

# OPERATING MANUAL AND MAINTENANCE INSTRUCTION

## MOBILE CORNVAC UNIT

E-mail us at [INFO@CORNVAC.COM](mailto:INFO@CORNVAC.COM) if you need assistance with your Product.

CornVac Systems, Inc. Visit our Website at [WWW.CORNVAC.COM](http://WWW.CORNVAC.COM) to view our other products.

# **IMPORTANT SAFETY INSTRUCTIONS**

When using an electrical appliance, basic precautions should always be followed, including the following:

## **READ ALL INSTRUCTIONS BEFORE USING**

CornVac Systems has provided a product for your safe operation. However, as with any Powerful appliance, caution must be exercised while using this product. The safety precautions and instructions outlined in this manual are important. When using CornVac Systems products, the following basic precautions should always be adhered to:

NOTE:READ ALL INSTRUCTIONS BEFORE USING CORNVAC SYSTEMS PRODUCTS, AND BE SURE TO SAVE THESE INSTRUCTIONS FOR FUTURE REFERENCE.

## **WARNING**

To reduce the risk of fire, electric shock, or injury:

1. Unplug from outlet before servicing.
2. This appliance is designed for household use only. Do not use on wet surfaces. Do not use outdoors during rain or inclement weather or for picking up (vacuum in) wet objects. Store this product indoors.
3. Close attention is necessary when used by or near children.
4. Use only as described in this manual.
5. Do not use with damaged cord or plug. If not working properly (has been dropped or damaged) contact CornVac Systems.
6. Do not pull or carry by cord. Keep cord away from heated surfaces and sharp edges.
7. Do not handle plug or appliance with wet hands.
8. Keep openings free of any debris.
9. Keep any loose clothing away from openings and moving parts.
10. Do not use to transfer flammable or combustible liquids, such as gasoline. Do not use in areas where they may be present.
11. Do not pick up anything that is burning or smoking, such as cigarettes, matches or hot ashes.
12. Connect to a properly grounded outlet.
13. Do not run this product unattended.

**SAVE THESE INSTRUCTIONS**

The operation of this product can result in foreign objects being thrown into the eyes, which can result in severe eye damage. Always wear safety goggles complying with ANSI Z87.1 (or in Canada CSA Z94.3) shown on package. Everyday eyeglasses have only impact resistant lenses. They are not safety glasses. Safety Goggles are available at many local retail stores. Glasses or goggles not in compliance with ANSI or CSA could seriously hurt you when they break.

To reduce the risk of hearing damage, wear ear protectors when using vacuums.

Use only extension cords that are rated for outdoor use. Extension cords in poor condition or that are too small in wire size can pose fire and shock hazards. When using an extension cord, be sure it is in good condition. Using any extension cord will cause some loss of power. To keep the loss to a minimum, use a properly sized extension cord.

CornVac Systems products are intended for household use only.

**STATIC SHOCKS ARE COMMON** In dry areas or when relative humidity of the air is low.

The moving parts of the Mobile CornVac Unit are propelled by high torque electric motors. The paddlewheel can cause severe injury to body parts that are put into direct contact with them. Keep all body parts away from openings while the unit is plugged into an electrical outlet. These moving parts may begin moving at any time while the unit is plugged in.

Do not attempt service to the unit when it is plugged into power.

## UNPACKING YOUR MOBILE CORNVAC UNIT

When you receive your Mobile CornVac Unit, be careful to inspect all parts and components to make sure that nothing was damaged or lost in shipment. If there was shipping damage, be sure to report it to your reseller, or the shipping company that delivered your unit. Freight damage claims must be made to the freight company immediately. If parts are missing, contact your reseller right away.

Carefully remove each piece from the shipping container and verify that you have the items listed below:



Main CornVac Unit



Cleaning Unit



Transfer Hose  
(Length Varies)



Rubber Hose Couplers  
(Quantity: 2)

