

# OPERATING & MAINTENANCE INSTRUCTIONS

## Rollmover™

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**AeroGo, Inc** is a leading designer and manufacturer of Aero-Caster™ products (air casters or air bearings mounted on Standard or Custom products) that float from 500 lbs to 5000 tons on a virtually frictionless film of air.

AeroGo air caster product manufacturing practices are ISO certified by ABS Quality Evaluations, Inc and complies with SAE AS9003: 2001 and ISO 9001:2000 quality standards.



ISO 9001:2000 certified #34629  
SAE AS9003 certified #40102

# BEFORE CONNECTING OR OPERATING THE ROLLMOVER, READ ALL INSTRUCTIONS—INCLUDING SAFETY INSTRUCTIONS

## ROLLMOVER ASSEMBLY

No assembly is normally required. However, if a ball valve has been included in your order, it may have been removed for packaging. See item 5 below.

## QUICK START GUIDE

1. Ensure that all hoses and fittings are clear of debris and are in good condition. Check for worn or missing parts. Ensure that the air supply hose length is sufficient for its move to the desired destination or to the next air supply source.
2. Place each Rollmover half under each side of the roll and connect the interconnect air hose.
3. Make sure that each Rollmover half is pushed hard against the roll.
4. Connect the air supply hose to the air supply source.
5. Connect the ball valve (make sure that the PT fittings are sealed and secured) and supply hose to the Rollmover, ensuring that the ball valve is in off position (ball valve handle is perpendicular to ball valve body) and that the regulator is in the off position (turn counterclockwise until the knob rotates freely).
6. Turn on the air supply at the source.
7. Slowly open the ball valve, applying air to the Rollmover.
8. Using the air pressure regulator, inflate the air casters to lift the roll off the floor – adjust as necessary.

## GENERAL DESCRIPTION

The Rollmover is designed to easily load the paper roll, lift a roll of paper off of the floor, float the roll on a thin film of air for transfer to a new location, set the roll down, and then easily unload the paper roll.

**Structure** The Rollmover consists of two halves that are installed under each side of the paper roll. The Rollmover structure supports the roll and contains the air casters and pneumatic controls.

**Aero-Casters**<sup>®</sup> There are (4) 12-inch (30.5 cm) diameter air casters attached to the bottom of the Rollmover. AeroGo also offers a 12,000 lb (5,450 kg) capacity model, utilizing 15-inch (38.5 cm) air casters. The air casters will float the Rollmover and paper roll on a thin film of air. When floating, the roll will have omni-directional capability, with very little frictional constraint as compared to conventional material handling methods. Tipping or lifting each half on its side allows for the inspection of the air casters.

**Pneumatic Controls** The pneumatic control system distributes air from the supply hose to the Rollmover air casters. The standard style Rollmover has a manual pressure regulator control. The regulator is attached to one half of the Rollmover. An interconnect hose is attached to one half of the Rollmover and supplies air from one side of the Rollmover to the opposite side.

## **BEFORE YOU BEGIN**

### **ROLLMOVER SAFETY AND SETUP**

The operation and maintenance of any equipment requires that the operating personnel be safety conscious at all times, not only for their own protection, also for the protection of other workers, of the equipment, and the load. Experience clearly indicates that following a few sensible safety practices could prevent most accidents. Some of the safety practices pertaining specifically to this roll moving equipment are outlined below.

