

# OWNER'S MANUAL

## 12 GALLON EXTRACTOR

Designed, manufactured and assembled in the **U.S.A.**



### Specifications

**RALLY 220**

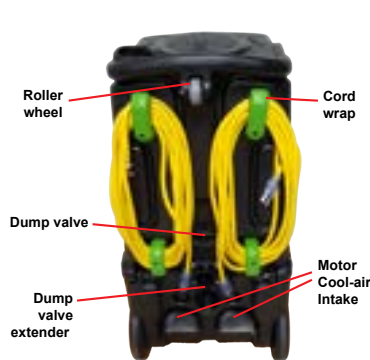
**RALLY 220H**

**RALLY 500H**

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# 12-GALLON QUICK START GUIDE



Complete hose & wand kit (25 ft. vac & solution hoses and wand)



## Quick Start Machine Preparation

**1** Switches

Make sure all switches are in the OFF position.

**2** Hoses & Straps

Assemble your vacuum & solution hose. Small loop goes over small hose velcro over hose. Large 5 straps, one every five feet.

**3** Vacuum & Solution hose

1. Connect your hose to vacuum
2. Solution hose
3. Push back locking sleeve, insert brass post, let locking sleeve cover spring back covering retaining balls
4. Push vacuum hose & cuff over 1.5" hose barb

**4** Cleaning liquids

Pour liquid into front cavity. (For best results use 100° water) Do not use more chemical than directed. Over use of chemical clogs jets, brass and reducing heater performance.

**5** Liquids detergent only

Use liquid detergents only. Powder clogs pumps + filters

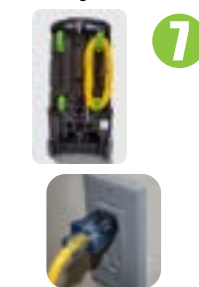
**6** Dump valve closed position

Stores into slot below dump valve.

Dump valve extender

## Electrical Connection

1 Cord Extractor | 2 Cord Extractor



Plug into grounded outlets, No GFI outlet.

**7**



No Power Dual Cord Machine

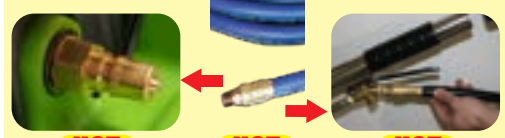


GFI's 1st plug in one cord. 2nd Cord must be on a separate circuit. A light and sound pulse will activate when you plug into a 2nd circuit. If you do not hear a pulse tone move cord to other outlet until you obtain a 2nd pulse. Pump will not run unless 2nd circuit light is on, no GFI outlets.

**8** HOT!

CAUTION

Many surfaces are hot, wear protective clothing



## Start Sequence 1,2,3,4,5

**9**

Turn pump on

**10**

Pump test, prime machine  
Pull trigger until liquid sprays from spray jets. Pump and heater are now primed with water or cleaning solution.

**11**

Prime 300 & 500 PSI  
For 500 PSI units a prime valve is located on the front panel.  
A. turn up to prime.  
B. Spray for 30 seconds  
C. Turn valve down to run position

**12**

Heater Pre-Heat  
Now that the pump is primed with water or cleaning solution. Turn heater on for 5-minutes to Pre-Heat.

**13**

Vacuum motor  
Turn on both vacuums motors.

**DRY**

Never run heater DRY or without liquid. Throughout the machine and hose system. Failure to do so, will damage the heater.

## Carpet Cleaning and wand use

**14**

After start sequence above

1. Start in the far corner and plan your exit.
2. Do a series of 4'x6' area spraying forward and extracting back. Overlap by 2" on each stroke.
3. After your 4'x6' area is done go over it again vacuuming only at a slow pace to remove any missed liquids to improve drying.

## Upholstery

Reduce pressure to 100PSI

When doing upholstery it's important not to overwet, test on an unseen area and allow to dry prior to starting.

