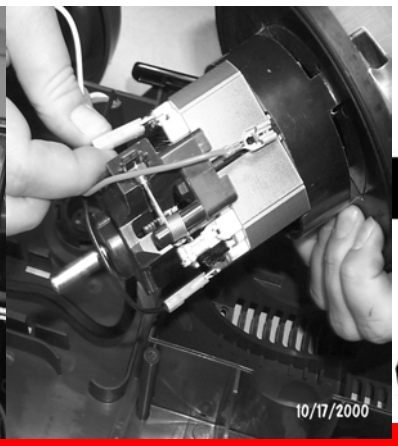

BISSELL®

WE MEAN CLEAN

POWERSTEAMER® PROHEAT PRO-TECH™
#1698's, #1699's, & #7920's

Service Center Repair Guide

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HOW TO USE THIS REPAIR GUIDE

The instructions in this Repair Guide pertain to the **Bissell PowerSteamer ProHeat (#1698) and the Bissell ProHeat ClearView(#1699)**. The information identifies those parts and components which are most likely to cause problems in the operation of the unit. Using easy-to-understand diagnostic procedures and step-by-step repair and/or replacement instructions, you will be able to identify and repair a wide variety of common repair problems.

UL RECOMMENDED HIGH VOLTAGE TEST

In keeping with UL standards, a high voltage test should be performed on a vacuum or deep cleaner any time the unit is in for repair, particular when the motor or other electrical components have been replaced. High voltage testing is done for the safety of the customer. By applying an over-voltage between "live" parts and various metal portions of the machine that are exposed to wear, you proof-test the entire machine against grounds or shorts that could cause inconvenience, fires or personal injury. High voltage testing is also a quality control measure. The possible future failure in the insulation of any portion of the unit, whether due to workmanship, components or materials, will be detected by this procedure prior to return of the unit back to the customer.

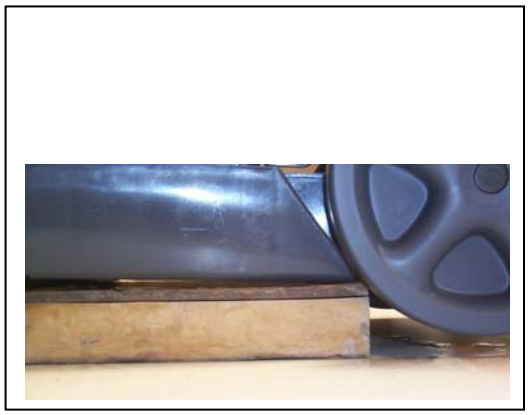
The normal test parameters are 1000 volts for one minute. There must be no indication of dielectric breakdown at the uppermost values. After the unit is completely assembled, the high voltage test required is the power cord to terminals in plug with the product switch on "on" position. This test can be accomplished with any commercial available test equipment offered for this purpose. The following testers are recommended:

Associated Research - Model 4025 or 4050 AJ
Slaughter - Model Series 2306 or 2307
Beckman Ind (Rosemont) - Model P-9A

Ground Continuity Test
This test is performed to determine that grounding continuity exists between the grounding blade of the lower supply cord plug and the motor. This test should be performed any time electrical connections are disturbed. Any suitable indicating device - ohmmeter, battery/buzzer combination or the like may be used to determine compliance. Contact points are the ground terminal in the plug to the shaft of the vacuum motor and the heater body.

USING THE SERVICING PLATFORM

Begin by placing the unit on the Servicing Platform. Servicing Platform should fit securely under the unit and raise its wheels off the servicing surface.



PRELIMINARY DIAGNOSTIC CHECKS

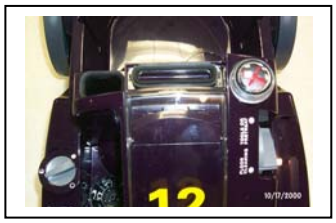
1. Test the trigger mechanism. There should be 1/4" of free travel before 1/4" of resistance. If not, ensure that valve is seated correctly. If valve is OK, replace the trigger rod.