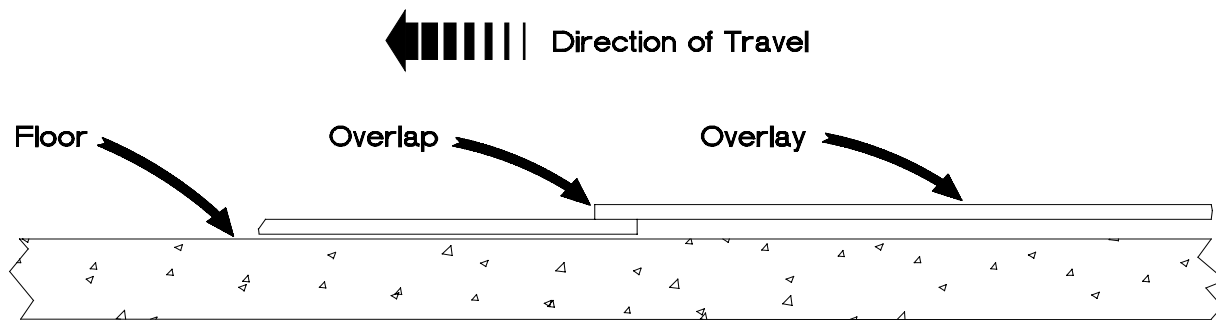
1. Always inspect each component before use. Check for damaged, missing, or loose parts.
2. Operators should familiarize themselves with the Rollmover equipment before attempting to operate.
3. Compressed air is a great tool but does require care in operation. Escaping air can create hazards if not controlled.
4. Turn off the ball valve when not in use or when performing maintenance.
5. If air supply fails during operation, turn off the ball valve so the air casters do not unexpectedly inflate.
6. **Never disconnect a pressurized airline** – the line can whip and cause injury. Always bleed off pressure before disconnecting air lines.
7. All air lines should be disconnected from the Rollmover before performing any maintenance.
8. Only authorized personnel should be allowed around this roll handling equipment when making a move.
9. A roll should not be raised, lowered, or moved until the operator has verified that all personnel are clear of potential hazards.
10. The operating surface should be visually checked to ensure that all obstructions have been removed.
11. Ensure that the operating surface within the travel path is free of abrasive chemicals, cutting oils or fire-resistant hydraulic fluid. Should the air casters come into contact with any of these substances, clean the air caster fabric immediately (with warm, soapy solution, rinse and wipe dry).
12. Check the air supply lines for damage and debris prior to use.
13. Do not prepare rolls while the unit is floating. The roll may shift resulting in injury to the operator.
14. Establish your path for the move ahead of time. Consider floor conditions, air supply location and sufficient clearance for the move.
15. Do not leave the floating Rollmover unattended. It may begin to drift downhill.
16. Noise emissions of the Rollmover, on a good surface, should be less than 70dBA.
17. Vibrations of the Rollmover to which the operators' arms are subjected are less than  $2.5 \text{ m/s}^2$  and the operators' body is subjected to less than  $0.5 \text{ m/s}^2$ .

## OPERATING SURFACE

The operating surface is critical to the efficient operation of air film products. Surfaces with porosity rob your load moving system of air, either destroying the air film, or causing you to operate with air volumes much more than the air supply you would normally require. A smooth, non-porous surface such as sealed, hand-trowelled concrete or vinyl tile is ideal. Unsealed concrete may be permanently upgraded for air film handling use by sealing (either over the entire surface or just within the travel path) with many kinds of commercial penetrating sealers. Fill cracks with a sealistic compound filler. For information on achieving sealed concrete floors, consult AeroGo Engineering Instructions EI-16 *“Concrete Surface Treatments”* (available upon request).

To move rolls over cracks that cannot be permanently filled, such as door moldings, floor joints or elevator gaps, inexpensive overlay materials such as thin-gage sheet metal or non-embossed linoleum can be used. See AeroGo EI-15 *“Temporary and Permanent Surface Overlays”* (available upon request) for recommended overlay solutions.

For a straight path move, overlay tracks (over which your Rollmover can float) can be formed by shingling so that the Aero-Casters are always moving from the higher to the lower overlay. (See drawing below for example).



## SURFACE GRADES

The flexible air caster is constructed to contour and conform to out-of-plane surface undulations. A normal factory floor with a deviation of ¼-inch (6 mm) in any 10-foot (3 m) circle is satisfactory.

Friction is so low that a floating load will float downhill on a slight grade. A restraining force equal to the downhill component of the load weight (20 lbs. (9 kg) for a 2,000 lbs (900 kg) load on a 1% grade) must be applied. If drifting is not permissible, restrain loads with common rigging methods such as tether lines, winches and guide rails

## AIR SUPPLY

### VOLUME:

The volume of air required by a Rollmover depends on the size and quantity of air casters. See AeroGo Rollmover Literature included with your product - or contact dealer/factory to find the volume your roll handling system requires.

