# Electronic Service Manuals

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Serving the Cleaning Industry Since 1922


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# MAGNUM

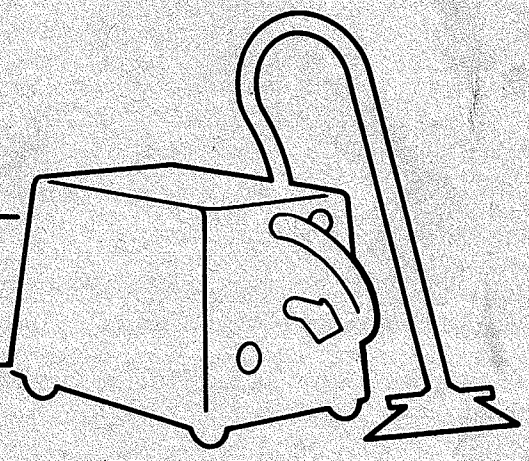
Model Number: 900 & 1400

# REFERENCE MANUAL

Operating Instructions • Parts List • Troubleshooting

Machine Serial Number _____

Castex



Castex Industries, Inc., 4240 Blue Star Hwy., Holland, Michigan 49423
616- 392-6966

WARNING: TO AVOID ELECTRICAL SHOCK, DO NOT EXPOSE TO RAIN. STORE INDOORS.

**Use only CASTEX chemicals, others could harm the machine.**

## SET UP AND OPERATION:

(Numbers refer to the diagram on page 2 and to the parts drawings on pages 3-5.)

1. Fill the clean water tank with hot water and the proper amount of CASTEX Cleaning Agent. Always mix powder chemicals in a filling bucket — DO NOT MIX POWDER CHEMICALS IN THE MACHINE!

   **WARNING:**
   Use a clean bucket to fill the machine. Empty dirty water into *another* bucket. Always be certain to use SEPARATE BUCKETS to fill and to empty machine. Perfectly clean water must be in the clean water tank to avoid fouling the internal system.

2. Be certain the drain valve at the front of the machine #12 is shut and then plug the machine into a 15 amp *grounded* circuit.

   DO NOT OPERATE THE MACHINE WITHOUT A GROUND PIN! The third prong on the plug is necessary to avoid an electrical hazard.

3. Prime the solution pump any time the machine is run out of water. Insert the bleeder hose into the solution hose quick coupler #15. Put the other end of the bleeder hose into the vacuum intake #8. Turn the solution pump switch on and let the pump run until you see no air bubbles in the solution. Kink off the hose for approximately 5 seconds so that the solution pushes all air out of the pump and regulator. Turn the solution pump switch off. Remove bleeder hose and drain recovery tank.
   FOR A NEW MACHINE: Run approximately one gallon of water out of the bleeder hose to flush antifreeze out of the pump system into the recovery tank or other container. A new machine has antifreeze to protect it while it is being shipped.

4. Connect the vacuum hose to the machine at #8 and to the floor tool at #46.

5. Connect the solution hose to the machine at #15 and to the floor tool at #48.

6. In sequence, turn on the solution pump switch, then the vacuum switch.

7. To operate, squeeze the floor tool valve handle #47 while drawing the floor tool toward you with the opening held steadily against the carpet.

8. As the machine is used, dirty solution will begin to fill the discharge tank. When the tank is full, a float will shut off the flow of air to the vacuum motor at #7 which will stop the vacuum function. The vacuum motor will continue to run but there will be no suction at the floor tool. Turn the machine off immediately.