2. Check resistance of the SmartMix knob by turning it from left to right several times. If difficult to turn, check to see that the piston is installed correctly (with housing removed).

3. Check seals on Clear Water Tank and Solution Tank. If necessary, re-seat or replace seals.

4. Check valve action on Clear Water Tank and Solution Tank by depressing them with your finger. The valve should move up and down. Replace if necessary.

5. Check position and condition of gaskets at nozzle window top and motor duct. Re-seat or replace if necessary.



6. Check position of tabs (2) at upper rear of nozzle window to ensure they are inserted properly into their alignment holes. Re-seat if necessary.
7. Remove belt access door at left front of unit (viewed from rear).

8. Manually rotate motor shaft to determine that motor, brush and pump are moving smoothly and quietly.

9.  may be hindering the free movement of these components.

FUNCTIONAL SYSTEMS CHECK

1. Fill tank bladder and solution bottle 1/2 full with clean water.

2. Set smart mix knob to NORMAL.
Set diverter knob to "Carpet." Turn on "power" and "heat."
Make certain heater light is "on" (front of unit).

3. Listen for unusual motor noise such as grinding, racing, louder than normal, etc. If so, replace motor.

4. Depress trigger -- watch for spinning flow indicator. If flow indicator does not spin, ensure that it is assembled properly. If it is and the problem persists, refer to the sections on "TAKING THE UNIT APART" and "TROUBLESHOOTING THE FLOW SYSTEM."

5. Make certain water is being suctioned back into the unit. If not, check the position and condition of gaskets at the top of the nozzle window and the motor duct. Re-seat or replace if necessary.

6. Install upholstery tool to end of hose and depress spray button.

7. Make certain it sprays and that water is being suctioned back into the unit. If not, inspect and correct any pinched or kinked tubing.

TAKING THE UNIT APART

1. Unplug the unit.
2. Recline the handle backwards fully.
3. Turn SmartMix to "normal" traffic setting.
4. Remove the Solution and Clean Water Tanks.
5. Remove clear flow indicator cap, red spinner and filter.

6. Remove the two screws in the nozzle window and lift the front of the window straight up to remove.

7. Remove four screws located on top of main housing, near the wheels.

8. Remove the main housing from the unit (some units have snaps on front of housing -- lift front of housing to remove these) Pressing down on flow indicator opening may help remove housing.

9. Ensure that rope gasket is placed properly on the housing -- reposition with a flat screwdriver.

10. 
f pinching and restricted flow. Straighten and un-pinch lines as
o page 18)

11. After removing housing, check that the SmartMix piston is still positioned within the main housing.

12. Visually inspect all tubing for evidence of pinching or kinks. Remove kinks and straighten lines where necessary.

TROUBLESHOOTING THE FLOW SYSTEM

1. Remove SmartMix piston from the main housing and place SmartMix body (located beneath the knob on the main housing, inside of the unit) so that it is 1/16" from completely inserted.

2. Replace tanks in unit.
3. Plug unit in and turn it on.
4. Pull trigger to check spray -- making sure upper handle is firmly positioned onto the lower handle. Water should flow through tubing from the tank to the pump and the red float inside the pump should move up. If it doesn't, replace the pump.
5. Check the tubes for air bubbles as the unit is spraying -- bubbles indicate an air leak that prevents pump from priming.
6. Locate the source of any air leaks and correct them, looking first at the auto load receiver (under the tank) and the SmartMix assembly.

LOWER HANDLE ISSUES

1. Handles must be reassembled to ensure that hoses are not pinched.
2. Clear any blockages in the heater inlet and outlet lines with a finishing nail or similar object.

3. To open the heater, remove screws located on its rear panel.

HEATER ISSUES

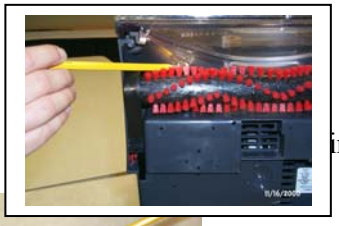
1. Check heater function by attaching a 120-volt source to heater terminals and waiting 30 seconds -- unit should get hot.

