

Series: **87MT** 92M 921

A ATTENTION!

Read all safety rules carefully before attempting to operate. Retain for future reference.



A DANGER!



Never operate this unit when flammable materials or vapors are present because electrical devices produce arcs or sparks that can cause a fire or explosion. NEVER **OPERATE UNATTENDED!**

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TOOLS NEEDED



• Safety Glasses





• 3/8", 5/16", (2) 7/16" and (2) 1/2" Wrench or socket (not needed with all vacuums)

IMPORTANT SAFETY INSTRUCTIONS

When using an electric appliance, basic precautions should always be followed, including the following: **READ ALL INSTRUCTIONS BEFORE USING THIS APPLIANCE.**

WARNING — TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK OR INJURY:

- 1. Do not leave appliance when plugged in. Unplug from outlet when not in use and before servicing. Connect to a properly grounded outlet only. See Grounding Instructions.
- 2. Do not expose to rain store indoors.
- 3. Do not allow to be used as a toy. Close attention is necessary when used by or near children.
- 4. Use only as described in this manual. Use only Manufacturer's recommended attachments.
- 5. Do not use with damaged cord or plug. If appliance is not working as it should, has been dropped, damaged, left outdoors or dropped into water, contact Shop-Vac Corporation for assistance.
- 6. Do Not: pull or carry by cord, use cord as a handle, close a door on cord or pull cord around sharp edges or corners. Do not run appliance over cord. Keep cord away from heated surfaces.
- 7. Do not unplug by pulling on cord. To unplug, grasp the plug; not the cord.
- 8. Do not handle plug or appliance with wet hands.
- 9. Do not put any object into openings. Do not use with any openings blocked; keep free of dust, lint, hair and anything that may reduce air flow.
- 10. Keep hair, loose clothing, fingers and all parts of body away from openings and moving parts.
- 11. Do not pick up anything that is burning or smoking, such as cigarettes, matches or hot ashes.
- 12. Do not use without dust bag and/or filters in place.
- 13. Turn off all controls before unplugging.
- 14. Use extra care when cleaning on stairs.
- 15. Do not use to pick up flammable or combustible liquids such as gasoline or use in areas where they may be present.
- 16. Do not use your cleaner as a sprayer of flammable liquids such as oil base paints, lacquers, household cleaners, etc.
- 17. Do not vacuum toxic, carcinogenic, combustible or other hazardous materials such as asbestos, arsenic, barium, beryllium, lead, pesticides or other health endangering materials. Specially designed units are available for these purposes.
- 18. Do not pick up soot, cement, plaster or drywall dust without cartridge filter and collection filter bag in place. These are very fine particles that may pass through the foam and affect the performance of the motor or be exhausted back into the air. Additional collection filter bags are available.
- 19. Do not leave the cord lying on the floor once you have finished the cleaning job. It can become a tripping hazard.
- 20. Use special care when emptying heavily loaded tanks.
- 21. To avoid spontaneous combustion, empty tank after each use.
- 22. The operation of a utility vac can result in foreign objects being blown into eyes, which can result in eye damage. Always wear safety goggles when operating vacuum.
- 23. **STAY ALERT.** Watch what you are doing and use common sense. Do not use vacuum cleaner when you are tired, distracted or under the influence of drugs, alcohol or medication causing diminished control.
- 24. <u>WARNINGI</u> Do <u>NOT</u> use this vacuum cleaner to vacuum lead paint debris because this may disperse fine lead particles into the air. This vacuum cleaner is not intended for use under EPA Regulation 40 CFR Part 745 for lead paint material cleanup.

SAVE THESE INSTRUCTIONS



WARNING — DO NOT LEAVE VACUUM UNATTENDED WHEN IT IS PLUGGED IN AND/OR OPERATING. UNPLUG UNIT WHEN NOT IN USE.

GROUNDING INSTRUCTIONS

This appliance must be grounded. If it should malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This appliance is equipped with a cord having an equipment-grounding conductor and grounding plug. The plug must be inserted into an appropriate outlet that is properly installed and grounded in accordance with all local codes and ordinances.