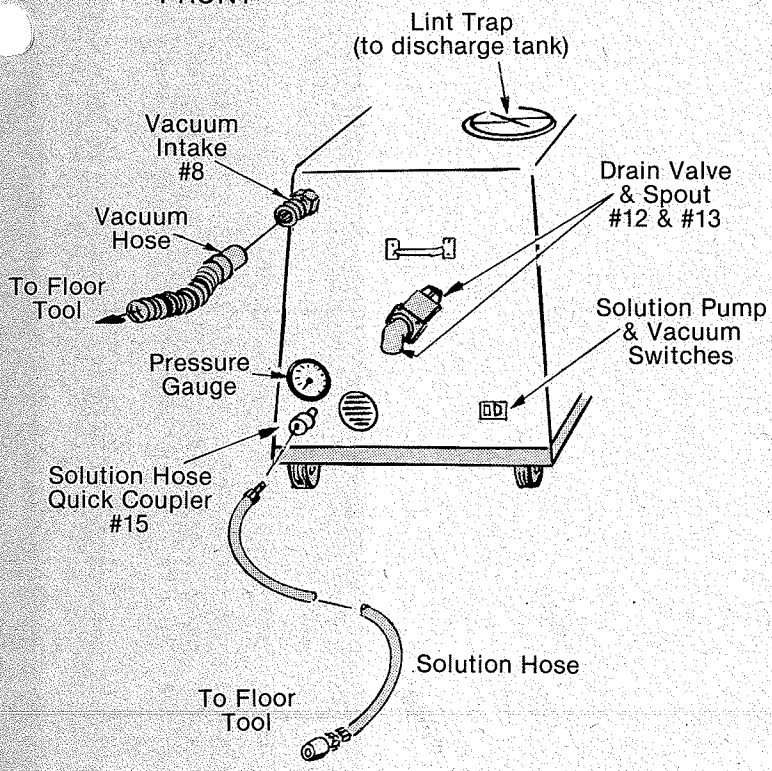
   NOTE:
   Excessive foaming will *not* cause this float to shut down the vacuum. Use CASTEX Anti-Foam to control foaming and to protect the vacuum motor.

9. To empty the discharge tank, turn the machine off and then position a discharge bucket under the drain valve down spout #13. Pull the valve T-handle #12 to empty the dirty water. Be certain this valve is closed before continuing operation. To avoid overfilling, empty the recovery tank every time you fill the clean water tank — be sure to use separate buckets!

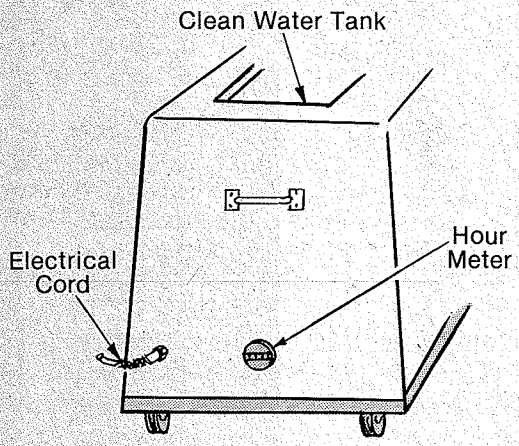
10. Be certain the standpipe screen at #7 and the clean water filter #36 are kept clean. Just unscrew and rinse to clean the clean water filter. With the machine shut off, lift vacuum shutoff lid at #7 and clean out lint.

11. You may wish to adjust the solution pressure. The pressure is factory set at 150 pounds per square inch (psi) at the floor tool tips WHEN THE TRIGGER IS ACTIVATED. Pressure will be aproximately 50 psi higher when the machine is running but the floor tool trigger is NOT engaged. To adjust the pressure, loosen the ½″ locknut on the T-handle #30 under the machine. Turn the T-handle clockwise to increase pressure to a maximum of 200 psi with the floor tool activated. Turn the T-handle counterclockwise to decrease pressure. Tighten the locknut.