To check if your compressor will provide the air volume needed, multiply the horsepower rating of your compressor by four to give you its approximate SCFM output (X 2 for liters per second).

### COMPRESSOR OUTPUT FORMULA\*

Example: A 25 hp electric motor multiplied x 4 = 100SCFM (47 l/s)

*\*This is only a guideline. For true compressor output, when in doubt, use a flow meter with the appropriate pressure gage to check the output of a vintage compressor.*

To minimize the loss of air pressure at needed air volume, keep supply lines as short and as large as feasible. Keep air pressure high in the hose and regulate it down at or near the main inlet into your roll handling system.

Use only flow-through hose fittings, couplings and pressure regulators as supplied or specified by AeroGo.

### PRESSURE:

Supply air at a pressure sufficient to float your roll. Allow for pressure loss through hose, fittings and components. 100 psig (7 kg/cm<sup>2</sup>) is recommended plant air supply pressure. This will allow for pressure drops in the system, and leave enough for the required operating pressure at your Rollmover. This is 25 psig (1.76 kg/cm<sup>2</sup>) for Standard Neoprene (N) and Urethane (U) Aero-Casters®.

### AIR HOSES:

Check with an AeroGo Factory Authorized Dealer or AeroGo Factory for recommended minimum hose sizes for your Rollmover.

## CONNECTING AIR

1. Ensure all hoses and fittings are clear of debris and are in good condition. Check for worn or missing parts. Ensure that the supply hose length is sufficient for the move to destination or to the next air supply source.
2. Connect the air supply hose to the air supply source.
3. Connect the interconnect hose from one Rollmover half to the other half.
4. Connect the ball valve and supply hose to the Rollmover; ensuring that the ball valve is in the off position (turn counterclockwise until the knob rotates freely).
5. Turn on the air supply at source.
6. Slowly open the ball valve to apply air to the Rollmover.

**SAFETY NOTE:** If 2 supply hoses are joined together, the cam locks on the hose ends should be secured, i.e. cable tied or taped down, to ensure that they don't accidentally disconnect during your roll move

## INFLATING:

Manually operated regulators have regulator knobs that can be rotated to increase pressure to the air casters and can lift the roll off the floor. Rotate the knob clockwise (CW) to turn on the air and increase air flow/pressure; turn the knob counterclockwise (CCW) to turn the air off or decrease air flow/pressure.

When the air casters are properly inflated, air will just begin to escape from between the air caster and floor. When you hear the start of air escaping you should be able to visually and audibly detect this. The escaping air can also be felt – but use caution and never put fingers or hands below or between pinch points. See the chart below for more information.

Observe	Cause	Remedy
Below rated Lift Height, no air escaping, air caster squeals/rubs	Insufficient air	Increase air flow; See <i>Adjustments</i>
Near rated Lift Height; Friction reduced and load can begin drifting; escaping air detected	Ideal air pressure/ flow	-
Excess air escaping; Load bouncing or hopping	Too much pressure/ flow	Reduce air flow; See <i>Adjustments</i>

**Note:** Verify proper inflation before moving the load. Indication of proper inflation is nearly frictionless drifting of the load to a low spot in the floor.

## **ADJUSTMENTS:**

Rollmovers have a single adjustment for air caster pressure, which may need to be adjusted to compensate for floor conditions or a range of load weights. See “*Inflating*” above or call factory for information.

Air Caster Inflation Rate Adjust regulator. To increase pressure, turn knob in (CW). To decrease pressure, turn knob out (CCW).

## **ROLLMOVER OPERATION**

### **Before Operation:**

1. Read the *Safety and Set Up* section of this manual.
2. All adjustments should be properly set at startup and should not need to be changed during operation. A possible exception is air caster pressure, which may need adjustment to compensate for floor conditions or a range of load weights. See *Adjustments* or call the factory for information.