GROUNDING INSTRUCTIONS (CONT'D.)

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 APPLIANCE – IF IT WILL NOT FIT THE OUTLET, HAVE A PROPER OUTLET INSTALLED BY A QUALIFIED ELECTRICIAN.

This appliance is for use on a nominal 120-volt circuit, and has a grounded plug that looks like the plug illustrated in **sketch A**. A temporary adaptor that looks like the adaptor illustrated in **sketches B and C** may be used to connect this plug to a 2-pole receptacle as shown in **sketch B** if a properly grounded outlet is not available. The temporary adaptor should be used only until a properly grounded outlet (**sketch A**) can be installed by a qualified electrician. The green colored rigid ear, lug or the like extending from the adaptor must be connected to a permanent ground such as a properly grounded outlet box cover. Whenever the adaptor is used, it must be held in place by a metal screw.

IN CANADA, THE USE OF A TEMPORARY ADAPTOR IS NOT PERMITTED BY THE CANADIAN ELECTRICAL CODE. Make sure that the appliance is connected to an outlet having the same configuration as the plug. No adaptor should be used with this appliance.



When using the appliance at a distance where an extension cord becomes necessary, a 3-conductor grounding cord of adequate size must be used for safety, and to prevent loss of power and overheating. Use **Table A** to determine A.W.G. wire size required. To determine appliance, inspect power cord for loose or exposed wires and damaged insulation. Make any needed repairs

or replacements before using your appliance. Use only three-wire outdoor extension cords which have three prong grounding-type plugs and three-pole receptacles which accept the extension cord's plug. When vacuuming liquids, be sure the extension cord connection does not come in contact with the liquid. **NOTE:** STATIC SHOCKS ARE COMMON IN DRY AREAS OR WHEN THE RELATIVE HUMIDITY OF THE AIR IS LOW. THIS IS ONLY TEMPORARY AND DOES NOT AFFECT THE USE OF THE APPLIANCE. TO REDUCE THE FREQUENCY OF STATIC SHOCKS IN YOUR HOME, THE BEST REMEDY IS TO ADD MOISTURE TO THE AIR WITH A CONSOLE OR INSTALLED HUMIDIFIER.

TABLE A				
Volts	Total length of cord in feet			
120V	25	50	100	150
Ampere Rating More Not More Than Than	AWG			
0 - 6	18	16	16	14
6 - 10	18	16	14	12
10 - 12	16	16	14	12
12 - 16	14	12	Not recon	nmended

UNPACKING

Remove vacuum cleaner and all accessories from the carton. Important: Open tank cover by pushing latches or clamps outward with thumbs and remove any accessories that may have been shipped in the tank.

<u>ASSEMBLY</u>

TOP HANDLE If the top handle is not installed on your unit, align holes in handle and holes in motor cover and secure with screws provided.

CASTER SYSTEM

Follow the instructions for the caster system that came with your vacuum. <u>METAL TANK WITH PLASTIC DOLLY AND FOUR CASTERS</u> You will find four casters with your wet/dry vacuum. Assemble as follows:

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- 1. With the cord disconnected from the receptacle and tank cover removed, turn tank upside down so that bottom is facing up.
- Insert casters into bottom of dolly by placing stem of caster into holes provided. Apply
 pressure and twisting motion until casters snap into place.
- 3. Return tank to upright position.

CASTER DOLLY/TOOL HOLDER ASSEMBLY

You will find four casters, one tool holder and two screws with your wet/dry vacuum. Assemble as follows:

- 1. With cord disconnected from receptacle and tank cover removed, turn tank upside down so that bottom is facing up.
- 2. If the casters are not already installed in dolly, insert casters into bottom of dolly by placing stem of caster into holes provided. Apply pressure and twisting motion until casters snap into place.
- 3. Take tool holder and place in slots on back of dolly. Secure with screws provided.
- 4. Return tank to upright position.