## Disposal of Water & You're Finished

**15**

Disposing of dirty water

1. Unplug the extractor and back it over a toilet or bucket
2. Slowly pull the dump-valve up and dispose of the water to the sewer system.
3. Remember to close it when done.
4. Never dispose of liquids on to the soil, outdoor gutter or into the environment.

When You're finished

1. Take the vacuum hose off the wand and put it into the front tank and vacuum out the remaining cleaning chemicals to the recovery tank, dump the water into a bucket or toilet.
2. Run clean water (warm if possible) throughout the machine to remove cleaning chemicals from coating internal hoses/jets.
3. Unplug the equipment, wipe it down with clean cloth and soap and return it to a safe storage area.

# 12 Gallon Extractor

Dear Customer:

Congratulations on the purchase of your new 12 Gallon Extractor.

Like any other piece of machinery or technology, extractors require the proper maintenance and care to keep the product working over extended use. Neglecting your machine, abusing it or not operating it properly can void its warranty and prevent the machine from performing to the quality and standard you'd expect.

If you have any warranty concerns or questions, please review this manual thoroughly or do not hesitate to contact your distributor. If there are questions regarding maintenance, replacement or ordering parts please contact an authorized Service Center.

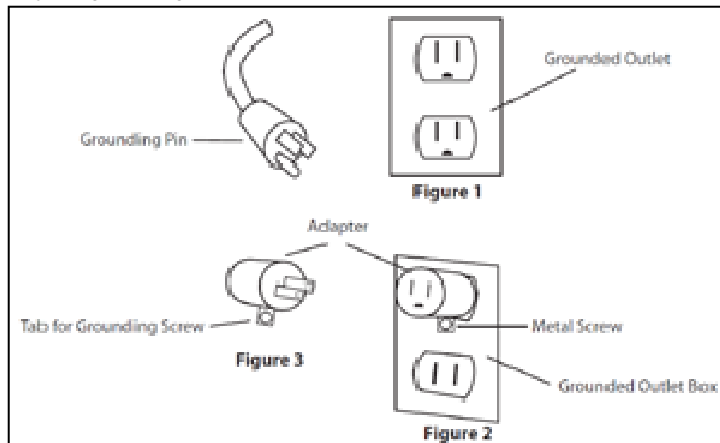
Before using your extractor, please read this manually thoroughly.

## 120 Volt Grounding Instructions

**This machine must be grounded.** If it should malfunction or break-down, grounding provides a path of least resistance for electrical shock. This machine is equipped with a cord having an equipment grounding conductor and grounding plug. The plug must be plugged into an appropriate outlet that is properly installed in accordance with all local codes and ordinances. Do not remove ground pin; if missing, replace plug before use.

Improper installation of the equipment-grounding conductor can result in a risk of electric shock. Be sure to check with a qualified electrician or service person if you are in doubt as to whether the outlet is properly grounded. If the plug will not fit in the outlet do not modify either the plug or the machine's cord, instead have a proper outlet installed by a qualified technician.

This machine is for use on a nominal 120 volt circuit and with a grounding plug similar to the one in Figure 1 below. If a proper outlet is not available, follow the illustrations of Figure 2 & 3 to install a temporary-grounding plug. This temporary work-around should be used only until a proper outlet (Figure 1) can be installed by a qualified electrician. When and if this type of adapter is employed, screw the adapter's extended tab into place with a metal screw. However, grounding adapters are not approved for use in Canada. Again, be sure to check the grounding pin for damages and replace if necessary. The Green, or Green-Yellow, wire in the cord is the grounding wire. When replacing a plug, this wire must be attached to only the grounding pin.