**If you are missing any parts contact your reseller**

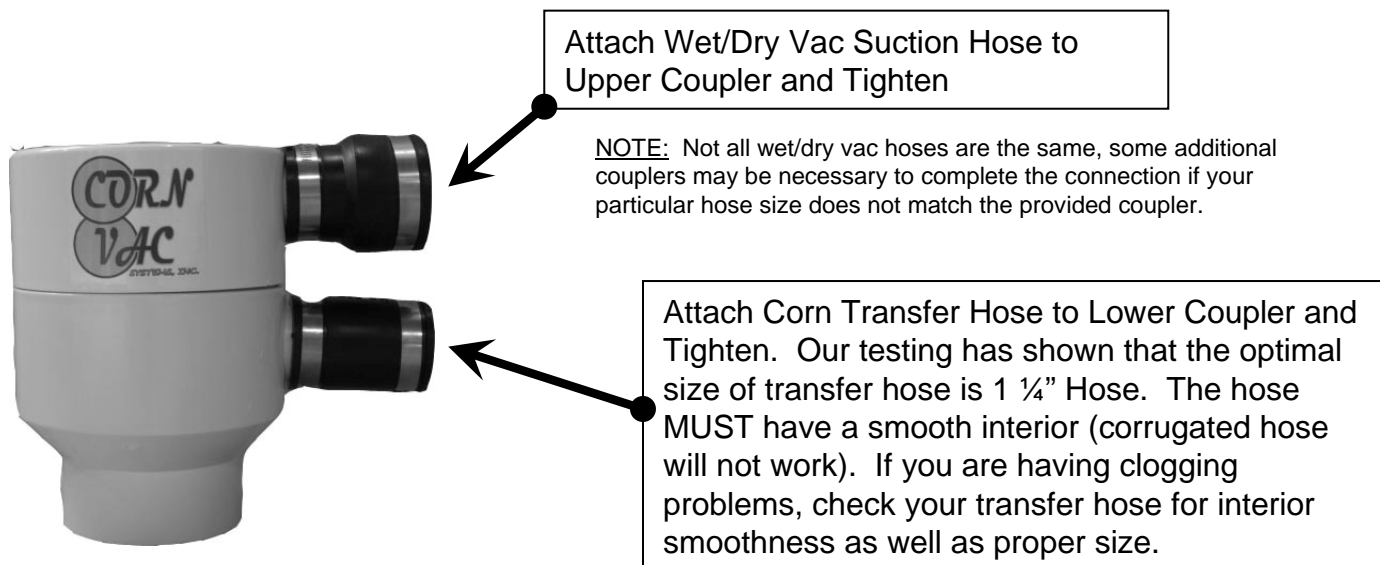


This photo shows an assembled Mobile Cornvac Unit secured to the top of a storage container.

## ASSEMBLY OF YOUR MOBILE CORN VAC UNIT

The main unit comes pre-assembled, the following steps will complete the assembly:

1. Attach the Cleaning Unit to the top of the Main CornVac Unit.
2. Slide a rubber coupler onto each end of the cleaning unit as shown below: (Note that the 1-1/2" x 1-1/2" coupler is attached to the bottom stub, and the 1-1/2" x 2" coupler is attached to the top stub.)



1. **MOUNTING THE UNIT:** The Mobile CornVac Unit **MUST** be securely mounted prior to operation. Specific mounting instructions are not provided as it is the users responsibility to ensure proper and secure mounting of the unit. All users will have different situations as to types and sizes of storage containers, so mounting variations will have to be determined by the user. If your situation does not allow for proper and secure mounting of the unit, do not operate the Mobile CornVac Unit until contacting your reseller for suggestions on mounting options. The end plates of the unit can be easily drilled and screwed/bolted to provide a secure mounting.

### **WARNING**

If you have not securely attached the Mobile CornVac Unit on top of your storage container, it is likely that during the transfer process the unit will be pulled off of the storage container and cause serious damage to the unit as well as anyone close by. If the unit is not securely attached to a fixed object, all warranties or guarantees are void.

4. Once the Mobile unit is securely mounted, attach the transfer hose to the bottom rubber coupler of the cleaning unit as shown above.
5. Attach your wet/dry vac suction hose to the top rubber coupler of the cleaning unit as shown above.
6. Your Mobile Cornvac is now ready for use.

## **OPERATION OF THE MOBILE CORN VAC UNIT**

Follow the steps below when ready to transfer material/corn from your source to your storage container. Make sure you have read and understand all of the safety procedures and precautions as shown in this entire manual.