### **General Operations**

#### LOADING A PAPER ROLL

1. Hand carry the Rollmover to the paper roll.
2. Straddle the roll on each side with each Rollmover half.
3. Connect the interconnect hose between Rollmover halves.
4. Inflate the air casters to lift the roll off the floor – adjust as necessary.

**Warning:** Keep hands, feet, hoses and other objects from under load at all times. Sudden pressure loss can result in severe injury to personnel or damage to equipment. Never leave a Rollmover unattended while inflated or floating. When not in use, turn off the Ball Valve and Regulator to prevent accidental inflation.

Note: Occasionally, it may be necessary to move paper rolls that are smaller than the diameter the Rollmover can carry. Pushing the Rollmover under the paper roll and adding spacers or wedges between the roll and the Rollmover forks will allow smaller diameters to be moved.

#### MOVING A ROLL

1. Push the Rollmover on its inflated air casters to the desired destination.

#### LOWERING AND UNLOADING A ROLL

1. Use the ball valve provided to turn off the air to the unit or rotate the regulator knob to the off position to turn off the air to the air casters.
2. Once the air casters have deflated, pull the Rollmover out from either side of the roll.

## **DISCONNECT AND RELIEVE AIR IN SUPPLY HOSE**

1. Shut off the main air supply line ball valve.

2. Open the Rollmover ball valve.
3. Inflate the air casters and allow the air to escape through the air casters.
4. When the air supply hose is soft, close the ball valve on the Rollmover.
5. After the air supply line has fully discharged, disconnect from air source and turn off the Rollmover ball valve.
6. Inspect all Rollmover components for damage prior to storage.

### **ROLLMOVER MAINTENANCE - Preventive/Periodic**

Periodic maintenance will significantly increase the life of your Rollmover. The following is a list of maintenance points.

#### **Aero-Casters®**

1. Periodically inspect for damage or wear.
2. Wash the air casters with warm, soapy water if necessary. Use no solvents.
3. While the unit is on its side, apply a small amount of air to the unit and slightly inflate the air casters to ensure proper inflation. All air casters should inflate similarly. **Wear Safety Glasses/Goggles.**
4. Check the air casters for damage, missing attachment bolts, cuts, tears or wear.
5. Replacement is required if the air casters are cut, torn, or excessively worn to the threads (see below for replacement instructions).