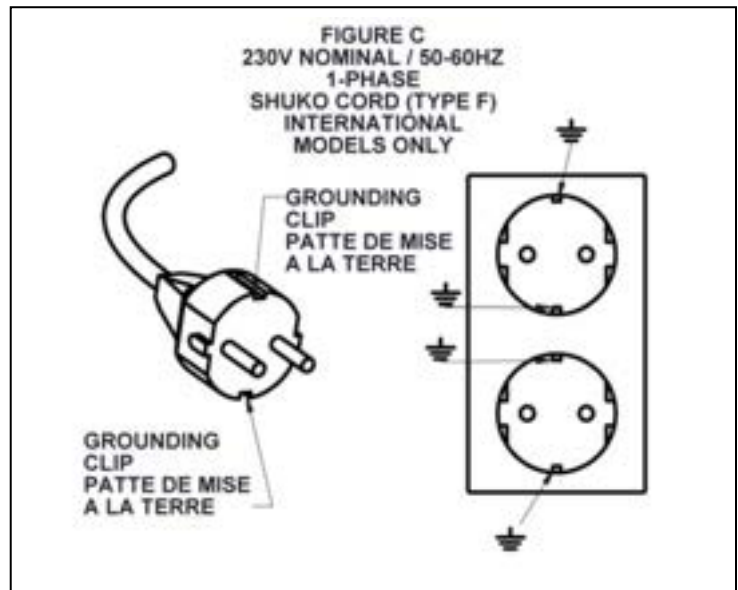


## 220-240 Volt Grounding Instructions

**This machine must be grounded.** If it should malfunction or break-down, grounding provides a path of least resistance for electrical shock. This machine is equipped with a cord having an equipment grounding conductor and grounding plug. The plug must be plugged into an appropriate outlet that is properly installed in accordance with all local codes and ordinances. Do not remove ground pin; if missing, replace plug before use.

Improper installation of the equipment-grounding conductor can result in a risk of electric shock. Be sure to check with a qualified electrician or service person if you are in doubt as to whether the outlet is properly grounded. If the plug will not fit in the outlet have a qualified electrician or service person install the proper plug on to the cord.

This machine is for use on a nominal 220-240 volt circuit with a grounding plug similar to the one in Figure C shown below. Changes to the attachment plug or use of adaptors to other plugs must be done in accordance with local regulations.



## Parts and Service

Please contact service personnel or authorized Service Center using original replacement parts and accessories for repairs. When calling for support please have your Model and Serial Number available for faster assistance.

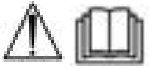
## Name Plate

The Model and Serial Number are located on the lower half of the back of the machine near the power plugs and will be required for ordering replacement parts.

## Unpacking the Machine

When your new machine is delivered, please carefully inspect both the shipping carton and the machine for damages. If damage is evident, save both the shipping carton and the machine for inspection by the shipping company. Contact the carrier immediately to file a freight claim if there is damage.





**WARNING:** Failure to observe these instructions can cause personal injury to the machine operator, and/or bystanders.



**Caution warnings** are used to warn of immediate hazards that cause severe personal injury or death.



**Always** wear eye protection, gloves, long sleeve shirt and pants.



**To reduce the risk of fire, electrical shock, or injury:**

1. Read quick start guide and manual prior to use.
2. Unplug machine before service.
3. Use only manufacturer recommended attachments and replacement parts.
4. Never upgrade or repair this equipment without authorization from the manufacturer.
5. Do not unplug the unit by pulling on the cord.
6. Do not run over the cord with any wheeled product.
7. Do not pull or carry by the cord.
8. Do not use on wet surfaces.
9. Do not use if the cord is damaged.
10. Do not use in areas with flammable or combustible materials are present.
11. Do not allow to freeze.
12. Do not store on its side with liquids in the recovery or solution tanks.
13. Use only the appropriate handles to move and lift unit. Do not use any other parts of this machine for this purpose.
14. Keep hair, loose clothing, fingers, and all parts of the body away from all openings and moving parts.
15. Use extra care when using on stairs.
16. To reduce the risk of fire or electric shock, do not use this machine with a solid-state speed control device.
17. The voltage and frequency indicated on the name plate must correspond to the wall receptacle supply voltage.
18. When cleaning and servicing the machine, local or national regulations may apply to the safe disposal of liquids which may contain: chemicals, grease, oil, acid, alkaline, or other dangerous liquids.

