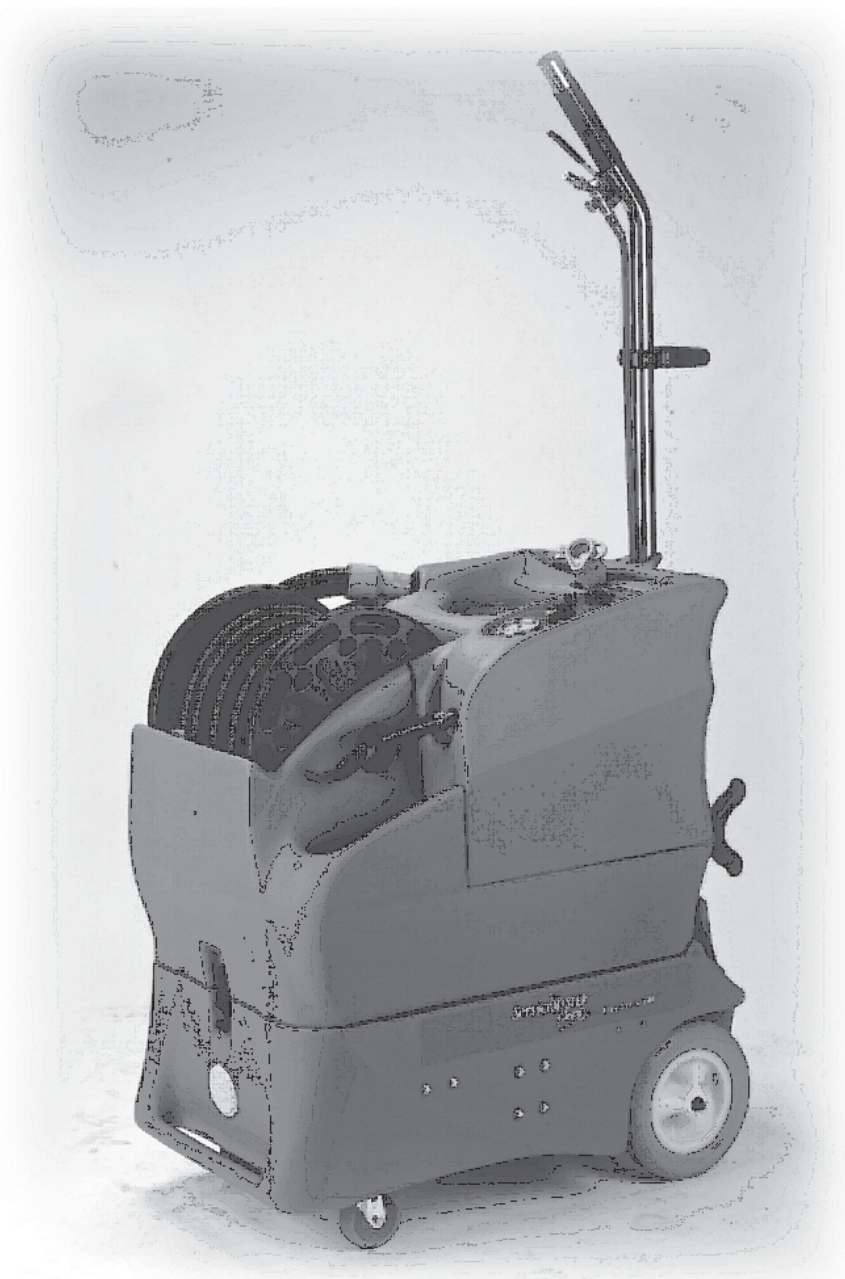




Owner's Manual: 19200

**Title: King Cobra 500 Extractor**

Serial number: \_\_\_\_\_



The ServiceMaster Company  
860 Ridge Lake Blvd.  
Memphis, TN 38120  
800-756-5656 (Tech Support)  
Date: May 2010

