



Electronic Service Manuals

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Serving the Cleaning Industry Since 1922

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10/20/87

Power Eagle

The self-contained upright carpet extractor with brush

Reference Manual



Machine Serial Number:

**READ MANUAL CAREFULLY
BEFORE OPERATING MACHINE**

Castex

Castex Industries, Inc.
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800-253-7871 616-392-6966

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POWER EAGLE REFERENCE MANUAL

A. SET-UP AND OPERATION:

(Numbers refer to parts diagrams on pages 4 through 7.)

1. Fill the clean water tank (7 gallons capacity) with hot water and 7 ounces of CASTEX CLEANING AGENT. Always mix powder chemicals in the filling bucket - **do not mix powder chemicals in the Power Eagle!** Pump damage, (not covered by warranty), will result.
(For more information about CASTEX cleaning chemicals. See page 3.)

IMPORTANT:

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

WARNING!:

Plug the Power Eagle into a grounded outlet! Do not operate the machine without a ground pin! The pin is necessary to avoid an electrical hazard!

2. To insure the power brush is operating, the brush breaker switch #45A should be fully extended showing the white portion of the button. (See section on brush breaker switch)
3. Turn on the vacuum switch #49A.
4. Press and hold in the button marked "pump intermittent" #44A. Pull the machine towards you approximately 4 feet at a time. Depress the "pump intermittent" button, but continue to pull the machine back about one foot. Then push down on the handle, rolling the machine to the next area to be cleaned overlapping approximately 2 inches. For best cleaning results, lift up slightly on the machine's handle transferring the machine weight to the pickup head. Move the Power Eagle slower on heavily soiled carpets.

5. As the machine is used, dirty solution will begin to fill the discharge tank. When the solution tank is empty, the recovery tank **must** be emptied.

IMPORTANT:

Do not over fill the recovery tank and allow water or foam to go into the screen #5A; Damage to the vacuum motor, (not covered by warranty), will result.

6. To empty the discharge tank, turn the machine off, fit down spout #51A onto drain valve #52A, and position a bucket under the drain valve. Pull the valve T-handle 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!**
7. Be certain the vacuum screen #5A and the clean water filters #9B are kept clean. Just unscrew and rinse the clean water filter to remove clogging debris. To clean the vacuum screen #5A, turn the machine off, remove the clear recovery dome #2A and remove lint from the filter.

Brush breaker switch:

A brush breaker switch, 45A, (bottom of switch box), protects the brush drive motor from damage if the brush seizes. If brush motor stops during use, unplug the Power Eagle and determine why the brush seized. (Look for carpet fibers wrapped around the brush). Next remove the obstruction and reset the brush breaker switch.

This switch also acts as a brush on/off switch. To turn off power brush, press the brush breaker switch so no portion of white is showing. This prevents the brush from spinning in one spot on the carpet which can fray carpet fiber while using the attachments.

Brush height adjustment:

Before starting a cleaning operation, adjust brush height to the carpet pile height. To raise the brush, rotate the knob #5C clockwise until the pointer on bracket #3C is aligned with the

desired height on the indicator decal. To lower the brush height, rotate the knob counterclockwise to the desired level. For visual verification that the brush is adjusted to the correct height, see the brush height diagram below.



Operation without spraying water:

Occasionally it is necessary to operate the Power Eagle brush without spraying additional water on carpet or hard flooring. This is useful for scrubbing areas of ground-in dirt and is accomplished by rotating the solution control lever #7B located at the back of the Power Eagle to the "Attachment Use" setting, see FIGURE 1. The brush will then operate without water spray when the pump intermittent #44A, or continuous switch #49A (right side) are activated.

B. ACCESSORY TOOL HOOK-UP:

1. Remove short vacuum hose #3A at recovery dome #2A only. **Do not** disconnect short hose at recovery tool end.
2. Connect the accessory vacuum hose to recovery dome at #2A and to the accessory tool.
3. Connect accessory solution hose to machine at #1B and to the accessory tool.
4. Move solution control lever #7B to attachment use setting. See FIGURE 1.
5. **IMPORTANT:** Turn off power brush by pressing the brush breaker switch #45A located on the bottom of switch box. This prevents the brush from spinning in one spot on the carpet which can fray carpet fibers.
6. Activate the vacuum switch #49A, (left).
7. Activate the solution pump, (continuous), switch #49A, (right).

8. Begin cleaning by depressing trigger on accessory tool to spray water. The solution pump will cycle on when the tool's trigger is depressed, and will cycle off when the trigger is released.
9. When finished cleaning, disconnect the solution and vacuum hoses from the accessory tool and from the Power Eagle.