2. *Heaters have an extremely low failure rate* -- make absolutely certain a heater is broken before ordering a new one.

CLEARVIEW ISSUES

1. Make certain the "hook" is placed properly into the alignment slot.

2. Make certain the background window has its tabs placed properly.



3. in place on top of the background window.

MOTOR REPLACEMENT PROCEDURE

1. Remove main housing.

2. Rotate upholstery duct back towards handle, letting it rest against the handle.

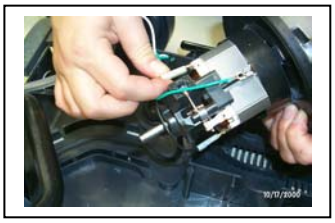
3. Without disassembling them, remove and set aside the flow indicator and the spray tips by releasing the tabs and pressing them forward.

4. Remove the pump outlet tube from the motor cover tubing guide located near the motor shaft.

5. Remove the four screws on the motor cover.

6. Rock the motor duct out of position.

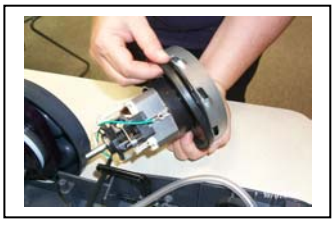
7. Lift out the motor.
8. Disconnect all wires.



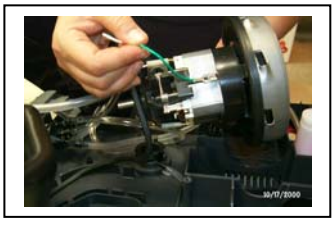
9. Remove, clean and save the two gaskets on the motor.

10. Clean any debris from motor cover top and bottom area.

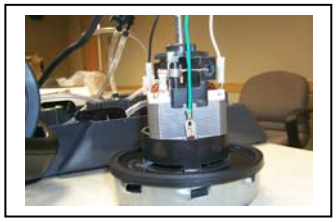
11. Attach larger gasket to the new motor.



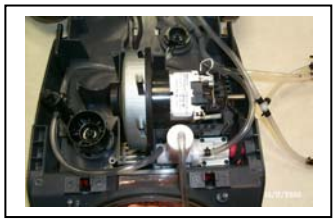
12. Attach the green groundwire to the copper terminal located on the bottom of the motor stack.



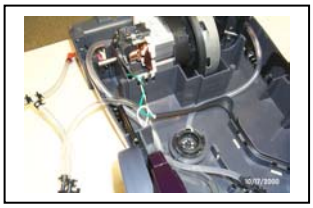
13. Attach the "hot" and "neutral" terminals onto the new motor.



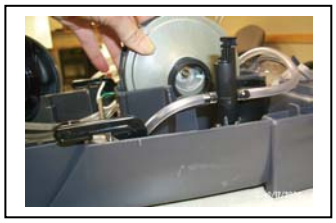
14. Turn the motor so that the "ground" terminal is oriented downward.



15. Loop the wires around the bottom of the motor, then out the three motor vents at the rear of the motor cradle (NOT where the shaft comes through).



16. Tilt the fan side of the motor up and insert the gasket into the bottom motor housing.



17. Replace motor cover. Gently rock into place until straight. Pull out on the tab at the motor duct end of the motor cover and guide it past the gasket.

18. Replace the four screws in the motor cover.

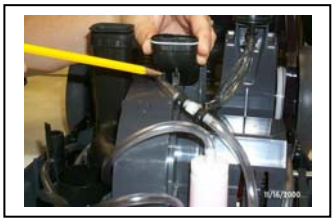
19. Replace the motor duct by placing the tab in first, then twisting and pivoting it into position.

20. Replace the spray tips.

21. Replace the flow indicator by pulling the two tubes downward and making sure the flow indicator is seated snugly.

22. Replace all tubing and wiring in its proper position. See full size photo of base - page 18.

23. Put the upholstery duct into its proper position, making sure the tab on its underside is nested into the mating ribs on the motor cover.