METAL TANK WITH PLASTIC DOLLY AND REAR WHEELS

You will find two casters, two large rear wheels, one axle, tool rack, four screws, two metal washers, and two hair pin clips. If your vacuum is 16 U.S. gallons (60.5 litres) or larger you will also find two screws, two metal flat washers and two square nuts with your wet/dry vacuum. Assemble as follows:

- 1. Make sure the cord is disconnected from the receptacle then remove the tank cover.
- 2. If your unit is 4 U.S. gallon (15.1 liter) to 14 U.S. gallon (53 liter), assemble as follows:
 - a. Turn tank upside down so the bottom is facing up. b. Continue on to step 4 below.
- 3. If your unit is 16 U.S. gallon (60.5 liter) or above, assemble as follows:

a. With the tank upright and back facing you, insert square nut into one of the two slots located in back of dolly.

b. Place metal flat washer over stem of screw.











ASSEMBLY (CONT'D)

- c. Tilt the tank forward slightly and locate the hole provided in the underside of the dolly directly below the slot containing the square nut.
- d. Place the screw, containing the flat washer, into the hole and turn clockwise until end of screw is connected to square nut. If you have difficulty getting the screw to connect to the square nut, push downward on the square nut with the eraser end of a pencil while turning the screw.
- e. Finish tightening the screw using 7/16" socket, wrench or nut driver.
- f. Repeat steps a to e with the second slot in dolly.
- g. Turn tank upside down so bottom is facing up. Continue on to step 4 below.
- 4. Place one hair pin clip in one end of axle. Slide one washer down the length of the axle to rest on the hair pin clip. Slide wheel onto axle next to washer. Be sure flat side of wheel hub is facing outward.
- 5. Slide axle through holes provided in tool rack.
- 6. Slide remaining wheel then washer onto axle. Insert hair pin clip into remaining hole in axle to hold wheel in place.
- 7. Install tool rack assembly onto dolly (already installed on tank) by placing large slot in tool rack over rim on back of dolly. Push tool rack onto dolly until the bottom of tool rack is flush with bottom of dolly. NOTE: It is normal for tool rack to fit tightly onto dolly.

8. Secure with four screws provided.

- 9. If plastic flat washers are included in hardware pack, place one flat washer over stem of each caster. NOTE: Flat washers are not required with all units.
- 10. Insert casters into front of dolly by placing stem of casters into holes provided. Apply pressure and twisting motion until casters snap into place.

11. Return tank to upright position.

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ASSEMBLY (CONT'D)

CARRIAGE HANDLE

Follow the instructions for the carriage handle that came with your vacuum. If your side tank handles look like the ones pictured to the right, follow these instructions.



You will find one carriage handle and a handle pack containing two side tank handles, four handle supports and eight screws. Assemble as follows:

- 1. Take two handle supports and two 1" screws. Place screws through the hole provided in center of each support.
- 2. Position the tank, in the upright position, with the inlet facing you. Put the support assemblies inside the tank, then place the screws through the holes provided on left side of the tank. Make sure the plastic portion is located inside the tank. Turn the supports until the back of the supports fit flush against the inside curve of the tank.
- 3. Remove any webbing that attaches the tank handles to each other. Take the side tank handle with the letter L and position it on the outside of the tank where the support assemblies are installed. The U-shaped cutout on the bottom end of the handle must face the rear of the tank. Secure the side tank handle to the tank with the screws in the support assemblies.
- 4. Repeat steps 1 to 3 using right side of tank and the remaining side tank handle marked with the letter R.
- 5. Position metal carriage handle outside of tank and under the tank handles. Be sure to spread ends of carriage handle when assembling to prevent damage to tank. Line up holes in ends of carriage handle with holes in bottom of tank handles. Make sure carriage handle is in the U-shaped cut on the tank handles (located towards rear of unit). Secure with 1½" screws provided.

BASKET

If your unit came with a basket, insert basket through center of carriage handle and slide into place. The basket does not come standard with all models.

SET UP AND OPERATION

DANGER — This equipment incorporates parts such as switches, motors or the like that tend to produce arcs or sparks that can cause an explosion. Do not pick up flammable, combustible, or hot materials. Do not use around explosive liquids or vapors, as electrical devices produce arcs or sparks which can cause a fire or explosion - do not use at filling stations or anywhere gasoline is stored or dispensed.