WARNING!:

The accessory solution hose will contain pressurized cleaning solution and can spray cleaning solution if you disconnect it before relieving pressure. To relieve pressure, squeeze accessory tool trigger for five seconds after turning off the solution pump.

10. Return solution control lever to normal operation position, see FIGURE 1.
11. Press the brush breaker switch #45A to reactivate the power brush.

C. GENERAL SERVICE POLICY:

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

1. The model of the machine.
2. The serial number of the machine.

All parts returned to the factory must arrive prepaid with a Return Authorization Number. Always enclose a note indicating the above plus an explanation of the problem you are experiencing with the part. Also, enclose your name, phone number and address. Always order parts by both part number and description.

SOLUTION CONTROL LEVER

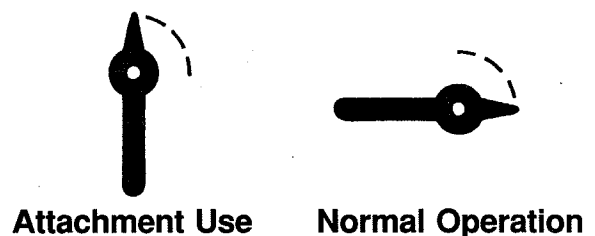


FIGURE 1.

D. SUGGESTED MAINTENANCE

For ease of serving, the Power Eagle is hinged to pivot backwards, allowing access to the inner components. To open the Power Eagle for servicing, remove the height adjustment bracket #3B. Then, with a 7/16" wrench remove 4 bolts #26A, located on the bottom of frame. Then pivot the chassis backwards as shown in FIG. 2.

1. Keep filters, (#5A and #9B), clean.
2. Every forty hours of operation, run CASTEX BROWN-EX through the pump and tanks. Dilute two cups of BROWN-EX with two gallons of water into the clean water tank. Turn the solution pump on for 30 seconds to let BROWN-EX run through. Allow to sit in the system overnight in **above freezing temperatures**. This dissolves the normal alkaline accumulations in the system.
3. Thoroughly rinse the recovery tank and the clear dome after every use.

Pivoting Tank

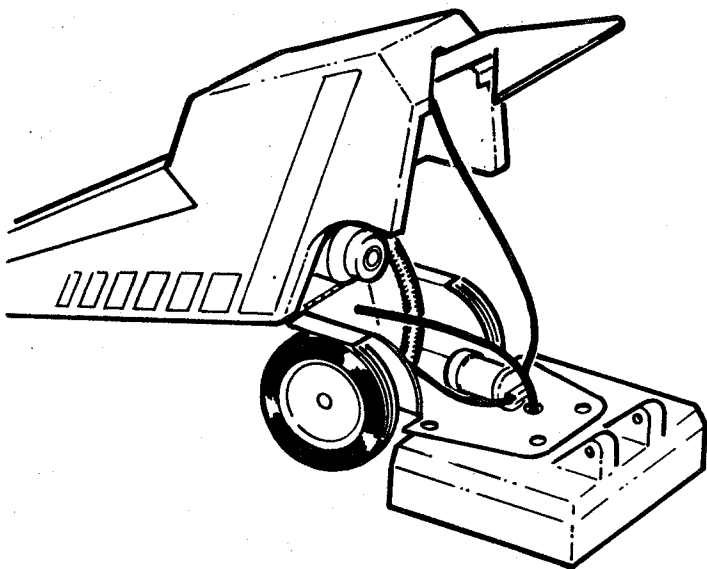


FIGURE 2.

IMPORTANT!

DO NOT ALLOW YOUR POWER EAGLE TO FREEZE!!

If the machine must be stored in freezing temperatures, be sure that the machine, pump and floor tool are completely drained and dry. Pour antifreeze solution in clean water tank, (enough to cover screens #9B), and activate the solution pump for 30 seconds.

Your CASTEX Power Eagle is engineered to be easily repaired. Should a problem occur, you should be able to make most repairs without an experienced serviceman. If a problem occurs which you cannot solve, contact your distributor or CASTEX INDUSTRIES.

CASTEX CLEANING CHEMICALS

Concentrated and formulated to get the job done.

Castex Liquid Cleaning Agent- A concentrated, nonfoaming formula for hot water extraction of carpet and upholstery. Has chelating agents to break down hard water. Contains deodorizer and brighteners.

Castex Powder Cleaning Agent- A fast dissolving low foaming hot water extraction cleaner and deodorizer. Selected optical brighteners sharpen and restore carpet colors.