### Preparation

1. Remove furniture and other items from the area you are going to clean.
2. Vacuum carpet and upholstery, and remove debris.
3. Protect cabinets, walls and painted surfaces with drop cloths or plastic.
4. Inspect power cords for damage.

### Operating Instructions

1. Fill the solution tank.
2. Attach female end of a solution hose to a wand or other tool and the male end to the Extractor's Quick Disconnect (QD).
3. Plug in power cords: Extractor Model: Using two separate circuits/breakers, plug in the grounded power cables as previously instructed using the appropriate grounding techniques. The amber indicator to the left of the PSI gauge will illuminate and sound a tone when plugged into separate circuits/breakers.
  - i. Activate the switches using the following steps:
  - ii. When the hoses are attached, turn Pump-Out Switch.
  - iii. (500psi only)The Prime Valve and Pressure Regulator are located on the front right side of the solution tank and should be primed prior to use. To prime the pump turn the valve to the Prime position for 30 seconds, and then turn horizontally to the Run position.
  - iv. Pull your wand's trigger to ensure water is running through the lines to avoid damage to the Pump and Heating unit (Extractor).
5. If the heater is to be used, prime the system first. Turn on the heater switch and allow it to heat up for 5 minutes
6. To clean, make two dry passes for every one wet pass while working away from the power cords. For optimal use or heavily soiled areas, repeat wash steps in the opposite direction.
7. To prevent motor or internal damage, use a foam control solution in the recovery tank. Remember to check for build-up in both the recovery and solution tanks!
8. Empty the Recovery Tank when the internal shut off disengages the vacuum. Attach the 45° drain elbow to the drain spout located in the back and lift the dump valve to empty the tank.
9. Squeeze the wand or tool's trigger for five seconds after turning the power switches off to relieve any existing line pressure.
10. When the machine is off: unplug the power cables, remove solution and vacuum hoses, and empty the recovery tank by attaching the 45° drain elbow.
11. To empty the solution tank, twist off the solution tank drain cap located on the back of the machine after use.

### Machine Storage

1. Before storing the machine, drain, rinse and dry both the tanks and vacuum hoses of any residual water or solution.
2. Store standing upright in a dry, enclosed location.
3. Leave the recovery tank lid open for better air circulation.
4. If storing in freezing temperatures, take extra precautions to make sure the machine and solution systems are completely drained and dry.

# 12 Gallon Extractor

## Maintenance Schedule

Latches are located in the back to open the tank for internal maintenance. To keep machine in good working condition, follow the below recommended daily and weekly maintenance procedures. Relief valves should be replaced annually.

Maintenance item	Daily	Once a week
Clean and inspect tanks.	X	
Clean and inspect hoses.	X	
Check and clean internal filters by twisting off, rinsing with clean water and replacing.	X	
Check power supply cable.	X	
Clean machine with all-purpose cleaner and cloth.	X	
Check spray nozzles.	X	
Flush solution system with clean water	X	
Remove float and shut-off screen from tank and clean. Simply pull off.		X
Inspect vacuum hoses for holes and loose cuffs.		X
Inspect spray pattern for clogging. If clogged, remove spray tips and soak them in a recommended liquid neutralizer for up to six hours. To remove spray tip, twist spray tip body counter-clockwise.		X
Lubricate wheels with water resistant oil.		X
Inspect machine for water leaks and loose hardware.		X

## Filter Maintenance

All Extractor models have four filters that need to be checked and cleaned after each week of use. Regular filter maintenance is a simple way to extend the life of your machines.

### Vacuum Stack Filters:

Located inside of the black vacuum tank are two vacuum stacks. Each stack has one foam filter to help prevent waste material from getting into the vacuums and cause damage. To maintain these filters:

1. Remove the recovery tank lid.
2. Reach in and pull out the two black filters located in the top of the vacuum stacks.
3. Clean the filters under a faucet of any debris and check for damage. If the filters are not damaged, place them back in the stacks. If filters are damaged and falling apart, replace them.