FRONT




BACK




## WHEN FINISHED:

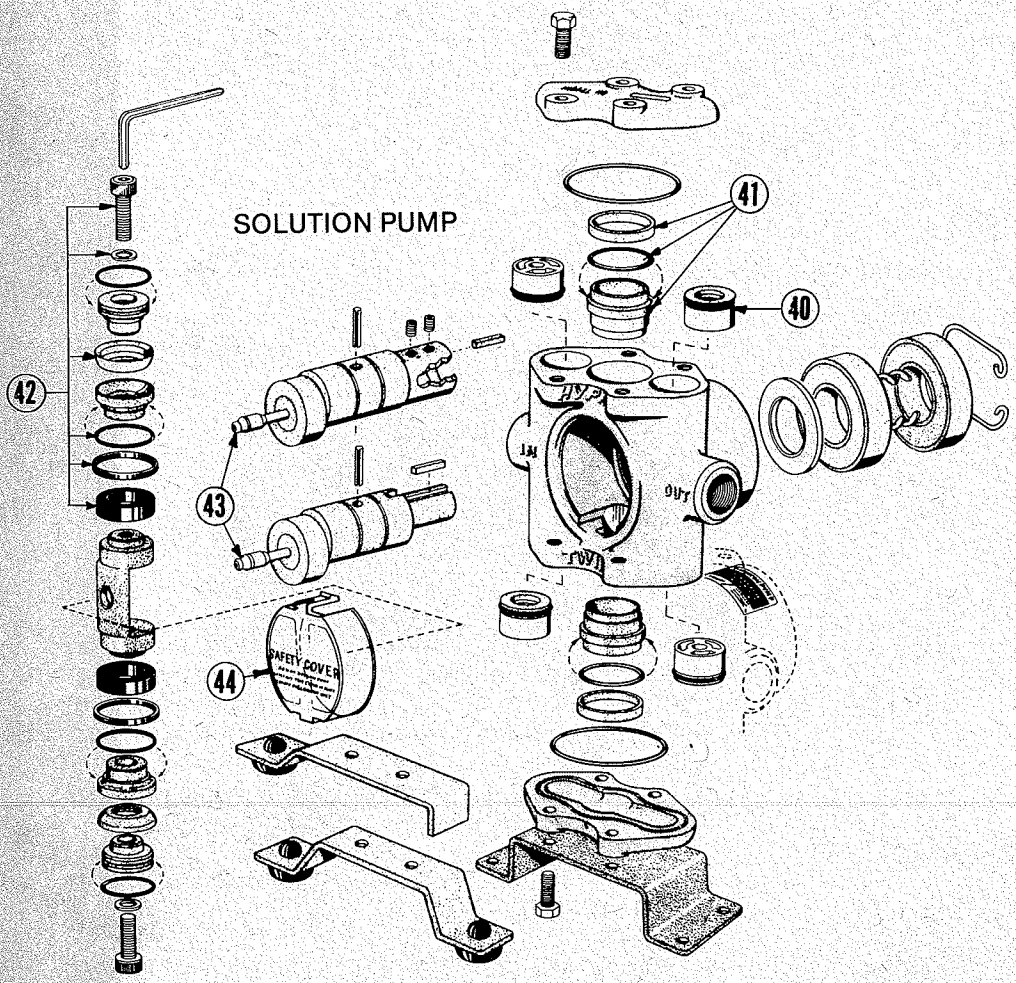
1. Turn off all switches.
2. Drain the recovery tank by opening valve #12 and catching the dirty solution in a bucket. Clean drain valve seat by turning on the vacuum, putting one hand over the vacuum hose intake #8 and one hand over the drain #13 and slowly lifting the hand on the drain. Do this 2-3 times. This will significantly extend the life of the drain valve seat. Close the valve.
3. Vacuum unused solution from the clean water tank into the recovery tank.
4. Drain and rinse recovery tank and clean all filters (#36, at #7, at #8, and screens in floor tool). Once again, dry the drain valve seat as described above.
5. Disconnect the solution and the vacuum hoses from the floor tool and from the machine.
6. Drain the floor tool by turning it upside down and pulling the trigger.