Castex Pretreat- Formulated to break down oil, grease, and heavily soiled areas before hot water extraction with Castex Cleaning Agent.

Castex Spotter- Designed to penetrate and breakup carpet stains without harming carpet.

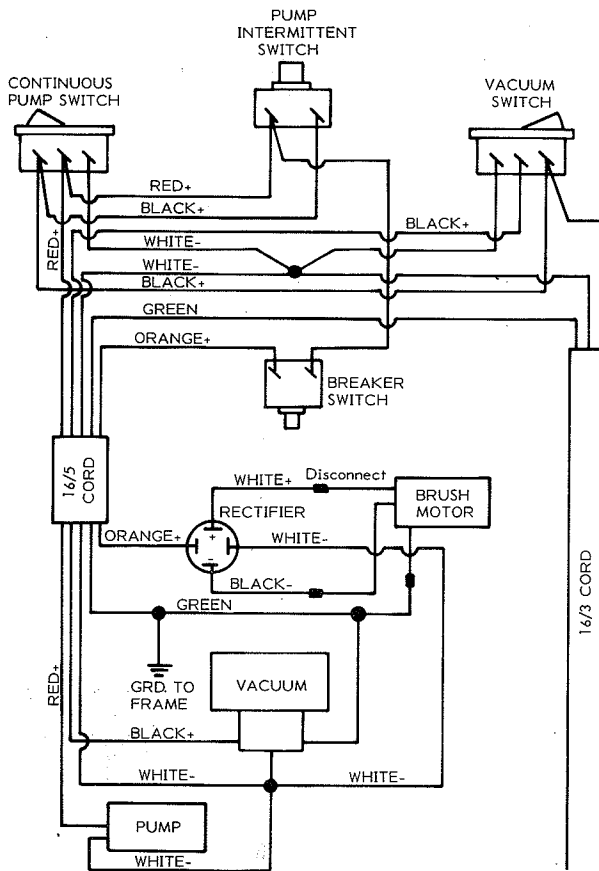
Castex Defoamer- Prevent foam build up and suppress existing foam during extraction.

Castex Teflon Fibregarde- Provides protection from oil, soil and water.

Castex Brown-Ex- Acidic solution neutralizes brown-ing and returns carpet to its original color.

For more information call CASTEX IND. INC.
(800-253-7871 or 616-392-6966)

ELECTRICAL SCHEMATIC



Specifications:

Pump	Vacuum	Drive motor
Voltage 120	Voltage 120	Voltage 120
Amp max. 1.2	Amp max. 10.4	Amp max. 2
Wattage 144	Wattage 1248	rpm 1,800
100 psi	rpm 22,200	.166 hp
	Lift 117	Wattage 240

STANDARD EQUIPMENT:

