



Electronic Service Manuals

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THE NATIONAL SUPER SERVICE COMPANY

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DESIGNER 12 & DESIGNER 14 WET/DRY VACUUM



WARNING: FAILURE TO OBSERVE RECOMMENDED MAINTENANCE OF CORD AND PLUG, PROPER GROUNDING, PROPER REPLACEMENT OF CORDS AND PLUGS, USE OF PROPER EXTENSION CORD AS INSTRUCTED, CAN RESULT IN SHOCK TO OPERATOR AND POSSIBLE ELECTROCUTION.



IMPORTANT: SEE ASSEMBLY, OPERATION, MAINTENANCE AND REPAIR INSTRUCTIONS

READ THOROUGHLY

THE SAFETY PROCEDURES FOR GROUNDING, SERVICE, AND OPERATION MUST BE FOLLOWED TO PREVENT DAMAGE TO MACHINE AND PROPERTY AND INJURY TO OPERATOR OR BYSTANDERS.

GROUNDING INSTRUCTIONS must be followed to avoid damage to machine and prevent injury to operator. Read instructions and look at illustration carefully!

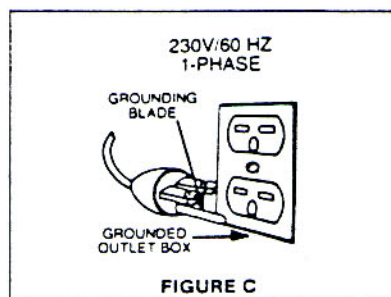
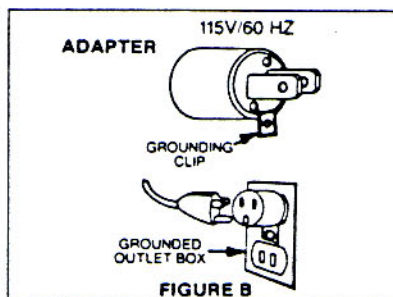
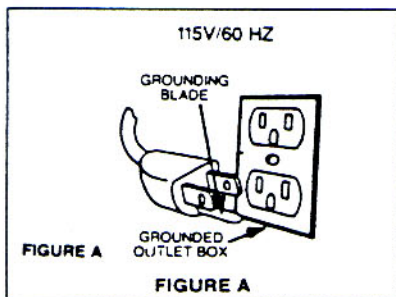
Check nameplate on machine to be sure voltage and cycle stated on nameplate is the same as voltage and cycle of electrical outlet. DO NOT attempt to plug a 115 volt machine into a 230 volt outlet or a 230 volt machine into a 115 volt outlet.

The grounding blade on the plug must remain **intact** if the machine is to be properly grounded when plugged in and operated. An ungrounded machine can cause **shock** to the operator. See Figure A.

If connecting to an outlet that accepts only two blades use an adapter as in Figure B. **NEVER REMOVE THE GROUNDING BLADE.**

If it is necessary to use the adapter shown in Figure B, the machine is only properly grounded if the adapter's green-colored clip is tied under screw that holds electrical outlet cover to the wall.

Figure C. Machine used on 230 volt may or may not have the grounding (earthed) plug attached to the cord. For U.S.A. 230 volt 60 HZ, the plug is already supplied with cord. For use outside the U.S.A., it may be up to the purchaser to have a proper grounding (earthed) plug attached.



NOTE: Adapter NOT for use in Canada

SAFETY PROCEDURES: Failure To Observe Can Cause Injury To OPERATOR!

- **NEVER** attempt to service or perform maintenance functions while machine is plugged into electrical outlet.
- **NEVER** operate the machine with a **broken ground blade on the plug**. See Figures A & C above.
- **NEVER** operate machine with a cut or abraded cord. Always replace cord when cut or abraded. **FAILURE TO DO SO MAY CAUSE INJURY TO THE OPERATOR FROM ELECTRICAL SHOCK.**
- When grounding blade on plug is broken, it is preferable to replace the whole cord. If you choose to replace 3-wire plug for 115V, use only U.L. listed/CSA approved plug with rating of 125V, 15 amps (for 230V, use a 3 wire plug with a rating consistent with voltage and amps required.) Be sure that the green wire of the cord is connected to the green screw of the replacement 3-wire plug, the white wire to the silver screw, and the black wire to the gold screw of the replacement plug.