24. Replace the belt.

25. Make certain the brush is turning by turning the motor by hand.

26. Turn on the motor briefly to check its operation.

27. Replace the main housing

PUTTING THE UNIT BACK TOGETHER

1. Follow the assembly diagram to ensure that all parts are replaced properly.

SEE PAGE 18

2. Make sure the foot pedal is in the proper position.

3. The SmartMix should be properly loaded into the main housing. This is done by first turning the SmartMix knob to the "water only" setting, placing the SmartMix piston in place, then turning the SmartMix knob to the "heavy traffic" setting.

4. Make sure the gasket around the nozzle is in place by guiding it into the slot with your finger or screwdriver.

5. Make sure the cover is reassembled so that it is directly above the base before lowering it into position.

6. Turn the diverter valve to "tools" setting. Lift diverter door lightly and check to ensure that the upholstery duct is aligned to the oval hole in the housing. Press diverter door back down and return valve to "floor" setting. Some models require that the front housing be snapped back onto the base. Do this by pushing down on the front of the housing.

7. Clean any debris from the flow indicator. Insert with post up, then lightly tighten flow indicator cap.

8. Make sure the rope gasket for the window is in place on the housing. Also, check to see that the rubber gasket is in place at the top of the window.

9. Replace the nozzle window by first pressing the front onto the screw area, then snap the top of the nozzle in place by pressing on the oval gasket seal. You will hear two "clicks" as the tabs drop into the housing slots (NOTE: on older models, insert the two rear tabs into the housing slots first, then lift upward on the front of the window to "bow" it into position. Attach both window nozzle screws.

10. Turn the motor shaft to ensure that the brush and pump are both operating properly.

11. Reinstall belt access door and tanks. Retest unit.

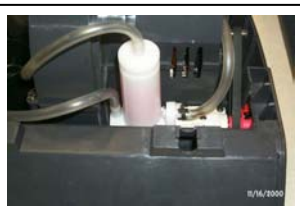
PUMP REPLACEMENT

1. Unplug the unit.
2. Remove the two solution tanks.
3. Remove spray tips from guides.

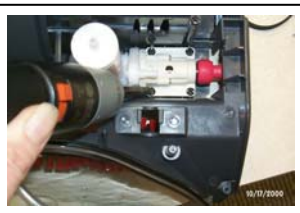
4. Remove the brush and cog belt by removing the screw from the orange retaining collar.