- #200173 16" Hard Flooring Squeegee
- #160423 Clean Out Hose

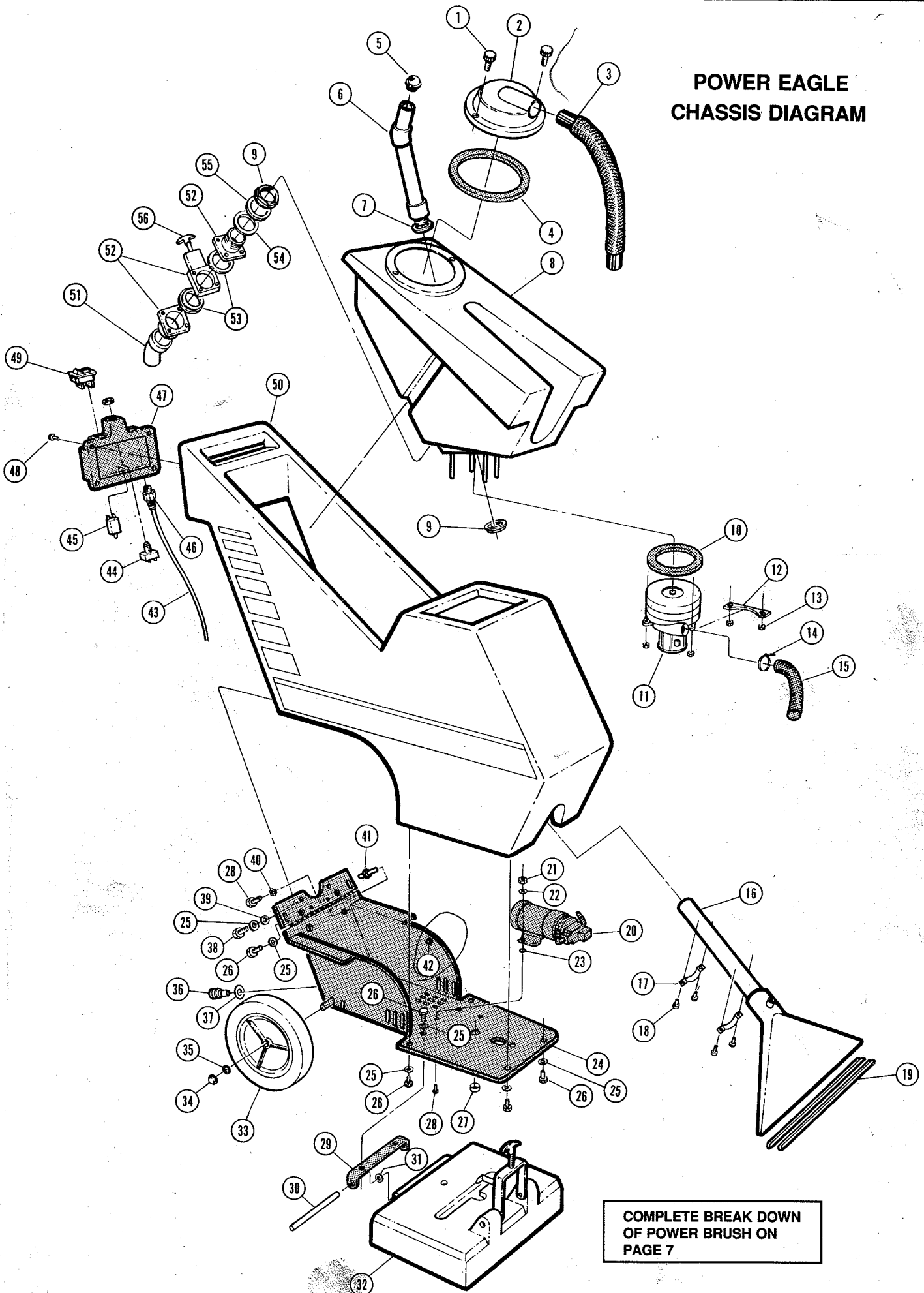
OPTIONAL EQUIPMENT:

- #160100 15' Accessory Solution Hose
- #160400 15' Accessory Vacuum Hose
- #200100 12" Floor Wand
- #200130 5" Hand Tool

CASTEX POWER EAGLE PARTS LIST PART LIST "A"

ITEM#	PART#	DESCRIPTION	ITEM#	PART #	DESCRIPTION
1.	240193	KNOB, RECOVERY DOME	29.	250455	BRACKET, MOUNTING
2.	100112	RECOVERY DOME	30.	230259	SHAFT
3.	160421	HOSE, VACUUM 14" W/CUFF	31.	140040	WASHER, 1/2" NYLON
4.	100042	GASKET, DOME	32.	100608	POWER BRUSH HOUSING, EAGLE
5.	180612	SCREEN, STAND PIPE	33.	103025	WHEEL, 10"
6.	230185	STAND PIPE, EAGLE	34.	103019	CAP, AXLE
7.	230159	O RING, EAGLE STAND PIPE, INSIDE	35.	140009	WASHER, 1/2" SAE
8.	100609	RECOVERY TANK, EAGLE	36.	150900	QUICK COUPLER, SER.30
9.	210240	NUT, EAGLE STAND PIPE	37.	140005	WASHER, 1/2" FENDER, PAINTED
10.	100037	GASKET, VACUUM	38.	140215	BOLT, 1/4" - 20 X 3/4"
11.	130416	VACUUM, 3 STAGE	39.	180131	GROMMET
12.	230237	BRACKET, VACUUM SUPPORT	40.	140031	WASHER, 10-24 STAR LOCK
13.	140501	NUT, 1/4" - 20 X 3/4 (4)	41.	N/A	RIVET, 3/16"
14.	140306	CLAMP, VACUUM PICK UP HEAD	42.	130304	RECTIFIER
15.	160441	EXHAUST, HOSE	43.	130216	CORD, 35' - 16/3
16.	250401	VACUUM PICK UP HEAD, P. BRUSH	44.	130712	SWITCH, SOL. PUMP INTERMITTENT
17.	140313	CLAMP, VACUUM PICK UP HEAD	45.	130748	SWITCH, BRUSH BREAKER
18.	140229	BOLT, 1/4" - 20 X 3/4	46.	130137	GRIP, CORD
19.	200956	SHOES, STAINLESS STEEL 16"	47.	100611	SWITCH BOX
20.	180115	PUMP, SOLUTION - POWER EAGLE	48.	140870	SCREW, 1/4" - 20 X 3/4 PHIL.
21.	140519	LOCK NUT	49.	130711	SWITCH, LIGHTED ROCKER (2)
22.	140031	WASHER, LOCK 3/16"	50.	100610	CHASSIS, EAGLE
23.	N/A	GROMMET, RUBBER - FLO JET	51.	210232	DOWN SPOUT, DRAIN VALVE
24.	250451	FRAME, POWER EAGLE	52.	210242	DRAIN VALVE, COMPLETE
25.	140010	WASHER, FLAT 1/4"	53.	210239	GATE SEAL, DRAIN VALVE
26.	140215	BOLT, 1/4" - 20 X 3/4"	54.	210234	GASKET, DRAIN VALVE
27.	130104	BUSHING, PLASTIC	55.	101714	GASKET, WASTE CHAMBER
28.	140895	SCREW, 10 - 24 X 3/4"	56.	210233	HANDLE, DRAIN VALVE