FAILURE TO CORRECTLY ATTACH THE REPLACEMENT PLUG TO THE CORD CAN RESULT IN ELECTRICAL SHOCK OR POSSIBLE ELECTROCUTION WHEN MACHINE IS TOUCHED.

REPLACING CORD

ALWAYS reconnect green/yellow grounding wire of replacement cord to the terminal strip marked . See grounding procedure, page 2. At the same time, be sure green/yellow grounding wire from motor is connected to the same terminal strip marked  to complete ground. Remove screws from top cover, open cover to expose terminal strip.

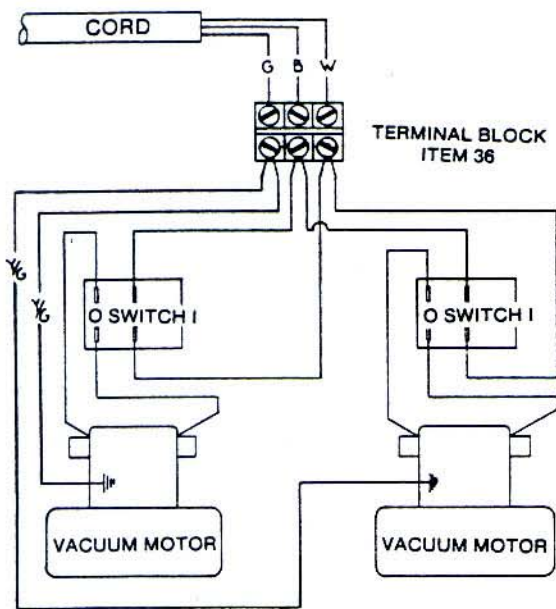
- **NEVER** disconnect plug by pulling on cord. To disconnect from outlet, grasp the plug not the cord.
- **NEVER** operate the Designer 12/14 with any air opening blocked. Keep openings free of dust, lint, hair, etc.
- **NEVER** drop or insert any object into any opening.
- To disconnect power source, turn switch to the off position, then remove plug from outlet.
- **DO NOT** operate machine with filter bag removed. Unplug cord from electrical outlet before removing filter.
- The Designer 12/14 should not be left unattended when plugged in. Unplug when not in use.
- Keep cord away from heated surfaces.
- **NEVER** operate machine if it is not working properly, if it has been dropped, damaged, exposed to weather or dropped into water. Return the machine to a service center for examination and repair.
- **NEVER** handle plug, cord or vacuum cleaner with wet hands.

SAFETY PROCEDURES: Failure To Observe Can Cause Damage To MACHINE!

- **ALWAYS** store machine inside. Protect from rain or snow.
- **NEVER** spray top of machine with water or other liquids.
- **ALWAYS** remove hose and coupling from machine after each use or hose may become damaged.
- **NEVER** bounce machine down stair steps, or damage may result to base assembly.
- **ALWAYS** use a properly grounded 3-wire extension cord which has male and female plugs. Use only 16-3 ST or SO type extension cords for total cord length up to 75'.
- Empty tank of all recovered materials to prevent damage to container and lid assembly.

WARNING: DO NOT ATTEMPT MAINTENANCE OR REPAIRS BEFORE DISCONNECTING CORD FROM ELECTRICAL POWER SOURCE

WIRING DIAGRAM FOR DESIGNER 12 & 14 DUAL MOTOR UNITS



WARNING

GROUNDING PROCEDURE



Indicates Ground

The grounding system is designed to prevent the removal of the vacuum motor ground wire when a cord or switch is replaced.

