shark should be referred by the Customer to an authorized service center or their respective manufacturers for repair or replacement.

THE FOREGOING WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES OF ANY KIND, WHETHER ARISING BY LAW, CUSTOM OR CONDUCT. SHARK MAKES NO ADDITIONAL WARRANTIES, EITHER EXPRESSED OR IMPLIED, INCLUDING, WITHOUT LIMITATION, ANY EXPRESSED OR IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS OF EQUIPMENT FOR A PARTICULAR PURPOSE AND ANY SUCH WARRANTIES ARE EXPRESSLY DISCLAIMED. SHARK FURTHER DISCLAIMS ANY WARRANTY THAT THE PRODUCT PURCHASED BY CUSTOMER WILL MEET ANY PARTICULAR REQUIREMENT OF CUSTOMER EVEN IF SHARK HAS BEEN ADVISED OF SUCH REQUIREMENT.

THE RIGHTS AND REMEDIES PROVIDED UNDER THIS WARRANTY ARE EXCLUSIVE AND IN LIEU OF ANY OTHER RIGHTS OR REMEDIES OF CUSTOMER. SHARK SHALL NOT UNDER ANY CIRCUMSTANCES BE LIABLE TO ANY PERSON OR ENTITY INCLUDING, BUT NOT LIMITED TO, THE CUSTOMER OR ANY END USER OF THE PRODUCT FOR ANY SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES OR ECONOMIC LOSS, LOSS OF PROFITS OR LOSS OF USE OF THE PRODUCT, ARISING IN CONNECTION WITH THE SALE, DELIVERY, INSTALLATION, TRAINING OR USE OF PRODUCT. SHARK'S LIABILITY, WHETHER IN CONTRACT OR IN TORT, ARISING OUT OF ANY WARRANTIES OR REPRESENTATIONS, INSTRUCTIONS OR DEFECTS FROM ANY CAUSE, SHALL BE LIMITED EXCLUSIVELY TO THE COST OF REPAIR OR REPLACEMENT PARTS UNDER AFORESAID CONDITIONS.

The purpose of the foregoing limitations on liability and Customer remedies is to protect Shark from unknown or undeterminable risks. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to the Customer.

Shark sales and service representatives are not authorized to waive or alter the terms of this warranty, or to increase the obligations of Shark under the warranty.

Shark reserves the right to make design changes in any of its products without prior notification to the Customer.

