

OUTLAW PB – BATTERY DRY VACUUM

IMPORTANT SAFETY INSTRUCTIONS



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



WARNING: Shock or electrocution hazard. **ALWAYS** disconnect batteries before performing any maintenance or service.



WARNING: Shock or electrocution hazard. **NEVER** connect this machine to any batteries other than genuine NSS batteries.



WARNING: Burn/Fire hazard. **ALWAYS** handle batteries with care.



WARNING: This product contains a chemical known to the state of California to cause cancer and birth defects or other reproductive harm.



WARNING: Fire or explosion hazard. **NEVER** use to pick up flammable or combustible liquids, or any thing that is burning or smoking, such as cigarettes, matches or hot ashes.

NEVER operate this machine in an explosive atmosphere (grain dust, flammable liquids or fumes, etc.)

INTENDED USE

NSS vacuum cleaners are intended for commercial use, vacuuming floors, furniture, and draperies in an indoor environment. **This machine is intended for Dry pickup only. NSS does not recommend using these machines for any other purpose.**

FOR SAFETY

- **ALWAYS** read and understand all instructions before operating or servicing machine.
- **ALWAYS** use this machine **ONLY** as described in this manual.
- **ALWAYS** remove all jewelry when handling the batteries.
- **NEVER** attempt to operate this machine unless you have been trained in its operation.
- **NEVER** allow an untrained person to operate this machine.
- **NEVER** attempt to operate this machine if it is not working properly or has been damaged in any manner.
- **NEVER** disconnect or modify any switches or safety devices.
- **NEVER** drop or insert any object into any machine opening.
- **NEVER** operate this machine with any air opening blocked. Keep all air openings free of dust, lint, hair, etc.
- **NEVER** pull or carry the charger by its electrical supply cord(s), use the cord(s) as a handle, close a door on the cord(s), pull the cord(s) around sharp edges or corners, expose to heated surfaces, run machines over cord(s), or set heavy or sharp objects on the cord(s).

- **NEVER** allow this machine to be used as a toy. Close attention is necessary when used near children.
- **ALWAYS** keep face, fingers, hair or any other body part or loose clothing away from any machine opening or moving part.
- **NEVER** use this machine on wet surfaces or for wet pickup.
- **ALWAYS** use extreme care when cleaning on stairs or when machine is placed on stairs.
- **NEVER** operate machine without all filters in place.
- **NEVER** use any attachments other than the manufacturers recommended attachments.
- **NEVER** spray this machine with water or any liquids.
- **NEVER** operate the machine outdoors.
- **NEVER** expose the machine to rain, snow, or extreme temperatures.
- **ALWAYS** store this machine indoors in a dry, cool area.

BATTERY CHARGING

- **NEVER** charge batteries with any charger other than the approved NSS charger for the Outlaw PB.
- **NEVER** use the NSS charger to charge batteries other than genuine NSS batteries for the Outlaw PB.
- **NEVER** block the ventilation fan on the charger.
- **ALWAYS** keep flammable materials away from the charger.
- **NEVER** disassemble or modify the charger in any way.
- **NEVER** touch the un-insulated portion of the output connector or un-insulated battery terminal.
- **NEVER** operate charger if the AC supply cord is damaged or if the charger has received a sharp blow, been dropped, or otherwise damaged in any way.

ALL REPAIR SERVICE MUST BE PERFORMED BY AN NSS AUTHORIZED DISTRIBUTOR / SERVICE STATION USING ONLY NSS ORIGINAL EQUIPMENT PARTS.

SAVE THESE INSTRUCTIONS



IMPORTANT SAFETY INSTRUCTIONS

GROUNDING OF ELECTRICAL EQUIPMENT-BATTERY CHARGER



WARNING: Improper connection of the equipment-grounding conductor can result in a risk of electric shock. Check with a qualified electrician or service person if you are in doubt as to whether the outlet is properly grounded. Do not modify the plug provided with the charger. If outlet is not suitable for safe use; have a properly grounded outlet installed by a qualified electrician.