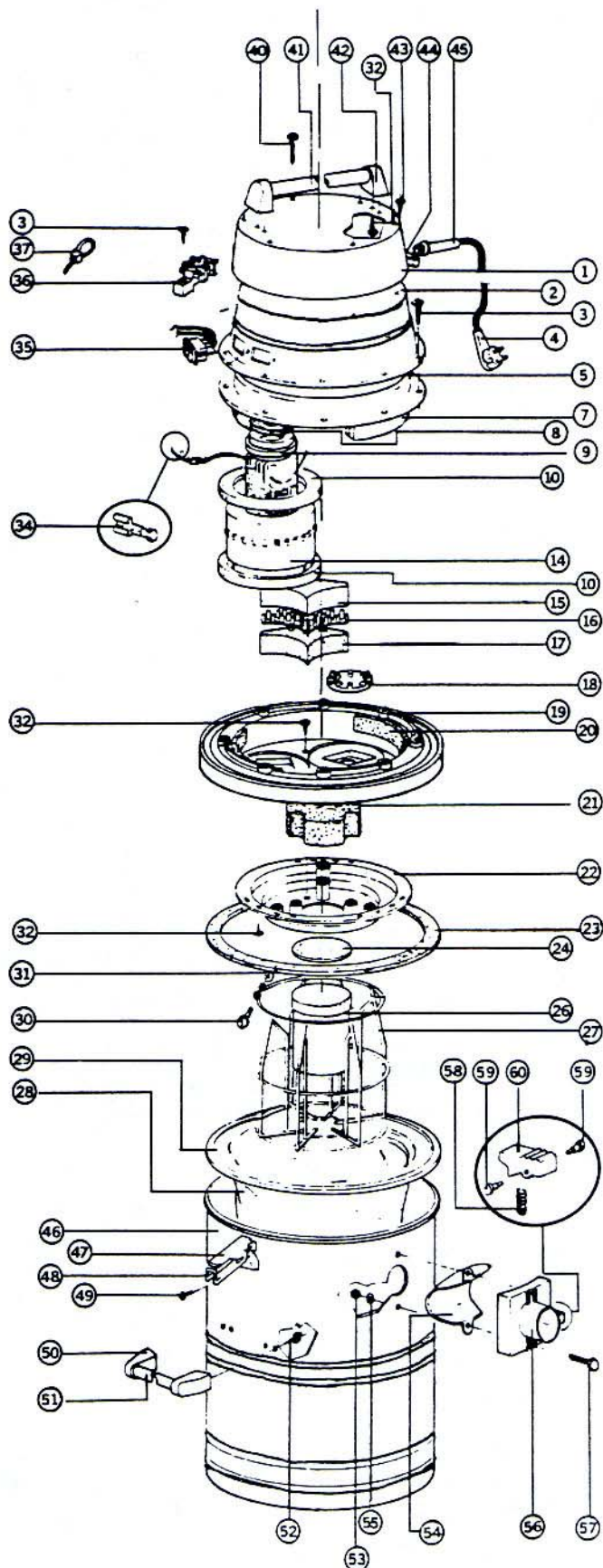
Follow grounding sequence of assembly as shown to ground machine and ensure safety to operator.

FAILURE TO DO SO MAY CAUSE ELECTROCUTION due to improper connection of ground.

Step 1: The Green/Yellow Ground Wire from the vacuum motor is connected to the terminal strip, item #36, by the factory. There is no reason to remove this wire, unless the vacuum motor is being replaced.

Step 2: Green/Yellow Grounding Wire from cord, item 3, is then connected to the terminal strip, item #36.

Note: Internal wiring of unit **MAY NOT** match normal colors (black-white-green) of cord.