Revision: D  
ServiceMaster® Manual  
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# KING COBRA 500 EXTRACTOR

## INFORMATION & OPERATING INSTRUCTIONS

DO NOT OPERATE MACHINE UNTIL YOU HAVE READ  
ALL SECTIONS OF THIS INSTRUCTIONS

IMPROPER USE OF THE MACHINE WILL VOID THE WARRANTY

1. Always use a defoamer when foaming occurs to prevent vacuum motor damage.
2. Keep machine from rain and snow, extremes in temperatures, and store in a heated location. Use the machine indoors. Do not use outdoors.
3. Do not let the pump run dry.
4. Use approved chemicals only. NO SOLVENTS.
5. Wear gloves or use rags when removing quick disconnects to prevent burns.

### **INSPECTION:**

Carefully unpack and inspect your KING COBRA for shipping damage. Each machine is tested and inspected before shipping. Any shipping damage incurred is the responsibility of the carrier. You should notify the carrier immediately if you notice damage to the box or to the machine or parts.

### **CLEANING SOLUTIONS:**

We recommend liquid cleaning chemicals. Powder chemicals may be used, but unless mixed very thoroughly they could cause a build-up in the pump, lines, heat exchanger and/or quick disconnects. Any problem caused by a chemical build-up is not covered by warranty. Use a neutral cleaner with a pH between 5 and 10 to avoid premature wear of the pump, seals, and/or other components. Damage caused by the use of strong chemicals is not covered by the warranty.

### **MAINTENANCE:**

For optimum performance flush the machine with clear water at the end of each working day. Once a month, minimum, run a flushing compound through the machine to break up any mineral or chemical build-up that may have formed. The vacuum motor, pump motor, and the pump do not require any scheduled maintenance; however, the motors may require replacement brushes after 1000 - 1500 hours, and the pump and bypass valve may require rebuild kits after 1000 - 1500 hours, typically (refer to machine part list for numbers) Clean the body with an all purpose detergent, and protect it with a silicone spray like Armor-All. Lubricate the wheels, castors, and quick disconnects with an all purpose silicone spray.

### **SAFETY PRECAUTIONS:**

- All extension cords must have a rating of at least 12/3. Extension cords should be no longer than 50 feet. Replace the cord or the plug immediately if the ground prong becomes damaged.
- Use rags or gloves when handling the quick disconnects; they can get hot enough to burn. Liquid ejected at the spray tips may be dangerous as a result of its temperature, pressure or chemical content.
- Do not leave the machine unattended when it is plugged in.
- Read all instructions before operating the machine.
- Use only manufacturer's approved attachments / tools.