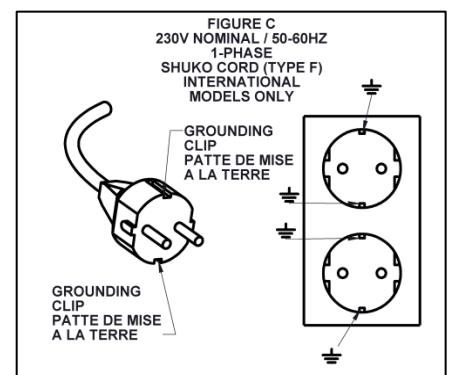
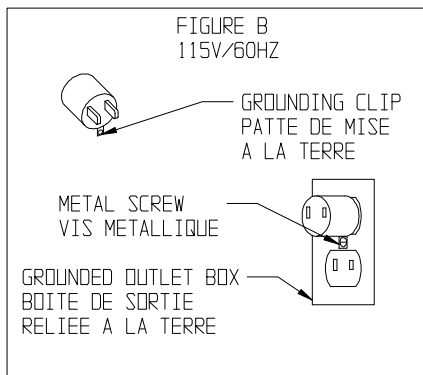
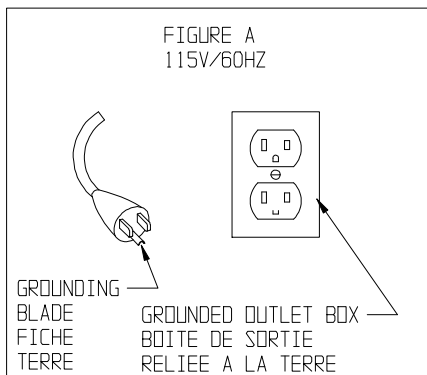
Always use a properly grounded 3-wire extension cord, which has male and female plugs.

GROUNDING INSTRUCTIONS

This charger shall be grounded while in use to protect the operator from electric shock. The charger is provided with a three-conductor cord and a three-contact grounding type attachment plug. The plug must be plugged into an appropriate outlet that is properly installed and grounded in accordance with all local codes and ordinances. The green conductor in the cord is the ground wire. Never connect this wire to other than the grounding pin of the attachment plug.

Check nameplate on the charger to be sure **voltage** and **cycle** stated is the same as the electrical outlet. For input voltages in the 90-132 VAC range, make sure the switch on the back of the charger is in the 110V position. For input voltages in the 180-265 VAC range (single phase only), make sure the switch on the back of the charger is in the 220V position. If the cord provided with the charger has an attachment plug as shown in Figure A. below, it is intended for use on a nominal 120-volt circuit. If a properly grounded receptacle as shown in Figure A is not available, an adapter may be installed as shown in Figure B if the outlet box that houses the receptacle is grounded. Be sure to fasten the grounding tab (the green colored rigid ear, lug or the like extending from the adapter) with a metal faceplate screw.

If the battery charger is intended to be operated on 180-265 VAC service, an appropriate cord with EMI Suppressor NSS #6991271 (as supplied on the 90-132 VAC cord included with machine) must be used.



NOTE: In Canada, the use of a temporary adaptor may not be permitted by Canadian electrical code.

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SAVE THESE INSTRUCTIONS



NOISE

Sound pressure level at Operator position. 65 dB(A)

GENERAL INFORMATION

- Now that the machine is unpacked remember to recycle all packing materials.
- Inspect the machine for damage or missing components. If damage is found, contact the local freight company to file a freight claim.
- **!WARNING! HANDLE THE BATTERIES WITH CARE. DAMAGE RESULTING FROM DROPPING BATTERIES MAY CAUSE AN UNSAFE CONDITION.** 

ASSEMBLY

- The Outlaw PB requires minimal assembly. The hose must be plugged into the canister inlet - right hand or left hand (photo 1). Be sure to insert the provided plug into the unused inlet.



Photo 1

- The cord on the back of the vacuum must be plugged into the hose receptacle (photo 2).



Photo 2

- The trigger assembly must be plugged into the hose, being sure to properly engage the electrical connector (photo 3).



Photo 3

- The batteries must be charged for 3 hours minimum before first use in order to achieve full runtime.
- The batteries require 5-10 charge/discharge cycles for "break in" before full runtime will be achieved.
- After the first charge/discharge cycle, the batteries may be used even if they are not fully charged. Full runtime will not be provided, but these batteries do not suffer from "memory" problems like some other battery types. Full runtime will be provided next time the batteries are fully charged.
- The batteries and charger may be kept in the carrying tray (if so equipped) (photo 4).