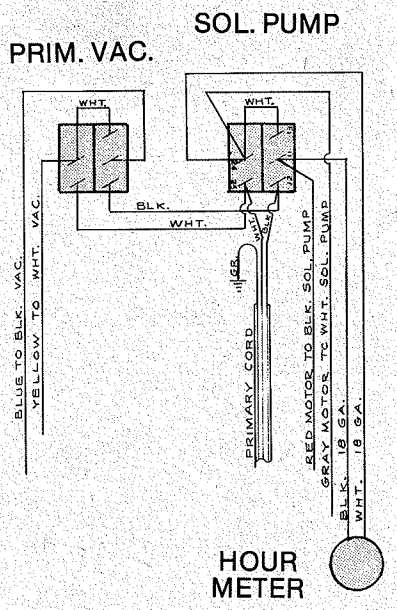
## GENERAL SERVICE POLICY:

Whenever ordering parts or requesting any type of service, specify;

a) the model of the machine
b) the serial number of the machine
c) the size wand you are using

All parts returned to the factory must arrive prepaid with a return authorization number. Always enclose a note indicating the above plus what exactly is wrong with the returned part, your name and your address. Always order parts by part number and description.



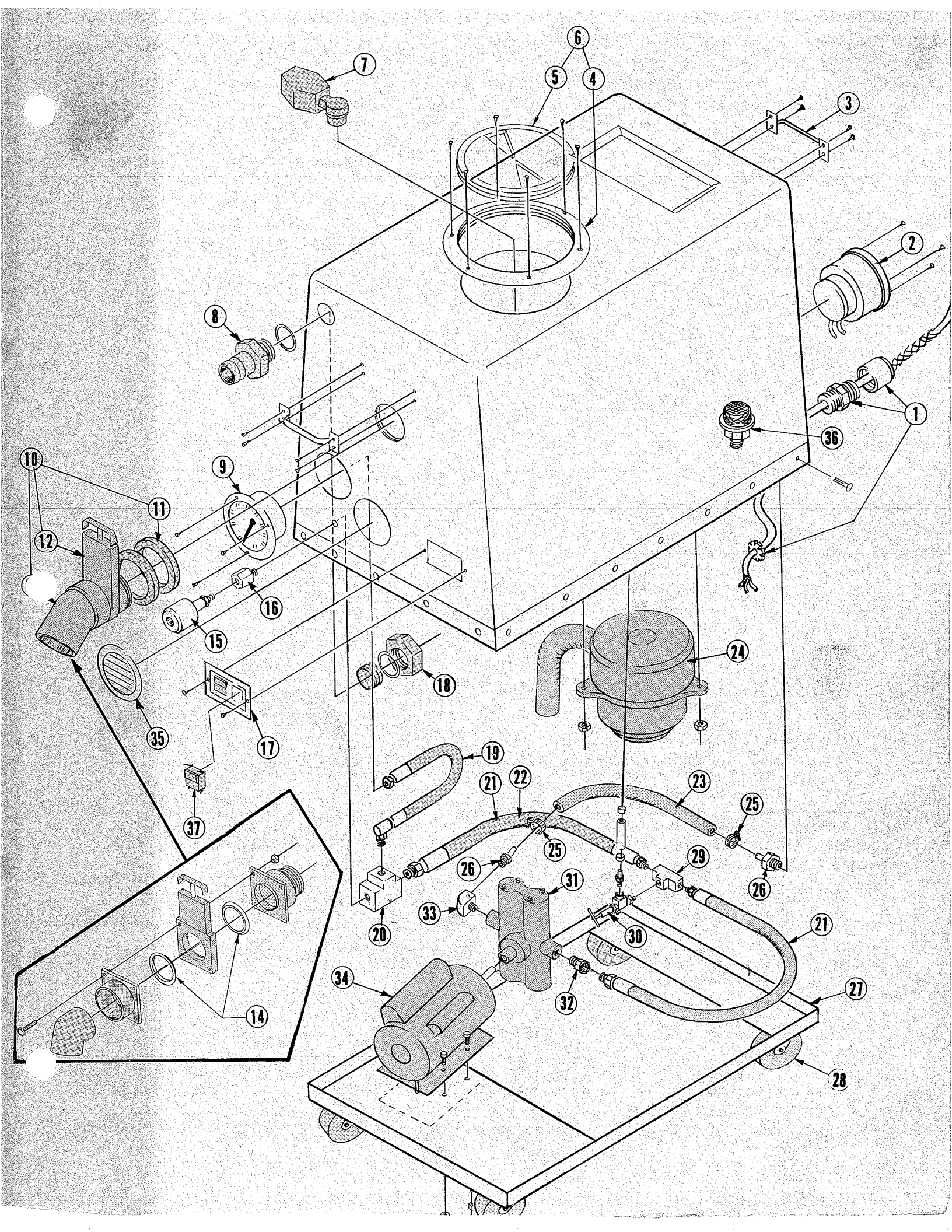

WIRING

NOTE: ALL GREEN GROUND WIRES CONNECT TO FRAME

## PARTS CHART

| CODE # | PART # | DESCRIPTION |
|---|---|---|
| 1 | 10623 | cord grip |
| 2 | 10617 | hour meter |
| 3 | 10102 | handle |
| 4 | 10107 | outer ring |
| 5 | 10106 | clear lid |
| 6 | 10105 | lint trap lid complete |
| 7 | 10505 | vacuum shut-off |
| 8 | 10101 | hose barb 1½" |
| 9 | 17010 | pressure gauge |
| 10 | 10114 | drain valve, spout, gasket complete |
| 11 | 10111 | drain valve gasket |
| 12 | 10112 | drain valve |
| 13 | 10113 | down spout |
| 14 | 10117 | drain valve gate seal |
| 15 | 10420 | quick coupler |
| 16 | 10419 | adapter, ¼ x ¼ |
| 17 | 10625 | switch plate |
| 18 | 10119 | haywood flange |
| 19 | 17081 | hose, hp gauge complete |
| 20 | 10731 | ¼" tee |
| 21 | 17082 | hose, hp pump outlet complete, #900 |