5. Remove belt from pulley.

6. Remove all lines and tubes from pump unit.

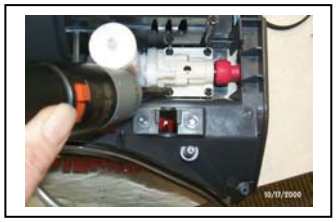


7. Remove pump from unit after first removing four retaining screws.



8. Place stretch belt on new pump.

9. Re-seat new pump into position and screw into place (4 screws).



10. Reattach tubing

11. Reattach brush, cogbelt, and retainer arm.

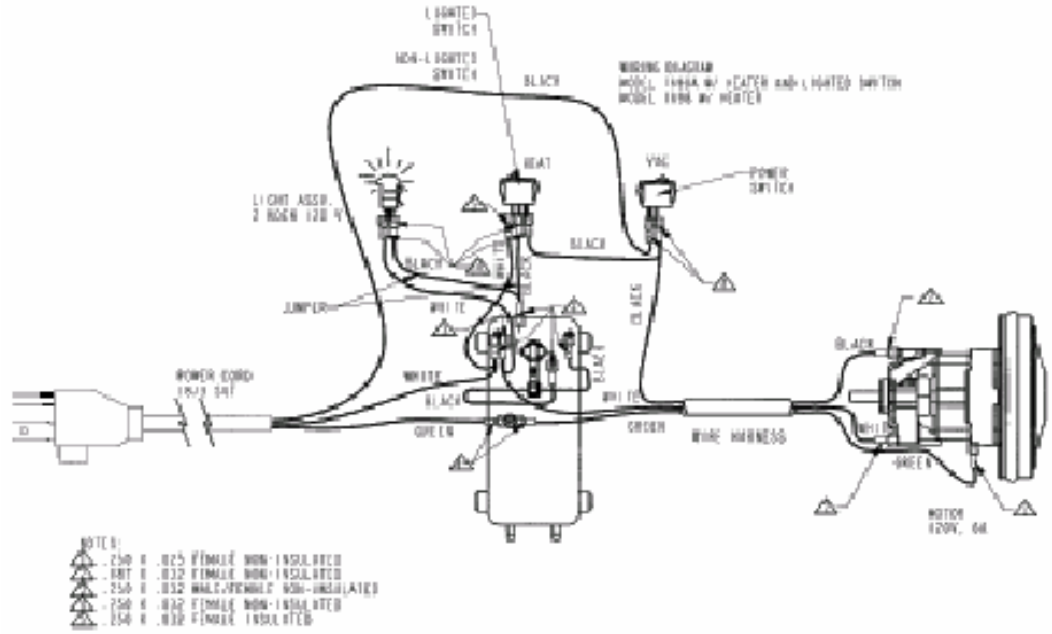
12. Screw orange retaining collar back in place.

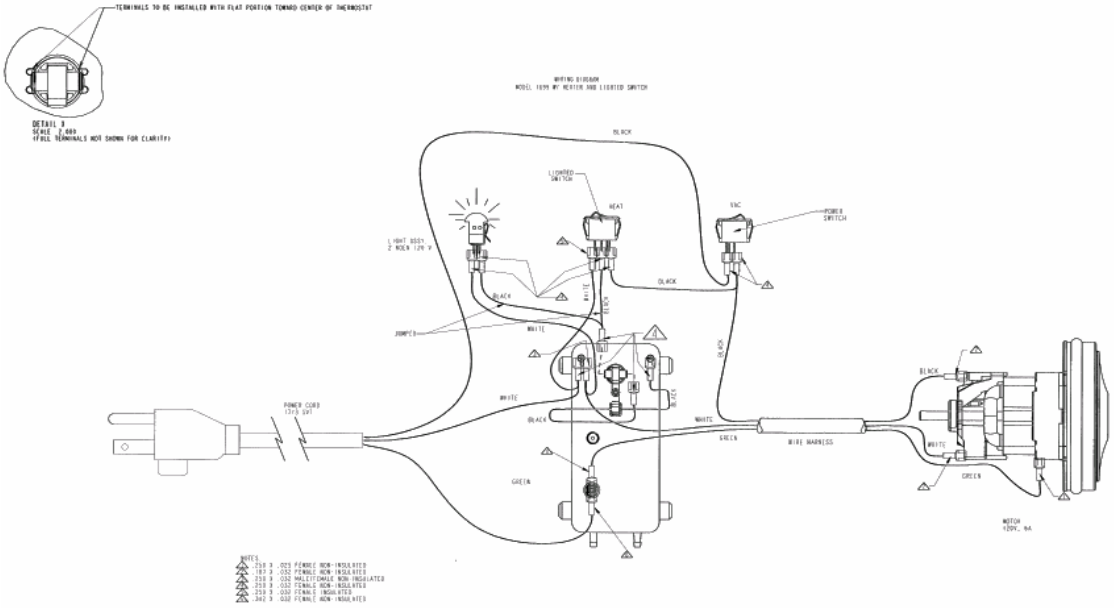
13. Reset spray tips.

14. Put solution tanks in place

15. Test pump operation by plugging in unit and depressing the trigger mechanism.

Wiring Diagram



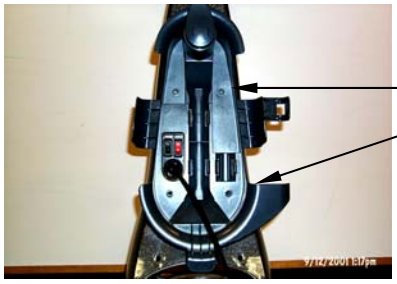


Overhead View of Base

Lower Handle Disassembly

1. Remove the two screws located near the bottom of the tool caddy on the back of the machine.

2. Remove the two bolts and nuts that go through the upper part of the tool caddy and handle assembly.



3. Lift upper handle off lower handle assembly.

4. Remove two screws from the back of lower handle assembly.

5. Recline the handle backwards fully.

6. Lift lower handle front free by pulling up on the tabs near the top.

7. Disconnect all wire connections from light. There will be one black wire and up to two white wires (one from the Perfect Pass™ housing and one from the heater) connected to the light.