Photo 4

- Before plugging the charger into the wall outlet, be sure the switch on the back of the charger is in the proper position (110 Volt position for 90 - 132 Volt outlets, and 220 Volt position for 180 - 265 Volt outlets) (photo 5).

!!!CAUTION!!!! Failure to set voltage switch before plugging in cord will damage the charger, and will VOID THE WARRANTY!

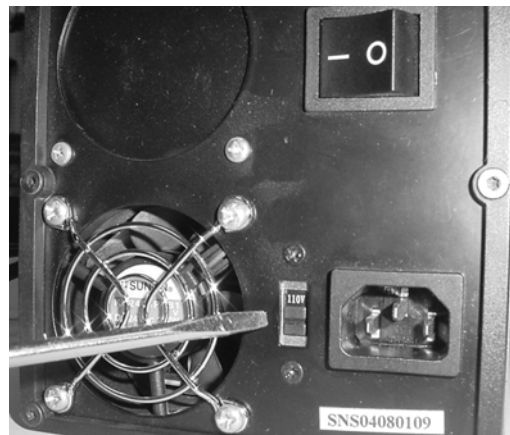


Photo 5

NOTE: All batteries must be charged within 6 months of date of manufacture. Check the date code on the label on each battery, and be sure to charge the battery prior to 6 months after this date. The date code is wk/yr: 04/05 = 4th week of 2005.

MACHINE COMPONENTS

Debris Canister

The Outlaw PB is a bag-less vacuum. The dirt and debris is captured in the canister. The canister capacity is 1.6 gallons (6.1~~l~~).

Filters

- The pre-filter cup is installed over the end of the primary filter, and prevents large debris from entering the pleats of the primary filter.
- The primary pleated filter sits within the top of the canister, and mates with the motor / fan housing.
- A secondary foam filter is located at the top of the vacuum, under the filter cap.

Filter Cap

The filter cap is located at the top of the vacuum, and is retained by 3 clamps. The cap can only be installed one way, with the exhaust pointing away from the operator.

Harness

The harness is designed to provide a comfortable means to carry the vacuum.

Trigger

The Outlaw PB is equipped with a “hold to run” trigger to turn the vacuum on or squeeze the lever against the handle (photo 6). The trigger operates with very low effort to eliminate operator fatigue. Releasing the trigger to turn the vacuum off at every opportunity will greatly increase the runtime provided by the batteries.



Photo 6

Batteries

Two batteries are required to operate the machine. The batteries are equipped with color coded connectors, and each battery plugs into a separate battery cord on the vacuum.

Battery Cords

The vacuum is equipped with two battery cords with color - coded connector, one cord for each battery.

Battery Charger

The battery charger provides automatic charging and charge maintenance for the NSS batteries.


Optional HEPA Filter

- HEPA filters (High Efficiency Particulate Air) are available for picking up non-hazardous materials; they keep the finest contaminants from being exhausted back into the air. This filter can be purchased and installed into any unit at any time. It is used in place of the secondary foam filter.

MACHINE OPERATION

Battery Performance and Use

The batteries that power the Outlaw PB vacuum are an NSS exclusive proprietary design, and with proper care will provide for long life and consistent pickup during use.

- The Outlaw PB vacuum will automatically monitor the charge on the batteries, and when the batteries are fully depleted, the vacuum will automatically shut off.
- The batteries provide for 30-35 minutes of constant running – enough to cover over 5100 sq ft.
- Spot vacuuming can be performed for over 1 hour on one set of batteries. Even longer times are possible with judicious use of the trigger.
- **!WARNING! HANDLE THE BATTERIES WITH CARE. DAMAGE RESULTING FROM DROPPING BATTERIES MAY CAUSE AN UNSAFE CONDITION.** 
- **ALWAYS CARRY THE BATTERIES BY THE SUPPLIED CARRYING HANDLE.**
- **NEVER EXPOSE THE BATTERIES TO WATER OR OTHER FLUIDS.**

Charging the Batteries

The battery charger provides proper charging and charge maintenance of the special batteries used by the Outlaw PB.

- Plug the charger into the 110 Volt wall outlet, and turn the charger on using the on / off switch located on the end of the charger (photo 7).