POWER EAGLE CHASSIS DIAGRAM

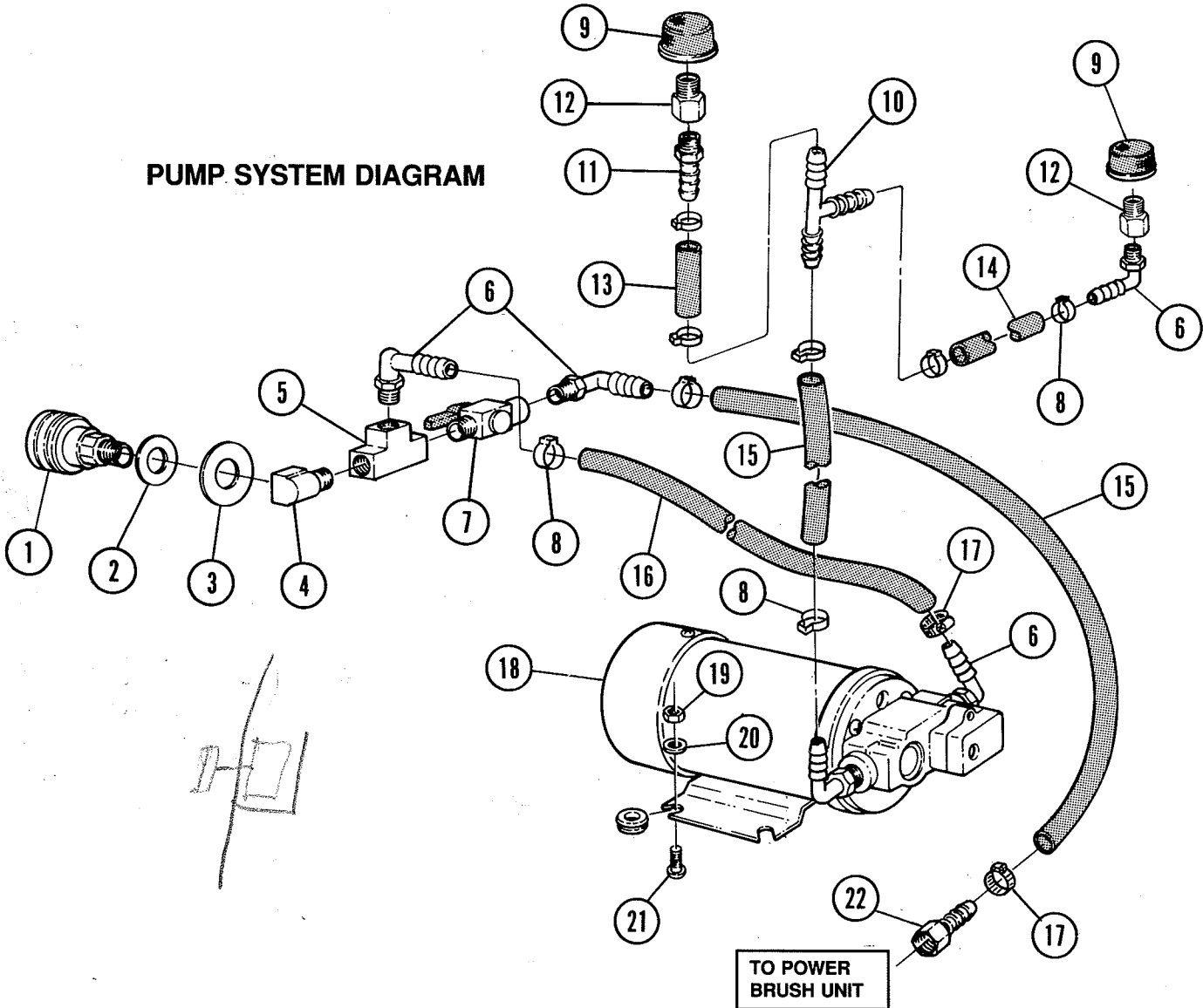


COMPLETE BREAK DOWN
OF POWER BRUSH ON
PAGE 7

PUMP SYSTEM PARTS LIST PART LIST "B"