DESIGNER 12 & DESIGNER 14

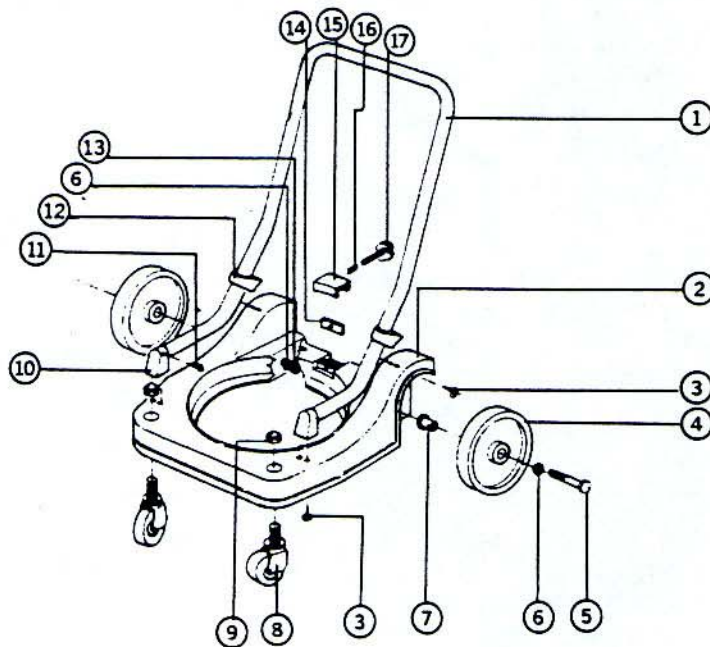
Illustrated Parts List

Item No.	Part No.	Description	Quantity Req'd.
1	57-226-1	Top Cover	1
2	57-227-1	Lower Cover	2
3	57-145-1	Self Tap Screw 5x20	11
4	57-228-1	Cord 16-3 SJT 28'	1
5	57-229-1	Holding Ring for 2 Motor	1
7	57-230-1	Foam Filter	1
8	57-203-1	Top Motor Gasket	2
9	57-204-1	Motor Spacer Ring	2
10	57-108-1	Motor Gasket	4
14	02-643-9	115V Vacuum Motor (Lamb)	2
15	57-231-1	Upper Triangular Spacer	3
16	57-232-1	Plastic Spacer	3
17	57-233-1	Lower Triangular Spacer	3
18	57-234-1	Automatic Valve	2
19	57-235-1	Lid	1
20	57-236-1	Filter Strip	1
21	57-237-1	Lid Filter	1
22	57-238-1	Lid Pan	1
23	57-239-1	Lid Gasket	1
24	57-206-1	Float Gasket	1
26	57-207-1	Float	1
27	57-240-1	Float Basket	1
28	57-241-1	Polyester Filter Bag	1
29	57-242-1	Bag Ring	1
30	57-211-1	Brass Screw M5x40	1
31	57-212-1	Brass Nut M5	1
32	57-243-1	Self Tap Screw M5x15	19
34	06-079-1	Push On Terminal	4
35	57-244-1	Lighted Switch	1
36	57-245-1	Terminal Block	1
37	27-267-1	Wire Tie	1
40	57-246-1	Self Tap Screw 5.2x50	6
41	57-247-1	Handle Tube	1
42	57-146-1	Handle Support	2
41&42	57-248-1	Handle Complete	1
43	57-249-1	Self Tap Screw M4.2x24	2
44	57-104-1	Cord Clamp	1
45	57-102-1	Strain Relief	1
46	57-275-1	S/S Container (12-Transport)	1
	57-311-1	S/S Container (14-Tip Dispose)	1
47	57-139-1	Lid Clamp	2
48	57-140-1	Lid Clamp Hook	2
49	57-136-1	Pop Rivet 5x11	6
50	57-277-1	Container Handle Support	4
51	57-278-1	Handle Tube	2-3
50 & 51	57-279-1	Handle Complete	2-3
52	57-144-1	Self Tap Screw 5x20	8
53	57-130-1	M6 Brass Hex Nut	2
54	57-122-1	Deflector	1
55	57-129-1	M6 Brass Washer	2
56	57-124-1	Intake - Plastic	1
57	57-123-1	Bolt M6x30 Hex Hd.	2
58	57-128-1	Button Spring	1
59	57-127-1	Rivet	2
60	57-126-1	Intake Push Button	1
Not Shown	57-001-1	Top "Designer" Label	1
	01-077-1	Warning Label — White	1
	01-078-1	Designer Label — White	1
	57-250-1	Filter Assembly	