Photo 7

CAUTION: make sure switch on end of charger is in correct position for your wall outlet voltage. See photo 5

- For wall outlet voltages higher than 132VAC, contact NSS for alternate power cord.
- The LED's will illuminate GREEN for approximately 4 seconds during self-diagnosis.
- The LED's will flash RED every 15 seconds if no battery is detected on that cord.
- Plug the battery into one of the cords coming from the charger (photo 8).



Photo 8

The LED light next to that cord will display the status of that battery.

- RED = charging
- GREEN = charge complete.
- ORANGE = charge pending.
- BLINKING YELLOW = Charge failed, unplug the battery then plug back in. If still blinks yellow, call for repair.
- BLINKING RED = cool down period, charging will resume.

This information is also on the charger's label.

- Up to 4 batteries may be plugged into the charger at once. The charger will charge 2 batteries at a time. As these batteries reach full charge, the other two batteries will begin charging. This function is fully automatic.
- If all four batteries are plugged into the charger at the same time, the charging priority is channels 1 and 2, then 3 and 4. Otherwise the batteries are charged in the order they are plugged in (the first two connected get charged first, regardless of which channel they are plugged in to).
- The batteries may be left plugged into the charger indefinitely. The charger will maintain the proper charge on the batteries.
- Full recharge requires 2-2.5 hrs.
- 60% recharge requires approximately 60 minutes.
- 90% recharge requires approximately 90 minutes.

Harness

Proper adjustment of the harness will ensure comfortable operation for extended periods. The harness assembly is composed of several adjustable straps including the following: lower shoulder straps, Hip belt, chest strap, upper shoulder straps, and battery pouches.

Harness Adjustment

The goal of adjusting the harness is to have all of the weight of the machine carried on one's hips.

- Loosen the lower shoulder straps (Photo9).



Photo 9

- Sling the vacuum onto your shoulders.
- Bend over at the waist, and position the vacuum up onto your back.
- Tighten the hip belt (photo 10) very securely. The hip belt is tight enough when you can stand up and the vacuum does not slip down.

TIP: The bottom of the harness should be near your tailbone.



Photo 10

- Tighten the lower shoulder strap adjustment to prevent the vacuum from swinging / moving around (see prior photo 9).
- Secure the chest strap (photo 11), and tighten to suit.



Photo 11

- Tighten the upper shoulder strap (photo 12) adjustments to suit.



Photo 12

To accommodate bodies of differing torso lengths, the entire shoulder strap assembly can be adjusted up and down as shown in photo 13.



Photo 13

Battery Installation

Two battery packs are required to operate the vacuum. There is a battery - carrying pouch located on each side of the harness (photo 14). The pouches can be slid along the hip pads to adjust for maximum comfort. The pouches can also be slid in front of the hip pad by releasing the Velcro that attaches the belt to the hip pad.

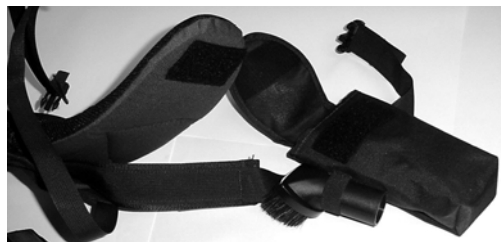


Photo 14

- After properly strapping on the vacuum, place one battery in a pouch.
- Reach around behind you on the same side as the battery, and grab the battery cord that is hanging down from the vacuum (photo 15).



Photo 15

- Plug the battery cord into the connector on the battery leads, (photo 16) being sure to align the colors.



Photo 16

- Repeat the same for the other battery / pouch.

BATTERY REMOVAL

- Unplug each cord from the batteries by grasping the connector bodies. Do not pull on the cord covering.
- Remove the batteries from the pouches using the red carrying handle.
- Do not carry the batteries by the wires/connectors.
- Do not drop the batteries during handling, or an unsafe condition may result.

Attachments

The Outlaw PB comes equipped with a 1 1/4" telescoping wand, a combination carpet / hard floor tool, a crevice tool, and a round brush.