| CODE # | PART # | DESCRIPTION |
|---|---|---|
| 21 | 17082A | pump inlet, Model 1400 only |
| 22 | 17082B | pump outlet, Model 1400 only |
| 23 | — | RX, ½", contend hose |
| 24 | 10504 | vacuum / blower |
| 25 | 10424 | #6 clamp |
| 26 | 10427 | hose barb |
| 27 | 10215 | frame, model #700 & #900 |
| 27 | 10214 | frame, model #1400 |
| 28 | 10201 | caster |
| 29 | 10731 | ¼" tee |
| 30 | 10746 | pressure regulator |
| 31 | 10745 | twin piston pump |
| 32 | 10761 | bushing, ½ x ¼ |
| 33 | 10437 | elbow, 90° |
| 34 | 17046 | ⅓ hp motor |
| 35 | 10120 | 3" chrome vent |
| 36 | 10110 | clean water filter |
| 37 | 10612 | switch, lighted rocker |
| 40 | 10743 | valve kit, set of 4 |
| 41 | 10756 | cylinder sleeve kit |
| 42 | 10744 | cup kit, set of 2 |
| 43 | 10754 | grease fitting |
| 44 | 10755 | safety cover |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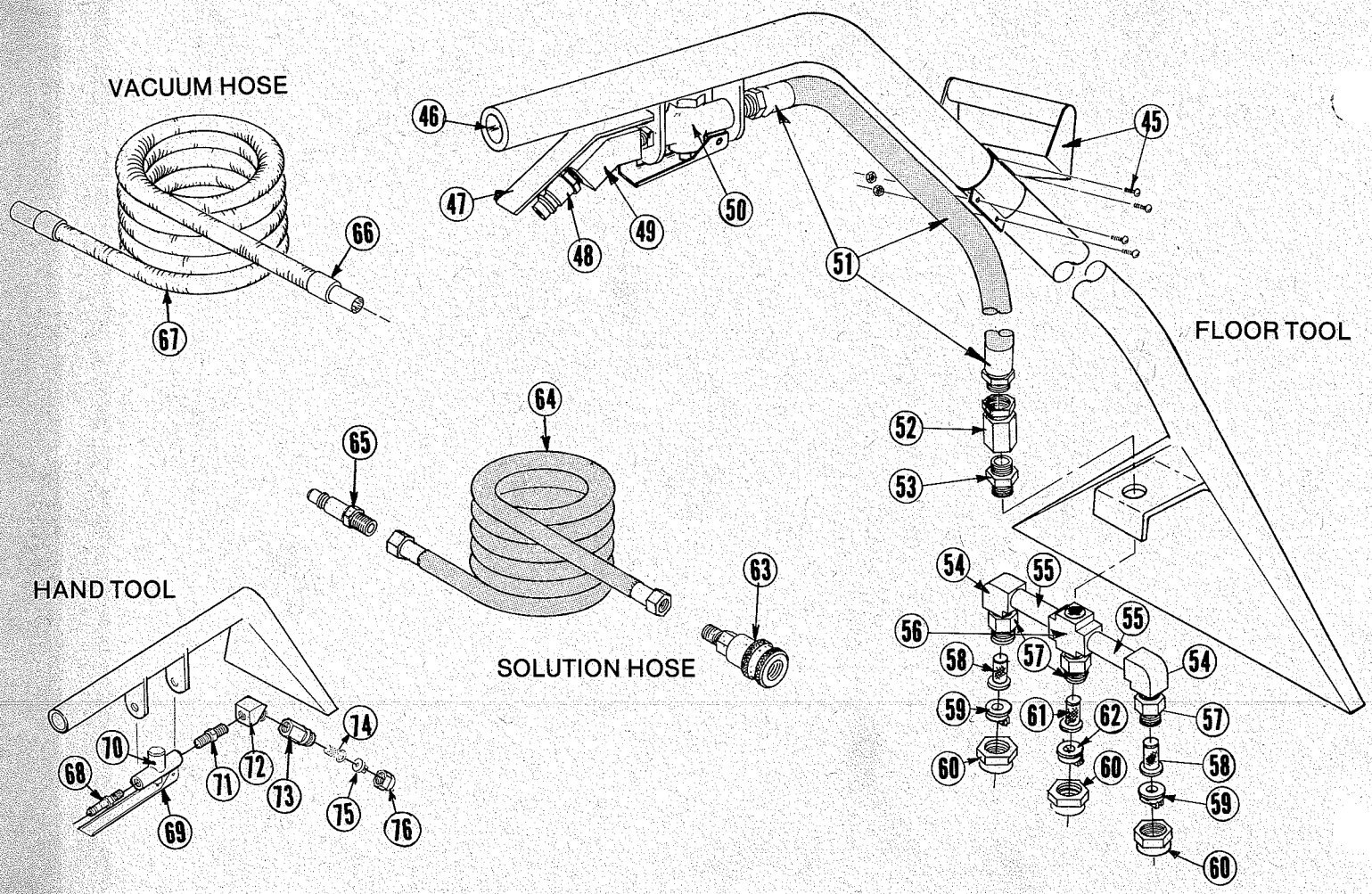


| CODE # | PART # | DESCRIPTION |
|---|---|---|
| 45 | 10401 | hand grip complete |
| 46 | — | vacuum hose hook up |
| 47 | 10471 | floor tool trigger |
| 48 | 10420 | quick coupler plug, ¼" MPT |
| 49 | 10466 | elbow, ¼" 45 degree |
| 50 | 10410 | flow control valve |
| 51 | 10414 | high pressure wand feed hose complete |
| 52 | 10331 | swedge fitting |
| 53 | 10452 | hex nipple, ¼" |
| 54 | 10468 | elbow, ¼" 90 degree |
| 55 | 10464 | nipple, ¼" x 2" |
| 56 | 10465 | cross extruded, ¼" |
| 57 | 10436 | spray body, male |
| 58 | 10435 | no drip spray nozzle screen |
| 59 | 10449 | stainless steel tip #9502 |
| 60 | 10432 | spray body cap |
| 61 | 10431 | regular spray nozzle screen |