DESIGNER 12 TRANSPORT BASE

Illustrated Parts List

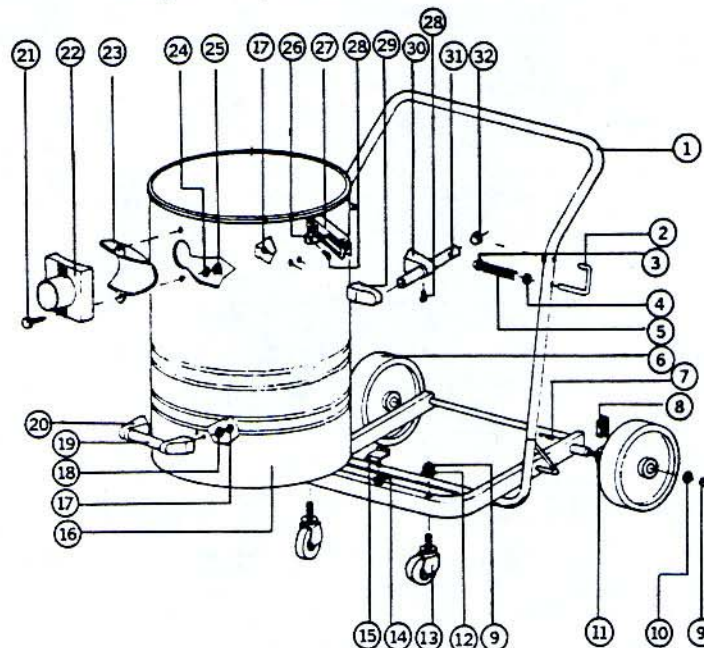
Item No.	Part No.	Description	Quantity Req'd.
1	57-280-1	Pusher Handle	1
2	57-281-1	Transport Base	1
3	57-144-1	Self Tap Screw 5x20	8
4	57-282-1	Rear Wheel	2
5	57-283-1	Hex Bolt M12x150	2
6	57-284-1	Washer M12	4
7	57-285-1	Plastic Bushing	2
8	57-286-1	Caster	2
9	57-287-1	Hex Cap Nut M10	2
10	57-146-1	Handle Support	2
11	57-136-1	Rivet 5x11	2
12	57-288-1	Handle Support	2
13	57-289-1	Hex Nut M12	2
14	57-290-1	Threaded Plate	1
15	57-291-1	Channel Container Clamp	1
16	57-292-1	Spring	1
17	57-293-1	Hand Knob	1
—	57-294-1	Complete Base Assembly	—



DESIGNER 14 TIP BASE & CAN

Illustrated Parts List

Item NO.	Part No.	Description	Quantity Req'd
1	57-300-1	Pusher Handle	1
2	57-301-1	"U" Shaped Clamp	1
3	57-302-1	Rod Cap	1
4	57-303-1	Washer 8	1
5	57-304-1	Clamp Spring	1
6	57-282-1	Rear Wheel	2
7	57-136-1	Pop Rivet 5x11	2
8	57-305-1	Plastic Cap	2
9	57-287-1	Hex Cap Nut M10	2
10	57-306-1	Washer 10x30	2
11	57-307-1	Washer 20x37	2
12	57-308-1	Washer 10	2
13	57-286-1	Caster	2
14	57-309-1	Hex Nut 8MA	1
15	57-310-1	Tank Support Foot	1
16	57-311-1	S/S Container for Tip 14	1
17	57-144-1	Self Tap Screw M5x20	8
18	57-312-1	Nylon Shoulder Washer	4
19	57-278-1	Handle Tube	1
20	57-277-1	Handle Support	2
19 & 20	57-278-1	Handle Complete	1
21	57-123-1	Hex Bolt M6x30	2
22	57-124-1	Intake-Plastic	1
23	57-122-1	Intake Deflector	1
24	57-129-1	Washer M6	2
25	57-130-1	6M Brass Hex Nut	2
26	57-139-1	Lid Clamp	2
27	57-140-1	Lid Clamp Hook	2
28	57-136-1	Pop Rivet	2
29	57-277-1	Handle Support	2
30	57-313-1	Handle Tube	2
31	57-314-1	Handle Support w/Hole	2
29,30,31	57-315-1	Handle Complete	2
32	57-316-1	Plastic Cap 25	2
—	57-318-1	Complete Tip Base	—