## Pump Filters

The filter is a half-circle shaped screen located on the inside bottom of the solution tank. To maintain filter:

1. Open solution tank lid.
2. Reach into solution tank and rotate the dome-shaped filter from its brass nipple by rotating it counter clockwise.
3. Check filter for any debris or damage to screen. Rinse filter of any debris or replace if damaged.
4. Place new or cleaned filter back onto brass nipple by rotating it clockwise.

*(Additional inline filter inside the machine)*

## Inline Pump Filter (additional Instructions)

1. Remove the screw that holds the solution tank and the base together from the front of the machine.
2. Locate the inline filter on the clear solution hose, from the solution tank to the pump. Take off the clear housing of the filter by turning it counter clockwise
3. Check filter for any debris or damage to screen. Rinse filter of any debris or replace if damaged.
4. Place new or cleaned filter back into housing and install housing back into base by rotating it.

## Trouble Shooting

There is no power.

1. Plug power cord(s) in proper outlet(s).
2. If using two cords, make sure each is plugged into a separate circuit.
3. Check circuit breaker and reset if tripped. There should not be any additional items in use on the same circuit as the machine.
4. **For 120 Volt machines only** - The outlet must be a 20-amp circuit.

## Pump does not work properly

1. Snap quick disconnects firmly together.
2. Check solution tank; may be empty.
3. Jets clogged, remove jet and flush clean.
4. Filters clogged, remove filters and rinse clean with water. One filter is in the bottom of the recovery tank and the secondary filter is located in the motor area. Be sure to unplug the machine and turn all switches to the off position prior to cleaning.
5. If brass check valve is stuck, replace valve.
6. Check pump wire. May need to reconnect wire.
7. Switch plate may need to be replaced.
8. If pump motor brushes are worn, replace pump.

## Extractor heater does not work properly

1. Check circuit breaker in the building electrical panel.
2. Heating element may need to be replaced.
3. Plug is in a GFI and the GFI is in the off position (popped)

## Vacuum motor does not work properly

1. Check that hose is tightly connected.
2. Close drain hose valve completely.
3. Secure the vacuum tank tightly.
4. If water is coming out of the vacuum motor, use a low foaming detergent.
5. Clean upholstery tool or floor wand jets.

**NSS® Enterprises, Inc. Limited Warranty**  
Effective for machines purchased after August 1, 2015 (Revision S)

**Warranty Registration**

Register your new product by visiting [www.nss.com](http://www.nss.com) and clicking on the "Product Registration" link.

**Warranty Policy**

NSS Enterprises, Inc. (NSS) warrants its new machines against defects in material and workmanship under normal use, service and maintenance (defined in the NSS Operation and Maintenance Manuals) for the warranty period as detailed below. This warranty is limited to machines and products that are purchased from an NSS Authorized Distributor or directly from NSS and is limited to the original end-user. Under this warranty, NSS will repair or replace, at its option, any covered part which is found defective in material or workmanship during the applicable warranty term or until the hour meter reaches the specified amount, whichever is first. This repair or replacement shall only be performed by an NSS Authorized Distributor or Service Center. All shipping charges for replacement parts or repaired machines will be the responsibility of the original end-user. When requested, machines and/or parts must be returned to NSS for inspection to obtain this warranty. NSS reserves the right for final determination of warranty coverage. Parts repaired or replaced under this warranty are warranted for the remainder of the original warranty period. When covered, a maximum of 4 hours travel time will be allowed. When out of the continental USA, Labor, Freight and Travel may have different considerations.

NSS will not be liable for any other or additional damages, including but not limited to indirect or special consequential damages arising out of or in connection with the furnishing, performance, use or inability to use the machine. The buyer agrees and understands that the remedies provided under this limited warranty are the sole and exclusive remedies available to the buyer. NSS reserves the right to change its warranty policy without notice.

**Start date of warranty for MACHINES**

The start date of this warranty is the purchase date by the original user, or six months from the date the machine was shipped from the factory, whichever is earlier.