ITEM #	PART #	DESCRIPTION	ITEM #	PART #	DESCRIPTION
1.	150923	PLUG, QUICK COUPLER	12.	150000	ADAPTER, 1/4" M X 1/4" F
2.	140005	1/2" WASHER, PAINTED	13.	160833	HOSE, 2" X 3/8"
3.	140008	1/2" FENDER WASHER	14.	160840	HOSE, 2 3/4" X 3/8"
4.	150406	ELBOW, 1/4" 90 DEGREE STREET	15.	160822	HOSE, 24" X 3/8"
5.	150706	TEE, 1/4"	16.	160839	HOSE, 17" X 3/8"
6.	150415	ELBOW, 1/4" X 3/8" I.D. 90 DEG. NYLON	17.	140305	CLAMP, #4 SCREW
7.	210003	DIVERTER VALVE	18.	180115	PUMP, FLOJET 100 PSI
8.	140302	CLAMP, PINCH	19.	140512	NUT, 10/24
9.	180612-180628	SCREEN, SOLUTION TANK	20.	140032	WASHER, FLAT
10.	160310	TEE, HOSE BARB, 3/8" NYLON	21.	140804	SCREW, 10/24 X 5/8"
11.	150415	HOSE BARB, 1/4" M X 3/8" H NYLON	22.	150512	HOSE BARB, 1/4" F X 3/8" H, SWIVEL

PUMP SYSTEM DIAGRAM



GENERAL SERVICE POLICY

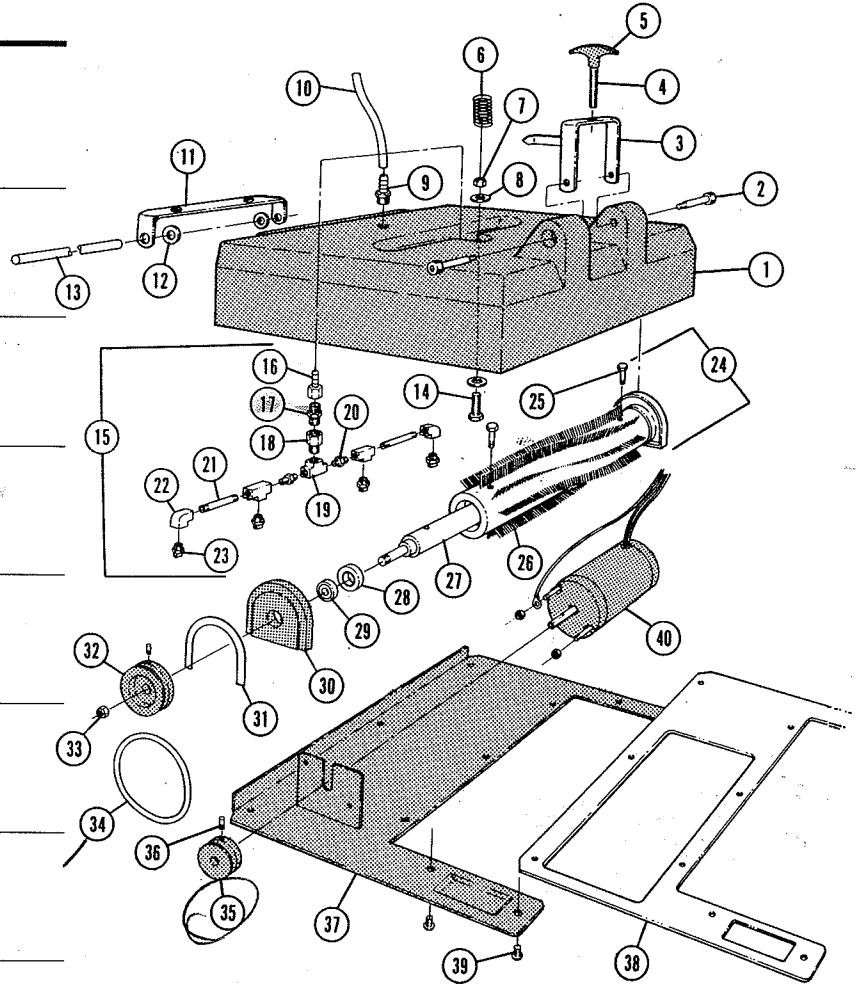
All parts returned must arrive with a return authorization number issued by CASTEX, with freight prepaid. Always enclose a note indicating exactly what is wrong with the part, your name, and your address. Please order all parts using the part number and description.