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FILTER INSTALLATION AND MAINTENANCE

- 1. Refer to the filter installation and maintenance section to make sure the correct filters are installed for your cleaning operation.
- Replace tank cover. Make sure each latch or clamp is secured over the raised area of the tank cover. Failure to properly secure the latches could cause the tank cover to release from the tank.
- 3. Install machine hose end into inlet located on the front of the tank.
- 4. Attach the desired cleaning accessory onto the accessory end of the hose.
 - NOTE: Many more useful tools are available at your local dealer or the Shop-Vac® website.
- 5. Plug the cord into the wall outlet. Your cleaner is ready for use.
- I = ON, O = OFF

FILTRATION SYSTEM

There are a variety of filters available for your vacuum. There are cage filters that install onto the underside of the tank cover and tank filters that install into the tank. The filters are grouped into three filtration categories. General filtration is used for large debris; such as, wood chips, nails and gravel. Medium filtration is used for medium debris; such as, dirt, sand and sawdust. Fine filtration is used for fine debris; such as drywall dust, cold ash and cement dust. It is important to have the correct filters installed for your cleaning operation to protect your vacuum motor. THE MOST EFFICIENT FILTRATION FOR YOUR VACUUM IS A FINE FILTRATION CAGE FILTER WITH A FINE FILTRATION TANK FILTER.

NOTE: When using the vacuum to pick up very fine dust. It will be necessary to empty the tank and clean the cage filter at more frequent intervals to maintain maximum pick up power or add a disposable filter bag.

DRY PICK UP OPERATION

NOTE: Never use the vacuum for dry pick up without a dry use filter installed. Using the vacuum without a filter will cause dust to discharge from the blower port and cause damage to the motor.

WARNING — ALWAYS DISCONNECT THE PLUG FROM THE WALL OUTLET BEFORE REMOVING THE TANK COVER.

Follow the instructions for the filter that came with your vacuum. Some filters mentioned do not come standard with all vacuums. Additional filters are available at your local dealer or the Shop-Vac® website.

CARTRIDGE FILTER

The cartridge filter can be used for dry pick up and small quantities of wet pick up. Installation is the same for both. When picking up fine dust or powders a high efficiency filter bag must be used with the cartridge filter.

- 1. If a foam sleeve is installed on the lid cage, remove it by sliding it off the lid cage. **NOTE:** If the cartridge filter has been used for wet pick up, it must be cleaned and dried before using it for dry pick up.
- 2. With the tank cover in an upside down position, slide the cartridge down over the lid cage, pushing until the filter seals against the cover.



- 3. Place the filter retainer into the top of the cartridge filter. Hold the tank cover with one hand, turn the handle on the filter retainer clockwise to lock the filter into place.
- To remove the filter for cleaning, hold the tank cover and turn the filter retainer counter-clockwise to loosen and remove.







FILTER INSTALLATION AND MAINTENANCE (CONT'D)

- 5. Slide the cartridge filter off the lid cage.
- 6. For standard cartridge filters and Ultra-Web® cartridge filters, clean the filter by shaking or gently brushing off excess dirt. Extremely dirty filters may be cleaned with water by rinsing from the inside of the filter. Dry completely (approximately 24 hours). For CleanStream® Abrasive Resistant cartridge filter, tap end cap against hard surface to loosen debris.

Additional debris can be removed by rinsing outside surface of the filter with running water. Avoid dampening inside of filter. Completely air dry after washing. IMPORTANT: DO NOT BRUSH. DO NOT clean filter with abrasive materials or scrub between pleats. This will permanently damage the filters ability to stop dust.

7. Check the filter for tears or small holes. If none are found, reinstall the filter. To prevent damage to your vacuum, do not use a filter with a hole or tear.