**Start date of warranty for BATTERIES, including those installed in machines at time of purchase**

The warranty period for the batteries starts on the date of sale or 90 days after the machine was shipped from the factory, whichever is earlier. Batteries must be recharged at least once every 90 days.

**Exclusions**

This warranty shall not apply to: (1) Damage incurred during shipment. (2) Any product that has been subject to misuse, abuse, negligence, overloading or accident. (3) Improperly used products or use of the product for other than its intended purpose. (4) Failures due to lack of mandatory maintenance as described in NSS Operation and Maintenance Manuals, Videotapes and/or Wall Charts. (E.g., lack of scheduled lubrication or inadequate flushing of chemical solutions.) (5) Any machine modified from its original design (unless authorized by NSS) or repair services performed by non-authorized service centers. (6) Damage or failure resulting from the use of corrosive or incompatible chemicals. (7) Replacement of ordinary wear items including but not limited to: bumpers, belts, carbon motor brushes, electrical components exposed to moisture, filter bags, hoses, casters, wheels, gaskets, seals, cords, circuit breakers, switches, check valves, solenoids, pumps, squeegee blades, M-1 fans and fan hoods, and shoes on NSS manufactured cast aluminum tools. (8) Machines using after-market parts not supplied by NSS, including the ordinary wear items listed above.

Product	Parts	Labor	Travel	Hour Meter	Exceptions
BP Ranger, Model M-1 "Pig", Thoroughbred, Charger 1500, Charger 2500	7 years	1 year	6 months	-	Thoroughbred with weights (1 year parts)
Champ, Wrangler, Charger battery burnishers, eForce	3 years	1 year	6 months	2500 hours	Hour meter limit does not apply to W2016, W1710/2010 and W1503.
Maverick, Mustang, Galaxy, Colt, Outlaw, Pacer 30, Pony, Stallion, Aero	3 years	1 year	-	-	
Pacer 12/15 UE	2 years	1 year	-	-	Pacer 12/15 includes belt
Manta, Sidewinder, Alpha, Bronco, Predator, Surge, AquaForce, Whisker, Rally	1 year	1 year	-	-	
Polyethylene Roto-Molded Tanks & Components	10 Years	1 Year	6 Months	-	
NSS Manufactured Cast Aluminum Tools	10 Years	1 Year	-	-	Does not include shoes
Tools and Accessories	1 Year	-	-	-	
SPE/Delta Q On-board Battery Chargers	2 Years	1 Year	6 Months	-	
Dual Pro On-board Battery Chargers	3 Years	1 Year	6 Months	-	
Batteries	1 Year, prorated	1 Year	1 Year	-	Prorated 1 year from warranty start date
Service Parts for out-of-warranty machines	90 Days	-	-	-	

# Icon Definitions



Caution



Read manual



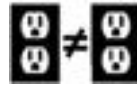
Vacuum Motor



Pump



Heater



Dual Circuit Indicator



Listen for Tone



Prime pump



Pump – Run



Recovery Tank Full - Drain Tank

<b>RALLY 220 / 220H / 500H SPECIFICATIONS</b>	
<b>CAPACITY</b>	
SOLUTION TANK	12 GALLONS (45.5 LITERS)
RECOVERY TANK	12 GALLONS (45.5 LITERS)
<b>SOLUTION PUMP</b>	
220 / 220H	220 PSI
500H	ADJUSTABLE, 220 TO 500 PSI
<b>VACUUM MOTORS</b>	
220 / 220H	DUAL PARALLEL 2-STAGE, 1.25 HP
500H	DUAL PARALLEL 3-STAGE, 1.75 HP
<b>HEATER</b>	
220H / 500H	2000 WATT
<b>SOUND LEVEL</b>	
220 / 220H / 500H	75 Dba (ISO 11201)
<b>DIMENSIONS</b>	
HEIGHT	39 in (99 cm)
LENGTH	26 in (66 cm)
WIDTH	17 in (43 cm)
<b>WEIGHT</b>	
220	86 lbs (39 kg)
220H	106 lbs (48 kg)
500H	127 lbs (57.5 kg)



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