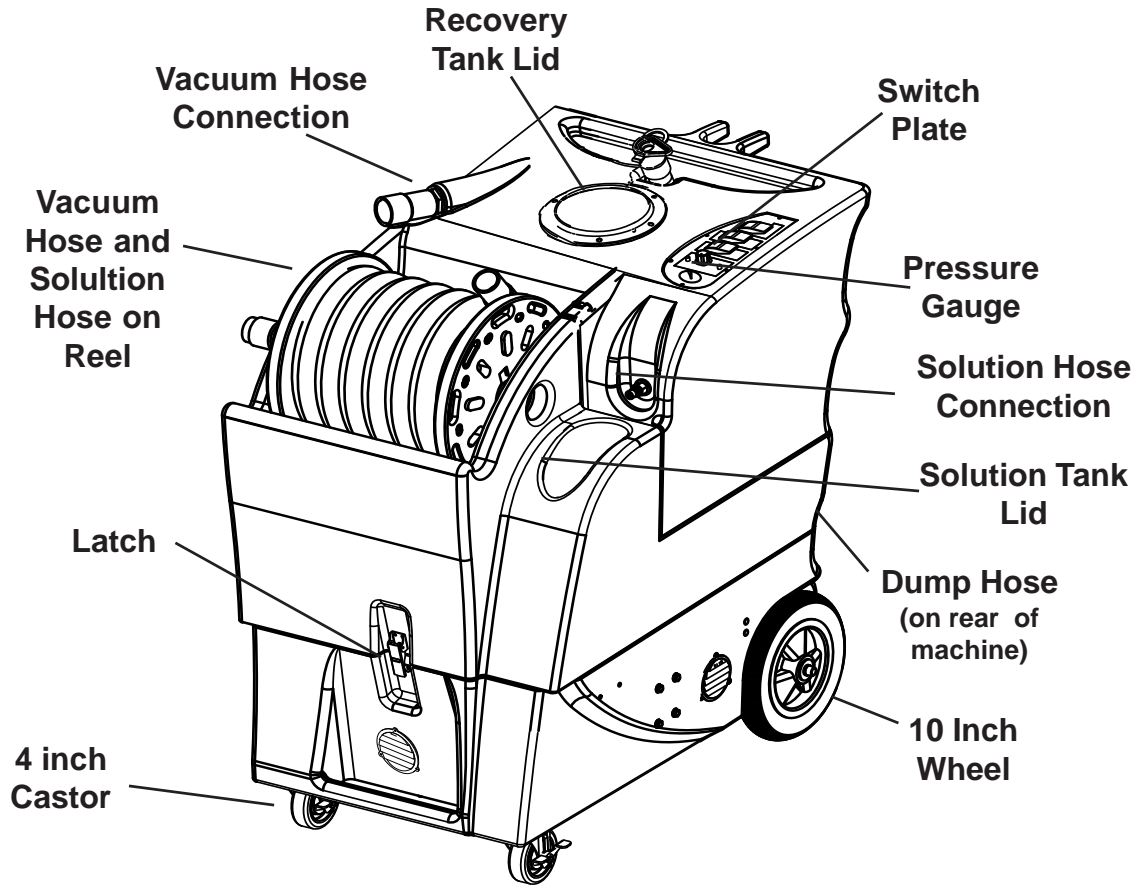
**NOTE:** This machine is only suitable for commercial use, for example in hotels, schools, hospitals, factories, shops and offices other than normal residential housekeeping purposes.

Record the serial number and model of your new extractor here: (and be sure to mail your warranty card)

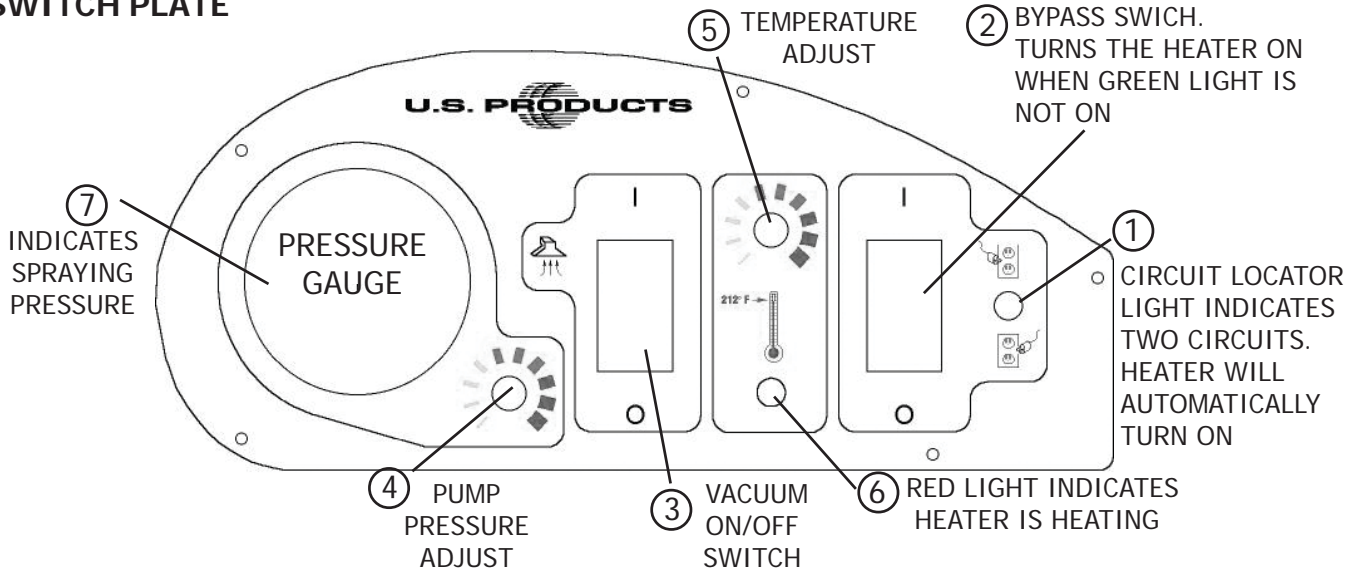
Serial Number: \_\_\_\_\_ Model: KING COBRA-500-S Purchase Date: \_\_\_\_\_