▲ NOTICE — This filter is made of high quality paper designed to stop small particles of dust. The filter can be used for wet or dry pick up. A dry filter is necessary to pick up dry material. If you use your vac to pick up dust when the filter is wet, the filter will clog quickly and be very difficult to clean. The filter may become saturated when picking up large quantities of liquid causing misting to appear in the exhaust air. At this time, you should dry or change the filter to eliminate this occurrence. Please handle the filter carefully when removing it for cleaning or when installing it. Check the filter for tears or small holes. Even a small hole can cause dust to be exhausted. Do not use a filter with holes or tears. Replace it immediately.

WARNING — KEEP FILTERS CLEAN. EFFICIENCY OF THE VACUUM IS LARGELY DEPENDENT ON THE FILTER. A CLOGGED FILTER CAN CAUSE OVERHEATING AND POSSIBLY DAMAGE THE CLEANER. CHECK THE FILTER PERIODICALLY AND REPLACE AS REQUIRED.

DISPOSABLE FILTER BAG

Use the disposable filter bag in conjunction with the cartridge filter for easy disposal of the debris. The bag is not required for normal dry pick up. When picking up fine dust or powders a high efficiency filter bag must be used. **NOTE:** For dry use only.

TANK WITH REMOVABLE INLET DEFLECTOR:

- 1. Make sure the cord is disconnected from the receptacle, tank cover is removed and the hose is disconnected from tank inlet.
- 2. Remove inlet deflector from deflector guide. **NOTE:** Hose must be removed before inlet deflector can be taken out.
- 3. With the opening of the inlet deflector facing the left or right side of the filter bag, slide filter bag collar over deflector matching notches of bag collar to tabs on inlet deflector. Bag will only fit properly one way.
- 4. Slide deflector with filter bag attached into deflector guide.
- 5. Reinsert hose into inlet and tighten locking-nut. When secured in place expand bag and position around inside of tank.









FILTER INSTALLATION AND MAINTENANCE (CONT'D)

6. **NOTE:** When removing filter bag from tank, remove inlet deflector from filter bag collar and reinstall into deflector guide. Inlet deflector should always be in place for any type of cleaning.

WARNING - FOR FINE DUST AND POWDERS.

When vacuuming fine dust, or powders of any kind (plaster, drywall dust, cold ashes, concrete dust, etc.) a high efficiency drywall filter bag must be used. When vacuuming normal household dust and debris, standard household disposable filter bags may be used.

WET PICK UP OPERATION

- 1. Your vacuum can be used for wet pick up. Remove ALL dirt and debris found in the tank. Remove all dry use filters, including the filter bag, from the vacuum.
- 2. A clean cartridge filter may be used to pick up small quantities of liquid. To use the cartridge filter; follow the instructions under dry pick up.
- 3. For vacuuming large quantities of liquid use a foam sleeve. If a foam sleeve did not come standard with your unit, one may be purchased at your local dealer, the Shop-Vac® website or by contacting Shop-Vac® customer service. To use the foam sleeve; follow the instructions in this section.
- 4. Misting in the exhaust air or dripping of liquid around the tank cover may occur if the filter becomes saturated during wet pick up. If this occurs, remove the filter and allow to dry, or replace with another dry filter.
- 5. Turn the unit off immediately upon completing a wet pick up job or when tank is full and ready to be emptied. When the tank is full, suction will drastically reduce. Refer to the automatic suction shut off section for more information. Raise the hose to drain any excess liquid into the tank. Follow the instructions in the emptying liquid waste section.
- 6. Before storing the vacuum cleaner or using for dry pick up, clean and dry the interior of the tank and the underside of the tank cover. Clean and allow the filters to dry completely.
- 7. Wet pick up accessories should be washed periodically; especially after picking up wet, sticky kitchen accidents. This can be accomplished with a warm solution of soap and water.

FOAM SLEEVE

- 1. With the tank cover in an upside down position, slide the foam sleeve down over the lid cage, pulling until foam sleeve completely covers the lid cage.
- 2. To clean the foam sleeve, slide it up and off the lid cage. Shake excess debris off of the foam sleeve with a rapid up and down movement.
- 3. Hold foam sleeve under running water for a couple minutes, rinsing from the inside of the filter. A water wash is not always required, depending on the condition of the filter.
- 4. Check the filter for tears. If any are found, replace with a new filter.