DESIGNER 12 & DESIGNER 14 WET/DRY VACUUMS ASSEMBLY, OPERATION AND MAINTENANCE

I. ASSEMBLY

- 1) Your NSS Designer 12-14 Wet/Dry Vacuum is assembled for operation except for installation of the hose, wand and attachments. The Designer 12 container is secured to the base by tightening a clamp at the back of the base. The Designer 14 container is secured to the base by attaching the container handles to the spring load swivel brackets.

a) Hose

The hose is attached to the intake on the container by means of the plastic hose coupling. Push intake push button, item 560, to insert and detach. A hose coupling, #57-002-1, may be ordered that will allow the use of standard 1½" NSS hose, wands and attachments.

b) Wand

The steel wand is a two-piece design.

c) Attachments

A complete attachment kit including a squeegee tool comes with each machine. Tools fit on the wand or the hose by twisting onto the tapered end.

II. OPERATION

- 1) After machine is assembled with switch in off position, plug the conductor cord into electric outlet, making sure current is same as that which machine is designed to run on. Turn on both rocker switches located on side of top cover.

a) General Floor Cleaning

When machine is used for general purpose floor cleaning on either bare floors or carpeting, the operator should drop arm slightly to allow air to enter front edge of tool on forward stroke. On back stroke, do the reverse of the forward stroke — raise arm slightly to allow the back edge of tool to clear floor. This method gives the air a chance to do the work in the most effective manner.

Make strokes at a leisurely pace and at a length that feels the most natural. *Always work away from the machine, pulling machine behind you.*

WARNING: DO NOT ATTEMPT MAINTENANCE OR REPAIRS BEFORE DISCONNECTING CORD FROM ELECTRICAL POWER SOURCE.

III. MAINTENANCE

- 1) *Lubrication* — The motor has sealed bearings which require no further lubrication. Casters and wheels should be oiled as required.

- 2) *Current* — Machine should be run only on voltage specified on name plate.
- 3) *Hose* — should be removed from machine after each use. The tube handle should be removed from hose. It should then be laid in a loose coil or hung over several pegs on the wall, to remove the strain on it. If hose comes in contact with oil on any operation the optional neoprene hose should be used. Oil should be wiped off after using.
- 4) *Filter* — a polyester filter bag #57-241-1 is standard on the unit. Shaking lightly before removing from container will clean filter. For fine dust a paper bag #05-896-1 is available.

Paper Filter Installation

- a) Remove vacuum motor and filter bag assembly.
- b) Place paper bag in the container and roll the elastic edge over the edge of the container.
- c) Replace vacuum motor and filter bag assembly in the normal manner.
- 5) *Tools* — Floor tools should be removed from the end of the tube handle after using.
- 6) *Container* — The container is of stainless steel construction. After each use on wet pick-up the machine should be emptied and rinsed with clean water.
- 7) *Float Control* — Mechanical in action. When liquid level reaches float will activate it causing it to rise and shut off suction. It is then time to empty container.
- 8) *WHAT TO DO IN CASE OF LOSS OF SUCTION* — Ordinarily loss of suction is caused by a simply created cause. The following suggestions are listed as a guide.
 - a. Check tool, hose, and tube handle for plugging. If plugged, unplug.
 - b. Remove hose from machine and check suction at intake, if still suction loss,
 - c. Check lid gasket to see if making proper seal. If worn, replace item #23.
 - d. Check filter bag for clogging. If dirty, clean.
- 9) After 500 hours of running time, check vacuum motor carbon brush wear. When carbon brushes and copper on commutator are worn, return to authorized NSS service station for repair.



**WARNING: TO AVOID ELECTRIC SHOCK DO NOT EXPOSE TO RAIN.
STORE INDOORS**