Write the name and phone number of your distributor: \_\_\_\_\_

**KING COBRA 500**



**SWITCH PLATE**



## SET-UP and OPERATION

- 1 Inspect the machine, hoses, and cleaning tools for cleanliness and completeness.
- 2 Fill the solution tank with water. Using warm water may be a benefit in cleaning effectiveness, but do not use hot water (above 130 ° F / 54 ° C) in the tank.
- 3 Plug in the power cords. Do not connect both cords to the same outlet; the green, circuit locator light (1) on the switch plate should light up. If the locator light does not come on, try different outlets until it does. If you are certain the cords are on separate circuits, but the green light does not light up, turn the Bypass switch (2) on.  
**CAUTION:** using the Bypass switch (2) when the cords are on the same circuit may cause the breaker in the wall to trip. **NOTE:** the receptacle on the left (viewed from behind the machine) powers the heater. **NOTE:** The red light (6) will turn on only when the heat exchanger is actively heating.
- 4 Connect the priming hose to the machine, turn the pump ON by turning the pump pressure knob (4) up to increase pump speed, and prime the air out of the pump. When the water is clear (no air in it) turn the pump off, and remove the priming hose. **NOTE:** if priming is difficult, place the open end of the priming hose into the Vacuum inlet hose barb, and turn the vacuum on. Use your hand to block the open area in the hose barb. This will allow the pump and the vacuum to work together to get the water moving. Priming may take 20 - 60 seconds, and the solution tank should be full. Turn motors off. Remove priming hose.
- 5 Add liquid cleaning chemical, with a pH between 6 and 9, to the solution tank, and mix it with the water.
- 6 Attach the spray hose to the solution quick disconnect and the vacuum hose to the hose barb on the recovery tank. Pull the hoses out from the reel. Attach the other ends of the hoses to the cleaning tool.
- 7 Set the temperature knob (5) to the desired heat setting. Allow the heat exchanger two minutes to reach operating temperature. The red light (6) will go out when the heater has reached operating temperature. **NOTE:** the red light will be on nearly all the time as you clean.
- 8 Turn the pump on by setting the pressure adjust knob to the desired spraying pressure (0 - 500 PSI). Read the spraying pressure at the pressure gauge (7) while spraying. Turn the vacuum on (3). **NOTE:** the vacuum motor will start up slowly to prevent a large current surge.
- 9 Begin cleaning.
- 10 Use defoamer in the recovery tank any time foaming occurs.
- 11 Monitor the water level in the solution tank. Do not let the pump run dry.
- 12 When the solution tank gets low, turn off the pump and the vacuum, fill the solution tank, empty and clean the recovery tank.
- 13 When finished with the job, remove any unused solution from the solution tank, and run a few gallons of clean water through the system. Drain the recovery tank by placing the dump hose over a drain, or a bucket, and removing the cap. Disconnect the hoses from the cleaning tool, and reel them up onto the hose spool.  
**NOTE:** To remove the reel, with hoses, from the machine, pull the vacuum hose loose from the hose barb on the front of the tank. Disconnect the solution hose quick coupling. Push Vacuum hose into the center of the hose spool. Grasp the spool from either side, and lift it off the machine. **NOTE:** before servicing any component in the base cabinet, the hoses and spool must be removed from the machine before the tanks can be lifted open.