| CODE # | PART # | DESCRIPTION |
|---|---|---|
| 62 | 10450 | stainless steel tip #11002 |
| 63 | 10315 | quick coupler, ¼" MPT |
| 64 | 10324 | solution hose, 15' |
| 65 | 10420 | quick coupler plug, ¼" MPT |
| 66 | 10513 | hose cuff only, 1½' |
| 67 | 10514 | vacuum hose complete, 15'x1½" |
| 68 | 10420 | quick coupler plug, ¼" MPT |
| 69 | 10470 | hand tool handle |
| 70 | 10410 | flow control valve |
| 71 | 10452 | hex nipple, ¼" |
| 72 | 10453 | elbow, street, ¼", 45 degree |
| 73 | 10454 | female spray body, ¼" |
| 74 | 10431 | regular spray nozzle screen |
| 75 | 10446 | brass tip #8002 |
| 76 | 10432 | spray body cap |

NOTE: Proper tip and screen filter placement in the floor tool is important in the solution system of the machine. The floor tool comes with at least one regular screen to allow the tool to drain when finished with a job. For a complete no-drip floor tool, put a no-drip screen in place of the regular screen.

Be certain to keep #59 tips in the outside positions on any floor tool and a #62 tip in the inside position.

## SUGGESTED MAINTENANCE:

1. Keep all filters and screens clean (#36, #7, at #8, #58 & #61).

2. Every forty (40) hours of operation run Brown-Ex through the pump and tanks. Pour approximately 2 cups of Brown-Ex into the clean water tank. Turn on solution pump and let Brown-Ex run through and sit in the system overnight in above freezing temperatures. This dissolves the normal alkaline accumulations in the system.

3. Thoroughly rinse the recovery tank with a hose through the access port after every use.

4. Polish the fiberglass case with car wax approximately once a month to keep your image clean.

5. It is suggested that you maintain a filter at the vacuum hose intake #8. The filter is actually a ladies knee-high nylon stocking. The band at the top of the stocking fits around the vacuum intake nozzle and the toe of the stocking trails into the recovery tank. The vacuum hose fits right over the nylon's band to hold it all in place. As the machine is used, any large debris pulled up into the vacuum system is caught in the nylon stocking. To change the stocking, turn the machine off, support the full nylon stocking in the recovery tank with your hand and remove the stocking band from the vacuum intake through the access port on top of the machine. A stocking can be rinsed and reused as long as it develops no holes.

6. Every fifty (50) hours of operation grease the solution pump as follows:

   a. Unplug and drain the machine.

   b. Remove safety cover #44 on the solution pump by carefully squeezing the two side tabs.

   c. Use a high temperature waterproof grease. Use a low pressure plunger-type grease gun with flexible hose. Never use a pneumatic gun as the pressure is much too high.

   d. Fit the grease gun on the grease fitting #43. Use very little grease as too much grease or too much pressure can ruin a nearby delicate seal. With a hand grease gun, use no more than 1" travel on the handle.

   e. Replace the safety cover by gently squeezing the tabs and fitting it so that one tab is pointing toward the bottom of the frame and one toward the bottom of the recovery tank.

### DO NOT ALLOW THE MACHINE TO FREEZE!

If machine will be subject to freezing temperatures, pump all the water out of the system by placing the bleeder hose into solution hose quick connector and running the pump until it is dry. Pour an antifreeze solution (such as windshield washer fluid) into the solution tank and pump until you can see it coming out of the bleeder hose.