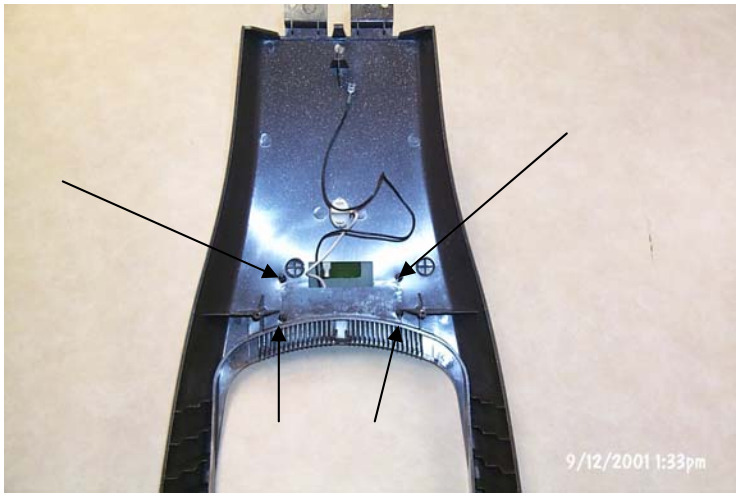
Circuit Board Replacement

1. Disassemble lower handle assembly according to instructions on page nineteen.

2. Remove the black circuit board wire from the power switch (this is the black wire that runs from the switch to the circuit board).

3. Disconnect speed sensor wire from circuit board (this wire has a soft, silver colored, braided thermal covering on it).

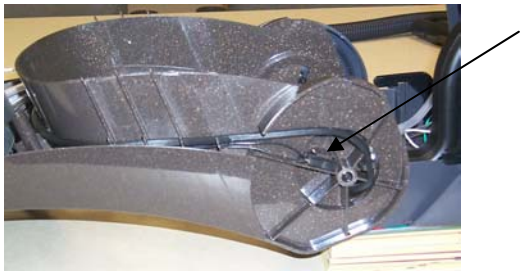
4. Remove the four short screws that mount the Perfect Pass™ housing to the handle front.



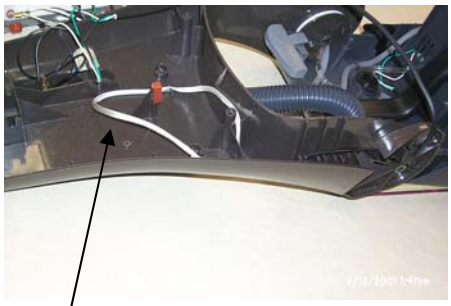
5. Pull the Perfect Pass™ housing away from the handle front (the circuit board and housing are replaced as an assembly).

Speed Sensor Replacement

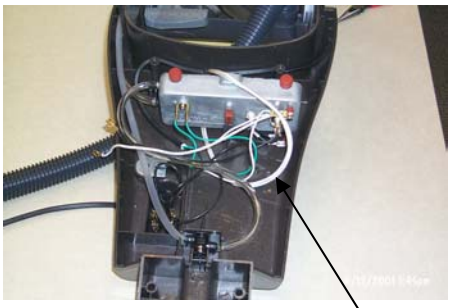
1. Remove the main housing according to instructions on page six.
2. Remove the right side wheel (held in place by an E-clip on the end of the axle).
3. Gently lift plastic retaining tab up and away from speed sensor and pull sensor out.



4. Snap new speed sensor in place.
5. Speed sensor wire should run under the power cord, then under the heater, then around to circuit board.



Speed Sensor Wire



Speed Sensor Wire