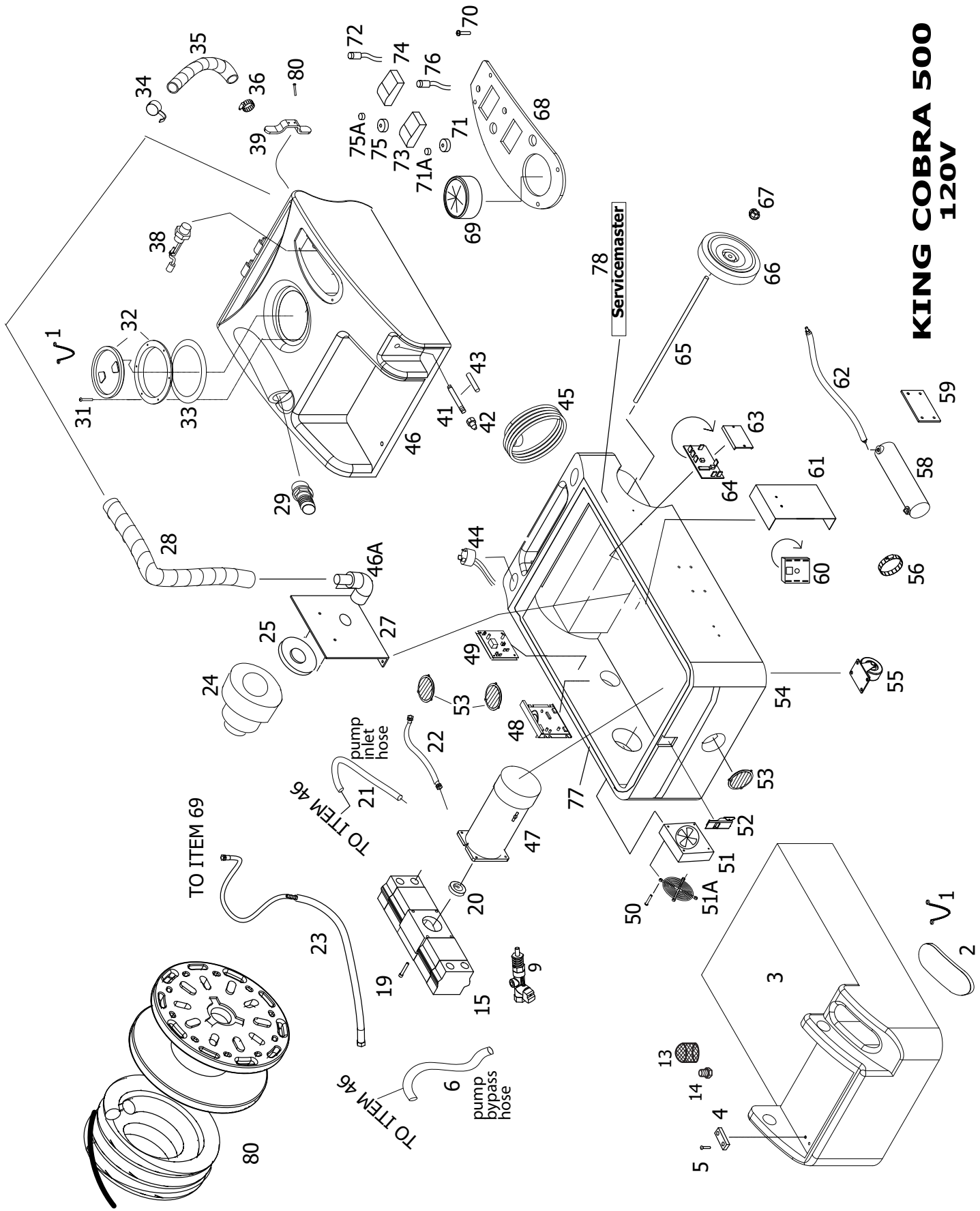
## ELECTRIC CIRCUIT LOCATOR

This unique, patented system is operated by a solid state circuit. It will inform the operator when the two cords are plugged into separate circuits by turning on the green, circuit locator light. This helps to prevent tripping circuit breakers. **NOTE:** if the green, circuit locator light does not illuminate when the cords are plugged in, then both cords are on the same circuit. Try other outlets with one of the cords until you get the locator light to come on. **NOTE:** if the bypass switch is turned on when both cords are on the same circuit, the breaker in the wall may trip.

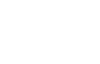
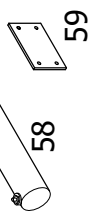
## ELECTRONIC FLOAT SHUT-OFF

When the recovery tank is full, the electronic float switch will turn the vacuum motor off. This will prevent water from entering the vacuum motor. The float may not work properly if the float filter rod is dirty or if there is heavy foam in the tank. To reset, turn the Vacuum switch off, and empty the tank.

**⚠CAUTION:** to avoid vacuum motor damage, always make sure the float filter is clean and that it can travel freely before you operate the machine. Always use a defoamer any time foam is present.



**KING COBRA 500  
120V**



# KING COBRA-500

## PART LIST

120V

<u>ITEM</u>	<u>PART No.</u>	<u>DESCRIPTION</u>	<u>ITEM</u>	<u>PART No.</u>	<u>DESCRIPTION</u>
1	FP436	Chain, lid, 8"	56	198	Hose Clamp
2	901B	Lid, solution tank	58	FP348	Heat Exchanger, 120V
3	HKCR-TEAL	Holding Tank	59	455	Bracket, mounting, heater
4	1088	Glide, teflon	60	**	See Miscellaneous Parts and Kits
5	331	Screw, 6-32 X 1/2"	61	918	Plate, Heat sink
6	925	Hose, 3/8" X 24" pump bypass	62	1134	Hose, Braided, S/S, 1/4" X 29"