BLOWER FEATURE

Your vacuum can be used as a powerful blower. To use the blower feature, clear the hose of any debris or obstructions.

For vacuums with a blower port cover (not standard on all models), unscrew blower port cover located on the back of tank cover. The blower port cover is equipped with a retaining strap to prevent loss of the cover. **NOTE:** For maximum performance when vacuuming, remove the blower port cover.



Insert machine hose end into blower port located on the back of the tank cover.

Twist the hose end slightly to tighten the connection. Caution should be used when using as a blower due to the powerful force of air when using certain attachments.

WARNING — ALWAYS WEAR EYE PROTECTION TO PREVENT ROCKS OR DEBRIS FROM BEING BLOWN OR RICOCHETING INTO THE EYES OR FACE WHICH CAN RESULT IN SERIOUS INJURY.



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EMPTYING LIQUID WASTE FROM THE TANK

To empty liquid waste from the tank, turn the vacuum off and remove the plug from the wall outlet. Follow the instructions that pertain to your vacuum.

WITHOUT TANK DRAIN

Remove the tank cover and deposit the liquid waste in a suitable drain. Use side carry handles for lifting vac when draining tank into drains that are located above floor level. After tank is empty, return the tank cover to its original position.

WITH TANK DRAIN

Remove the drain cap and deposit the liquid waste in a suitable drain. Use side carry handles for lifting vac when draining tank into drains that are located above floor level. After the tank is empty, return the drain cap to it's original position.

AUTOMATIC SUCTION SHUT OFF

The vacuum is equipped with an automatic suction shut-off that operates when picking up liquids. As the level of the liquid rises in the tank, an internal float rises until it seats itself against a seal at the intake of the motor, shutting off suction. When this happens, the motor will develop a higher than normal pitch noise and the suction is drastically reduced. If this occurs, turn unit off immediately. Failure to turn unit off after float rises and shuts off suction will result in extensive damage to the motor. To continue use, empty the liquid waste from the tank as outlined in the previous section.

NOTE: IF ACCIDENTALLY TIPPED OVER, THE VACUUM COULD LOSE SUCTION, IF THIS OCCURS, TURN UNIT OFF AND PLACE VAC IN UPRIGHT POSITION. THIS WILL ALLOW THE FLOAT TO RETURN TO ITS NORMAL POSITION AND YOU WILL BE ABLE TO CONTINUE OPERATION.

LUBRICATION

No lubrication is necessary as the motor is equipped with lifetime lubricated bearings.

STORAGE

Before storing your vacuum the tank should be emptied and cleaned. Never allow liquids to sit in the tank for any extended period of time. **The vacuum should be stored indoors.**

SERVICE

Do not attempt to service your Shop-Vac[®] wet/dry vacuum cleaner beyond that described in this manual. Refer all other servicing to a qualified service center.

TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSES	SOLUTION
Parts/accessories missing	1. Packed in tank	1. Check in tank
Vacuum cleaner will not start	 No power at receptacle Defective switch Defective motor 	 Check for power Contact Shop-Vac[®] customer service Contact Shop-Vac[®] customer service
Dust discharging from exhaust	 Filter not installed/not installed properly Filter damaged Filter clogged or dust is too fine Filter not functional 	 Properly install filter Replace filter Use more efficient filter Clean or replace filter
Loss of suction	 Loose hose connection Filter clogged Full tank Hole in hose 	 Tighten hose connection Clean or replace filter Empty tank Replace hose
Static shock	 Dry environment Relative humidity of air is low 	 Add moisture to air (if practical, use a console or installed humidifier). This situation is temporary and does not affect the use of the vacuum cleaner.

WARNING — IF ANY OF THE MOTOR HOUSING PARTS SHOULD BECOME DETACHED OR BROKEN, EXPOSING THE MOTOR OR ANY OTHER ELECTRICAL COMPONENTS, OPERATION SHOULD BE DISCONTINUED IMMEDIATELY TO AVOID PERSONAL INJURY OR FURTHER DAMAGE TO THE VACUUM. REPAIRS SHOULD BE MADE BEFORE REUSING THE VACUUM.