- The telescoping wand may be adjusted for operators of different heights, or for cleaning items like stairs, furniture, etc.
- The floor tool is equipped with a pedal to allow changing from carpeted floors to hard surface floors. Stepping on the backside of the pedal lowers a front brush and a back squeegee to provide safe efficient vacuuming of hard surface floors (photo 16). Stepping on the front side of the pedal raises the brush and squeegee, providing effective vacuuming of carpeted floors.
- When using the machine on floors, the operator may drop their arm slightly to allow larger debris to enter the front edge of the tool on the forward stroke.
- The operator should make strokes at a leisurely pace and at a length that feels the most natural.



Photo 17

- Attachments may be added for overhead cleaning in such applications as removing dust from tops of door and window frames, walls and ledges, heating and air conditioning ducts.
- Brush and upholstery tools may be added to aid in hand work. Select the proper tool for the maximum cleaning result.

DISMOUNTING THE MACHINE

ALWAYS REMOVE THE BATTERIES FROM THE POUCHES BEFORE TAKING OFF THE MACHINE.

WARNING! DO NOT DROP THE PACER PB WHEN REMOVING THE MACHINE AFTER USE, ESPECIALLY IF THE BATTERIES ARE STILL IN THE POUCHES. DAMAGING THE BATTERIES MAY CAUSE AN UNSAFE CONDITION.



- Remove and store the wand.
- Remove and store the batteries.
- Unbuckle the chest strap.
- Unbuckle the hip belt.
- Carefully remove the Outlaw PB and place gently on the floor or table for storage.

MAINTENANCE

Routine maintenance is critical to ensure proper machine operation and cleaning performance. Perform all maintenance procedures as follows:

Always disconnect and remove batteries before performing any maintenance. See front page for warnings.

Daily Maintenance

- Inspect the battery cord, battery connectors and charger connectors for any damage.
- Remove the debris canister, remove the primary filter and filter cup, and empty the contents into an approved trash receptacle. See photos 18, 19 and 20.



Photo 18



Photo 19



Photo 20

Knock/shake the debris from the filter and cup into an approved trash receptacle (photo 21). Always reinstall the filter and the cup.



Photo 21

Weekly Maintenance

- Verify that all daily maintenance has been done.
- Inspect filters for wear, damage, or clogging. Clean or replace as required. The primary pleated filter can be rinsed out with water.

Every 6 months

- Charge all spare batteries within 6 months of date of manufacture.
- Check carbon brushes for wear. When carbon brushes are worn to 1/2" in length return the machine to an authorized NSS Service center.
- Inspect filter cup for clogging, or damage. Clean or replace as needed. Can be cleaned with warm water
- Clean (with warm water running from inside out) or replace the primary pleated filter as needed. Allow to dry before use if cleaned with water.
- Inspect secondary foam filter for wear, clogging, or damage. Clean or replace as needed.
- Inspect the HEPA filter (if equipped) for wear, clogging, or damage. Clean or replace as needed.

Annually

- Replace all filters.

Other

- Replace batteries after approximately 500 cycles. Batteries need replaced when runtime is significantly diminished.

Optional Equipment

6793111	HEPA filter	
Brute Mounted	Outlaw PB parts (photo 22)	
6990781	Hanger Brackets	2
6990791	Accessory Skirt	1
6990801	10 ft Hose	1



Photo 22

TROUBLESHOOTING

Symptom	Cause	Solution
Machine Does Not Run.	Batteries are fully discharged.	Re-charge the batteries.
	Batteries plugged in improperly. Trigger connector not plugged into hose properly.	Re-plug the batteries. Ensure proper insertion.
Machine Has Poor Or No Suction.	Damaged cable or connector	Repair
	Obstruction in Hose, Tool or Wand.	Remove Obstruction.
	Pre-filter or primary filter plugged.	Clean or replace filters.
	Full debris canister.	Empty canister.
	Inlet plug not installed.	Install plug in unused inlet.
	Vac Motor Worn out.	Replace.
	Carbon Brushes Worn.	Replace.
	Canister not latched properly.	Secure canister with clamps.
Batteries only last for a short time	Foam exhaust filter dirty.	Replace.
	Filter gasket Missing or Damaged...	Replace.
	Batteries not fully charged Batteries old	Charge Replace

Repair service for this machine must be performed by an NSS authorized service center. Repairs performed by an unauthorized company will void the machine warranty. If you require assistance finding an authorized service center, contact NSS Enterprises.



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