9	945D	Valve, bypass	63	FP336	Snap Track, PCB mounting, 4"
13	207A	Filter, pump inlet, 40 mesh	64	923B	PCB, circuit sensor, 120V only
14	92B	Nipple, plastic	65	910-21.00	Axle, 21"
15	FP474	Pump complete, no motor	66	2084	Wheel, 10"
20	950D	Cam/Bearing assembly	67	27A	Axle cap
21	946	Hose, 1/2" X 22-1/2"	68	943B	Switch Plate
22	FP348B	Hose, pump to heater, 12"	69	951B	Pressure Gauge
23	FP411	Hose assembly, pump to gauge	70	28	Screw
24	913	Vacuum motor kit, 3-stage, 120V	71	FP399	Potentiometer, with cable, pump
25	959	Gasket, vacuum motor	71A	248	Knob, blue top, for pump speed
27	926	Manifold, vacuum motor mount	72	78B	Light, Red
28	1136	Hose, Vacuum inlet, 1-1/2" X 24"	73	FP345	Switch & actuator, vacuum
29	907	Hose Barb, for vacuum hose	74	FP346	Switch & actuator, bypass
32	2086A	Lid, with ring	75	FP347	Potentiometer, with wires, heat
33	1074	Gasket, lid	75A	248	Knob, red top, for heat adjustment
34	1060C	Plug, drain hose	76	78	Light, Green
35	1060B	Hose, drain, 1-1/2" X 24"	77	FP351	Gasket, (#1043 X 84")
36	1518	Hose Clamp	78	1128003	Label, King Cobra
37	207A	Filter, pump inlet	80	FP350	Reel, complete, no hoses
38	2026	Float Switch			
39	CWKC-BLK	Cord Wrap			
40	803	Screw			
41	1146	Pipe, 6.85", S/S			
42	45	Quick Connect, male, 1/4 p.t.			
43	1144	Rubber sleeve, 1/2" ID X 5"			
44	1062	Receptacle, power cord			
45	1057B	Power Cord, 25 ft, 3/12, yellow			
46	VKCR-TEAL	Recovery Tank			
46A	1131	Elbow, PVC			
47	948B	Motor, pump, DC out, 120 V			
48	FP361	PCB, Pump motor speed, 120V			
49	FP225	PCB, Vacuum control, 120V			
50	2B1	Screw, 6-32 X 2"			
51	2014	Fan, cooling, 120V			
51A	2015	Guard, fan			
52	908A	Latch, draw, rubber			
53	928	Louver, 3", includes 3 screws			
54	BKCR-TEAL	Base compartment			
55	905	Castor, 4"			