# TROUBLESHOOTING

| PROBLEM | CAUSE | SOLUTION |
|---|---|---|
| Uneven or no spray from floor tool | 1. Dirty or plugged spray tips | 1. Clean or replace tips |
| | 2. Improper size tips or improper degree of spray angle | 2. Replace with proper tips |
| | 3. Worn spray tips | 3. Replace spray tips |
| | 4. Check valve in spray tip screen faulty | 4. Replace spray tip screen |
| Leaking floor tool | 1. Quick coupler on floor tool #48 faulty | 1. Replace quick coupler |
| | 2. Flow control valve #50 leaking | 2. Install valve rebuild kit |
| | 3. Hose split or fittings loose | 3. Replace hose and tighten fittings |
| | 4. Quick coupler and plug not fully engaged | 4. Reinsert quick coupler |
| | 5. Valve stem worn | 5. Replace |
| Loss of vacuum | 1. Drain valve #12 open | 1. Close drain valve |
| | 2. Recovery tank full closing vacuum safety shutoff #7 | 2. Drain recovery tank |
| | 3. Lint on top of stand pipe #7 | 3. Remove lint trap lid and clean screen |
| | 4. Kinks in vacuum hose | 4. Straighten hose |
| | 5. Holes in vacuum hose | 5. Replace hose |
| | 6. Excess foam in vacuum recovery tank | 6. Use Anti-Foam in discharge tank |
| | 7. Faulty vacuum motor | 7. Replace motor |
| | 8. Lint trap lid #7 on top of stand pipe won't seal | 8. Replace lid |
| | 9. Blades let loose in vacuum motor cage - caused by water going through vacuum | 9. Replace vacuum motor |

# TROUBLESHOOTING

| PROBLEM | CAUSE | SOLUTION |
|---|---|---|
| Drain valve leaks | 1. Drain valve gaskets #14 worn | 1. Replace gaskets |
| | 2. Lint or dirt in drain valve #12 | 2. Remove and clean, may need to replace |
| Large pressure drop when valve on floor tool is engaged (up to 50 psi drop is normal) | 1. Air in pump | 1. Prime pump (see operating instructions) |
| | 2. Foreign matter in solution pump valves #40 | 2. Clean or replace valve |
| | 3. Worn valve in solution pump #40 | 3. Replace valve |
| | 4. Worn solution pump piston | 4. Rebuild pump |
| | 5. Improper tips in floor tool | 5. Replace with proper tips |
| Solution pump motor will not run | 1. Fuse blown or circuit breaker popped in building (there are no circuit breakers in machine) | 1. Replace fuse or reset breaker |
| | 2. Faulty on/off switch | 2. Replace switch |
| | 3. Loose wiring | 3. Trace and repair |
| | 4. Solution pump motor faulty | 4. Replace solution pump |
| | 5. Thermal overload activated — motor is too hot and will automatically shut down until cool | 5. Let motor cool and check to see what caused it to overheat. Pressure may be set too high, Air intake may be blocked with lint, Extension cord may be too thin (use 10 gauge), Excessively hot water in tank can also activate thermal overload |
| | 6. Solution pump bearing freezes up — caused by not greasing | 6. Repair or replace |
| Solution pump runs but no solution comes out of spray nozzles | 1. Spray tips plugged | 1. Remove and clean |
| | 2. Screen #36 in bottom of clean water tank plugged | 2. Remove and clean |
| | 3. Pump valves or piston defective | 3. Rebuild pump |
| | 4. Quick couplers not attached properly | 4. Separate quick couplers and rejoin |
| | 5. Faulty quick coupler | 5. Replace quick coupler |
| | 6. Pump airlocked | 6. Prime pump (see operating instructions |

# TROUBLESHOOTING

| PROBLEM | CAUSE | SOLUTION |
|---|---|---|
| Low solution pressure | 1. Pump airlocked | 1. Prime pump (see operating instructions) |
| | 2. Weak pressure relief valve #30 | 2. Replace valve |
| | 3. Dirt in pressure relief valve #30 | 3. Twist pressure relief valve all the way out, then with pump running, and with trigger pulled on floor tool, twist valve in until the desired pressure is reached |
| | 4. Restricted inlet line #21 or #22 | 4. Clear out and check for kinks |
| | 5. Clean water tank filter dirty #36 | 5. Clean screen |
| | 6. Restricted or worn solution pump valves #40 | 6. Dismantle and clean or replace |
| | 7. Worn solution pump piston cups #42 | 7. Replace piston cups |
| | 8. Worn solution pump cam bearing | 8. Replace pump |
| Solution pump leaks | 1. Faulty seal in pump | 1. Replace pump seals |
| | 2. Leaking at fittings | 3. Tighten or remove fitting and wrap threads with teflon tape. |