POWER BRUSH PARTS LIST
PART LIST "C"

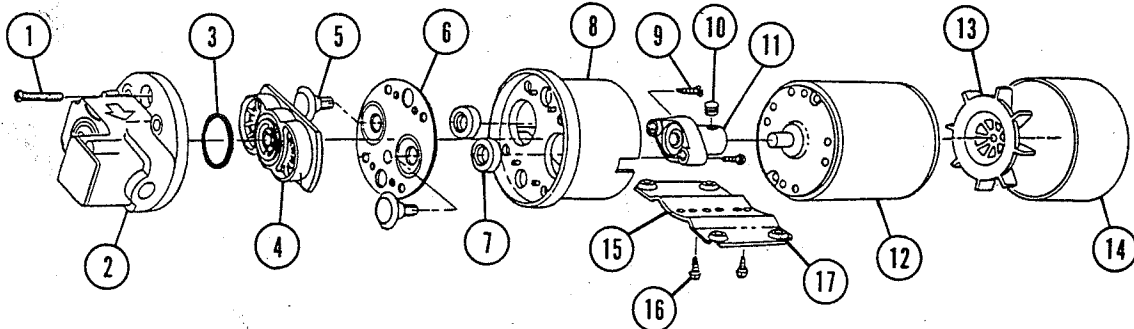
POWER BRUSH DIAGRAM

ITEM #	PART #	DESCRIPTION
1.	100608	HOUSING, BASE
2.	140239	BOLT
3.	250454	BRACKET, HEIGHT ADJUSTMENT
4.	230258	STUDE, THREADED
5.	240194	KNOB
6.	140407	SPRING
7.	140515	NUT, 3/8" - 16 NYLON LOCK
8.	204013	WASHER, 3/8" FLAT
9.	150538	HOSE BARB, 1/4" M X 1/4" H NYLON
10.	160235	TUBE, WIRE PROTECTOR
11.	250455	BRACKET, MOUNTING
12.	140040	WASHER, 1/2" NYLON
13.	230265	SHAFT
14.	140202	BOLT, 3/8" - 16 X 1"
15.	700076	SPRAY BAR, (COMPLETE)
16.	150512	HOSE BARB, 1/4" F X 3/8" H SWIVEL
17.	210011	CHECK VALVE, 1/4" X 1/4"
18.	150111	REDUCER, 1/8" M X 1/4" F
19.	150705	TEE, 1/8"
20.	150607	NIPPLE, 1/8" HEX
21.	150611	NIPPLE, 1/8" X 2"
22.	150402	ELBOW, 1/8" 90 DEGREE
23.	200969	SPRAY NOZZLE, TYPE 8002
24.	240036	BRUSH, COMPLETE
25.	140210	BOLT, 1/4" - 20 X 3/4"
26.	240004	BRUSH, ONLY
27.	230257	SHAFT, BRUSH
28.	100049	SEAL, BEARING
29.	140125	BEARING
30.	230261	BLOCK, BEARING
31.	100005	GASKET, BEARING BLOCK
32.	230260	PULLEY, BRUSH
33.	146546	NUT, 5/16" - 18 NYLON LOCK
34.	100048	BELT, DRIVE
35.	240030	PULLEY, MOTOR
36.	140859	SCREW, SET 1/4" - 20 X 1/4"
37.	250453	PLATE, BASE
38.	100006	GASKET, BASE PLATE
39.	140822	SCREW, 10 - 24 X 3/8" PRH
40.	130428	MOTOR, BRUSH DRIVE

130471



SOLUTION PUMP DIAGRAM



PARTS DESCRIPTION

1. PUMP SCREW	9. CAM/BEARING SCREW (2)
2. UPPER HOUSING ASSY.	10. CAM/BEARING SET SCREW
3. GASKET	11. CAM
4. CHECK VALVE	12. 115 V MOTOR A.C.
5. INNER PISTON (2)	13. FAN
6. DIAPHRAGM	14. SHROUD
7. OUTER PISTON	15. BASE PLATE
8. BEARING COVER	16. BASE PLATE SCREWS (2)
	17. GROMMETS (2)

PART NO.