### MISCELLANEOUS PARTS AND KITS

FP194E	Heat Repair Kit, includes the probe, Thermistor Control, & Thermal Cutout (for machines built after 7/22/05)
FP473	Pump & motor complete, 500 psi, 120V
FP350A	Pressure line, complete, 25 ft
FP350B	Vac hose complete, 25 ft
FP350C	Vac hose and pressure line, complete

# KING COBRA 500

## TROUBLESHOOTING COMMON PROBLEMS



**CAUTION:** always unplug the machine when removing/adding wiring connections.

<i>IF THIS</i>	<i>CHECK THIS</i>
<p><u>Low Pump Pressure:</u></p> <p><u>No Pump Pressure or No Spray:</u></p> <p><u>Pump Does Not Run:</u></p>	<p>Air in the pump. Prime the pump with a full tank of solution Worn Pressure Regulator Valve. Rebuild or replace the valve. A leak at the pump or in the plumbing. Find and correct the leak.</p> <p>No water in the pump. Prime the pump with a full tank of solution. Spray tips on wand are plugged. Clean or replace. Solution hose to machine and wand is not completely connected.</p> <p>No power to machine: check the power cord, the outlet, the circuit breaker in the wall panel. Brushes in the motor are worn out. Replace brushes. No power from circuit board: measure the DC voltage out of the board (to the motor) with a voltmeter, AND check to see if the Potentiometer is working or not. Test and replace if necessary.</p>
<p><u>Low Vacuum Suction:</u></p> <p><u>Vacuum Does Not Run:</u></p>	<p>Make sure the Recovery Tank lid is screwed down. Check the drain hose and cap to make sure there are no cracks and the lid is on and closed. Check the recovery hose to make sure it has no crack and is on tightly at the tool and the machine.</p> <p>Check that the machine is getting power Check the float position, and make sure it can move freely. Check the on/off switch to see if power is getting through it. Look at the vacuum circuit board to see if any wires are loose or disconnected.</p>
<p><u>Low Heat:</u></p> <p><u>No Heat:</u></p>	<p>Turn the heat setting knob all the way clockwise. Make sure you are not spraying for too long on each cycle. Longer or larger diameter hose will dissipate more heat so you will have cooler water at the spray tips. Larger, or more, spray tips will increase the volume of water coming out, and this could mean the water passes through the heater too quickly to get all the way hot.</p> <p>Check that the machine is getting power on both cords. If the Green Light is <u>not</u> on, the Bypass switch must be on.</p>



If you are unable to make a diagnosis using this chart, contact the distributor from whom you purchased your machine.



#19200  
**King Cobra 500 Extractor**

NOTES:

**The ServiceMaster Company  
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800-756-5656 (Tech Support)  
Date: 5-2010: Rev. D**