1. Make sure the unit is properly secured on top of your storage container so that a flow of material/corn from the bottom of the unit will empty into the container. Every owner will have a different variation of securing the unit on top of the storage container.
2. Make sure the safety screen is securely in place and plug the unit into a properly grounded outlet. The paddlewheel in the main unit will now begin to rotate.
3. Hold the end of the transfer hose away from your body and free of obstructions and turn on your wet/dry vac. (read specifications section for more information on size and transfer rates using various wet/dry vacs).
4. Slowly push the end of the transfer hose into the bulk corn that you are transferring, making sure not to completely bury the end of the hose. Once the unit is operating and working properly, you can continue to slowly bury the end of the hose into the bulk corn.

### **WARNING!**

If at any time, the paddlewheel stops turning during the transfer process, IMMEDIATELY unplug the cornvac unit and turn off the wet/dry vac and proceed to dislodge the debris. (See the Operation Tips section).

### **OPERATION TIPS**

1. During the transfer process you may experience a blockage in flow. This is most commonly caused by a high lift of material. If this occurs, remove the end of the hose from the bulk corn and allow the wet/dry vac to pull in the remaining corn blocked in the hose. If after several seconds, the blockage has not cleared, try elevating the hose and straightening out the hose. If the blockage does not clear. Turn off the wet/dry vac and allow the corn to fall out of the end of the transfer hose.
2. To increase the flow rate and lessen the chance of blockages, the flexible transfer hose must be as straight and short in length as possible.
3. For best results, use a solid piece of 1-1/4" solid PVC pipe straight from the mobile unit to the edge of the bulk corn. From this point, a short piece of flexible pipe should be attached with a coupler (not supplied). This will provide a straight and smooth hose to increase the flow rate. (Using the solid PVC along with the transfer hose supplied is not necessary. This method may be used to increase the flow rate and minimize any blockages.)
4. If large debris is transferred through the unit, it may cause a bind in the paddlewheel. If the paddlewheel stops turning at any time during the transfer process, IMMEDIATELY unplug the cornvac unit and turn off the wet/dry vac. With the system turned off, remove the safety screen and push the paddlewheel blades in both directions (only move the paddlewheel a short distance, Maximum of 1 inch). Reinstall the safety screen and turn on the system. This should allow the debris to pass through the system.

## **SPECIFICATIONS FOR THE MOBILE CORNVAC UNIT**

1. Recommended Minimum wet/dry vac Size is 3.5 horsepower.
2. For best results, use a 6 or 6.5 horsepower wet/dry vac.
3. This unit has been tested with a central vacuum unit having a 107 inch water lift and a flow rate of 120 cfm. If using a vacuum unit above the stated water lift of 107 inches of water, the unit may loose pressure and reduce the volume of flow.
4. Using a 6.5 horsepower wet/dry vac, this unit has successfully lifted to a height of 8 feet. Although a higher height may be achieved, the increase of blockages may occur the higher the lift.
5. CornVac Systems has conducted numerous testing on various size hoses, lengths and wet/dry vac sizes. The supplied transfer hose has produced the most reliable results when lifting corn to a height of 6 feet to 8 feet. If your "set-up" transfers corn with no height (transferring directly to a basement), a larger hose may be used to increase the flow rate. Be sure to select a hose that has a smooth interior.
6. The recommended maximum length of flexible hose is 15 feet. If your transfer length is longer than 15 feet, it is recommended that a 1-1/4" PVC pipe be installed with the sweeping elbows (electrical conduit bends) in conjunction with the flexible hose to complete the transfer process.
7. Using "tight" 90 degree bends in solid piping will greatly decrease the flow rate and WILL cause blockages in the piping system. Visit our website for more information on piping systems.

## **MAINTENANCE OF THE MOBILE CORNVAC UNIT**

Very little maintenance is required to keep your cornvac unit running properly. The following recommendations should be followed to allow the proper function and operation of the unit.

1. Before and after using the unit each time , turn on the paddlewheel motor with the top half of the cleaning unit detached. Sprinkle "talcum powder" into the unit to allow the rubber seals to be coated. This provides a smooth flow for the paddlewheel and minimizes wear on the rubber seals.

### **WARNING!!!!**

**Do not place fingers or any foreign objects into the top opening of the unit, as the paddlewheel blades may break or cause injury.**

2. With the unit unplugged, inspect the unit entirely to make sure that no debris or other materials are causing a bind or clogging of the unit.
3. DO NOT USE WET CORN while using the unit. Using wet corn will greatly decrease the cleaning ability of the unit as well as causing moisture on the rubber seals that may stick to the sides of the unit.
4. If the unit does get wet, immediately dry off all parts to ensure that the seals and other parts operate properly.