DESCRIPTION

190405	SERVICE KIT (includes parts 3 thru 7 and 9 thru 11)
190406	HEAD W/ PRESSURE SWITCH (includes part 2)
190407	FAN, SHROUD KIT (includes parts 13, 14)
180115	FLOJET PUMP 100 PSI (complete)

TROUBLE SHOOTING GUIDE

PROBLEM	CAUSE	SOLUTION
Uneven or no spray from jets	1. Remote tool valve #7B in improper position.	1. Correct valve position, see FIGURE 1.
	2. Dirty or plugged spray tips #23C.	2. Clean or replace tips.
	3. Improper tip size or improper degree of spray angle.	3. Replace with proper tips.
	4. Worn spray tips.	4. Replace spray tips.
	5. Check valve #17C in spray-bar clogged or faulty.	5. Inspect check valve for clogs or replace check valve.
Loss of vacuum.	1. Drain valve #52A open.	1. Close drain valve.
	2. Lint on top of stand pipe screen #5A.	2. Remove recovery dome and clean screen.
	3. Leaking around recovery dome #2A.	3. Replace recovery dome gasket.
	4. Holes in vacuum hose.	4. Replace hose.
	5. Excess foam in vacuum recovery tank.	5. Disconnect vacuum hose from dome #2A and pour two to four ounces of CASTEX ANTI-FOAM into recovery tank with vacuum motor running.
	6. Bad vacuum motor #11A	6. Replace vacuum motor.
	7. Blades let loose in motor cage - caused by water going through vacuum.	7. Replace vacuum motor.
Drain valve leaks	1. Drain valve gaskets #53A, #54A, or 55A worn.	1. Replace gaskets.
	2. Lint or dirt in drain valve #52A.	2. Flush drain valve with water.
Solution pump leaks.	1. Faulty seal in pump	1. Replace pump seals.
	2. Faulty pump.	2. Replace pump.

TROUBLESHOOTING GUIDE (CONTINUED)

Problem	Cause	Solution
Solution pump will not run.	1. Fuse blown or circuit breaker popped in building. The Power Eagle solution pump is not protected by a circuit breaker.	1. Replace fuse or reset breaker.
	2. Faulty switch #49A or #44A.	2. Replace switch.
	3. Loose wiring.	3. Trace and repair.
	4. Solution pump motor faulty.	4. Replace solution pump.
Power brush motor runs but brush does not spin.	1. Loose or worn drive belt #34C.	1. Replace the belt.
	2. Loose pulley(s) #32C or #35C.	2. Tighten set screw #36C or replace if screw is missing.
Power brush motor does not run.	1. Brush breaker on/off switch, #45A switched in the off position.	1. Push brush breaker switch.
	2. Brush breaker switch #45A tripped.	2. Remove clogs around the brush which would trip the breaker. Then reset the brush breaker switch by pushing button #45A.
	3. Rectifier #42A burned out.	3. Replace rectifier.
	4. Loose or broken wiring.	4. Consult wiring diagram for help in finding problem or consult your authorized CASTEX distributor.

CASTEX WARRANTY POLICY :

Subject to the conditions and exceptions stated in this warranty, Castex Industries, Inc. warrants the Castex product to be free from defects in material and workmanship under normal use and service for one year to the original purchaser. At any time within one year from date of delivery to the original purchaser, the company will furnish for the Castex product a replacement part. Such replacement part will be furnished to the owner and charged, including transportation charges, through any authorized Castex distributor or F.O.B. the factory. If the part is returned for inspection by the factory and is found to be defective the owner will be credited for the part, labor (as specified in the Warranty Flat Rate Schedule), and normal transportation charges only. Parts replaced or repaired under warranty are fully guaranteed for the remainder of the original warranty period. Replacement parts that have become defective through wear or abuse are not included in this warranty. (See owner's manual to prevent abuse.) This warranty does not apply to damage caused by accident, misuse, negligence, abuse, fire, or to any Castex product which has been repaired by other than an authorized Castex distributor or factory personnel. Because this product is intended for commercial and/or industrial use, no warranty is extended to persons purchasing for personal, family, or household uses. This warranty is void if any cleaning compound other than Castex or Castex approved products are used. There are no other warranties expressed or implied, including any implied warranties of merchantability or fitness for a particular purpose.

IN NO EVENT SHALL CASTEX BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.

CASTEX INDUSTRIES INC., reserves the right to make changes and improvements to its equipment without notice.