## **Cleaning the Main Unit**

Occasionally, you may have to remove the end plate from the main unit to remove any debris or material that has clogged the paddlewheel and cannot be removed by manually rotating the blades back and forth to dislodge the material. If it is necessary to remove the paddlewheel, please use caution when handling the interior parts as they have sharp edges and should be handled with care.

### **To remove the paddlewheel, follow the directions below:**

1. Unplug the unit from power.
2. Remove the three (3) thumbscrews on the end plate.
3. Gently tap the end plate away from the main unit and remove it away from the three (3) threaded studs. Place the end plate and safety screens aside.
4. Pull the paddlewheel straight out of the main unit. You may have to use a twisting motion or push on the sides of the end of the main unit to assist in removing the paddlewheel. Use caution when pulling the paddlewheel from the main unit. There are many areas that will pinch your fingers or hands if caution is not used.

**Do Not Pry or Force the paddlewheel from the main unit.** If you are having problems removing the paddlewheel, contact Cornvac Systems for further help.

5. After the paddlewheel is removed, inspect the inside of the main unit and remove any debris that is inside. Lightly brush the ends of the paddlewheel to remove any “cracked corn” or other debris that may be stuck to the end pads.
6. After all parts have been inspected and all debris is removed, place the paddlewheel into the main unit noting the location of the “flat” spot on the motor shaft and the “flat” spot on the paddlewheel coupler. When placing the paddlewheel into the main unit, use a twisting motion as you push the paddlewheel into the unit, (Make sure the direction of twist, is the same direction of the motor rotation or the rubber seals may tear from the paddlewheel or become damaged)
7. After you have “seated” the paddlewheel coupler into the motor shaft, place the safety screen in place and place the end plate over the three (3) threaded studs and “seat” the main unit into the recessed ring of the end plate. If you are having difficulties getting the main unit “seated”, contact Cornvac Systems, Inc.
8. After the end plate is seated, replace the three (3) thumbscrews and tighten.

## Troubleshooting Guide

Q. When I plug in the Mobile unit, the motor does not turn.

- A.
1. Make sure power is supplied to the unit.
  2. If the Mobile unit has sat for awhile, the rubber seals may be stuck to the inside of the lower unit. Unplug power, Remove the Cleaner, Manually rotate the paddlewheel from the top 3" hole (Rotate the direction of the motor rotation). This manual rotation should free the seals. Return power to the unit and test. See maintenance instructions on applying Talcum powder to lubricate the seals.
  3. Cracked corn or debris may be lodged between the end plate and the paddlewheel. Remove the end plate and paddlewheel to clean any debris. See Instructions for performing this step.
  4. If none of the above solutions work, contact Cornvac Systems for assistance.

Q. When I Place the transfer hose into my corn source, the unit works and then clogs.

- A.
1. Review the operation tips to ensure that you do not have excessive bends in the hose.
  2. When placing the transfer hose into the corn, Gently lay the end of the hose on top of the corn to start the transfer process, after several seconds, slowly begin to push the hose into the corn source until the hose end is buried. When you rapidly push the hose into the corn, this does not allow sufficient pressure to be built up within the unit and clogging may occur.
  3. Inspect all hoses and the mobile unit to ensure that no debris has been clogged in any hoses or within the paddlewheel system.
  4. When stopping the mobile unit, ALWAYS remove the transfer hose from the corn source first and allow all corn to be completely emptied from the transfer hose and mobile unit. After all corn has stopped exiting the mobile unit, you can then turn off the vacuum unit and then the mobile unit.

Q. Can I use a larger diameter hose?

- A. Our testing has shown that the supplied hose 1 ¼" provides the optimum transfer rate and also minimizes the chance of clogging. If your transfer process does not "lift" the corn or your corn transfer is going "downhill", you may experiment with a larger size hose. By increasing the hose size, you are also decreasing the velocity of the air-stream and potentially increasing the chance of clogging.

**Cornvac Systems, Inc. thanks you for purchasing our products. If you are having problems solving any issues with your product, please email us at [info@cornvac.com](mailto:info@cornvac.com) and we will work with you to solve your issues. Please visit our website for any additional information on this and our other products.**