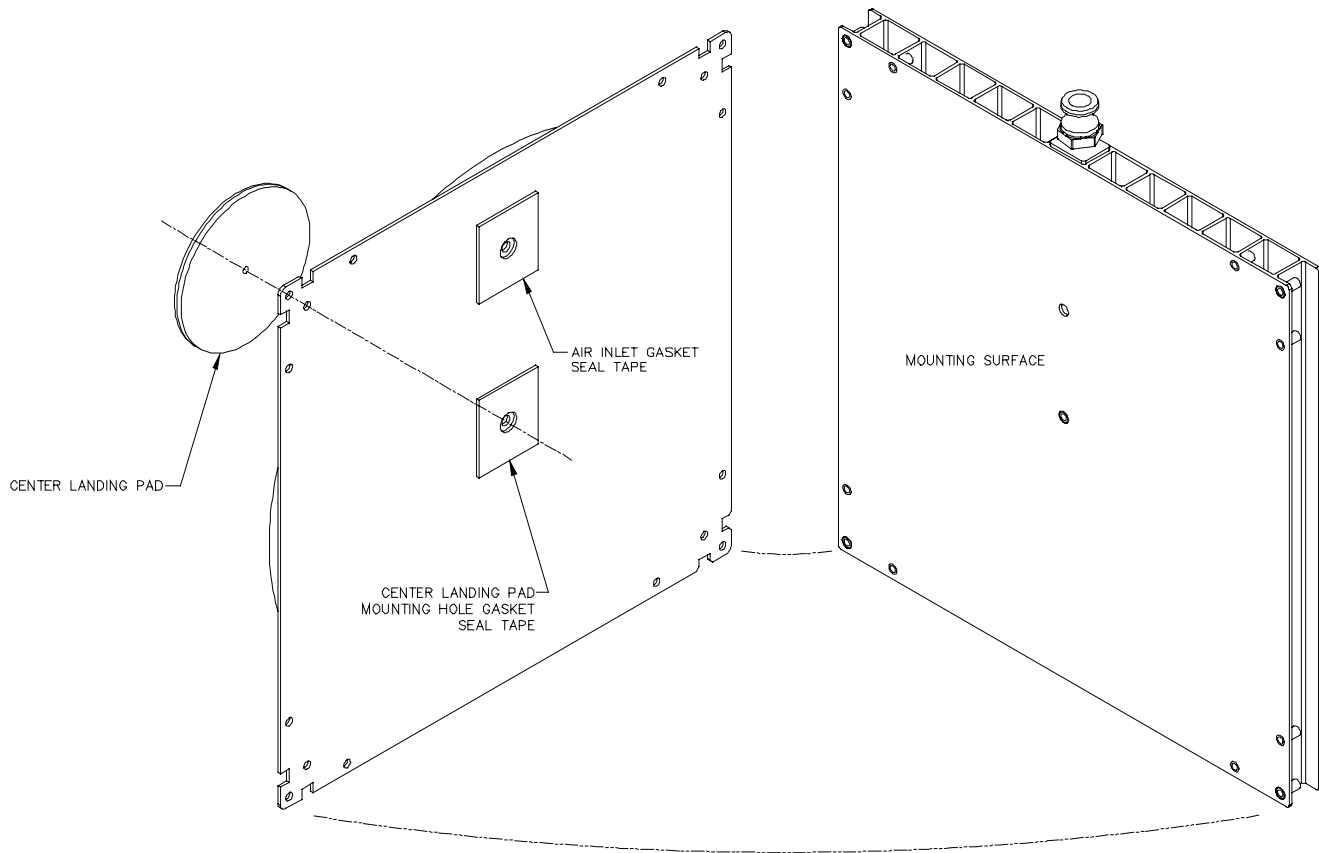
#### **Inspect Rollmover**

1. Tip each half of the Rollmover on its side to inspect the bottom of each section.
2. Check the bottom of each Rollmover half for damage – scratches in paint indicate unit has been moved over high spots on the floor.
3. Inspect the ball valve and the air pressure regulator for function and/or damage.



## MAINTENANCE – Air Caster Repair/Replacement

REPLACEMENT INSTRUCTIONS - Standard Aero-Caster® (model number can be found on the Aero-Caster serial tag or call for your model)



1. Rollmover air caster replacement is similar to the Load Module illustration above.
2. Remove all screws and set aside for reuse.
3. Clean mounting structure and remove any old double-backed foam sealing tape with scraper (utility knife or other) to provide a smooth surface (clean and dry) to which the new seal tape will adhere.
4. Temporarily position the new air caster against the mounting surface. Be sure the air inlet hole on the air caster lines up with the air outlet hole in the bottom of the forks, or the unit will not inflate.
5. Remove the protective clear plastic from the seal tape on the new air caster. Carefully locate the air caster on the mounting structure and press firmly to attach the seal.
6. Replace the screws to secure the air caster to the mounting structure.

**For replacement Aero-Casters® or other parts, call  
AeroGo (800-426-4757 or 206-575-3344)  
or your Local Factory Authorized Dealer.**

## TROUBLESHOOTING

The majority of component malfunctions are immediately evident by the failure of an individual component to function. The repair is usually straightforward and should involve generally accepted shop practice. Call the factory or your AeroGo Factor Authorized Dealer for additional information.

### **Load will not float properly**

1. Review Operating Procedures
  - A. Is there a minimum of 90 psig (6.3 kg/cm<sup>2</sup>) system pressure at the inlet gauge? If not, check the air supply line for restrictions.
  - B. Are the regulator and ball valve in the proper state for the operation you wish to perform? Are they adjusted properly?
  - C. Are the regulator and ball valve operating correctly?
2. Look for cracks, holes or other irregularities in the floor.
  - A. Is there an irregularity that is bleeding air from an air caster? If so, try increasing the pressure setting for that set of air casters. For instructions on how to correct or create a suitable operating surface, see AeroGo EI-13 *“Cracks, Joints and Holes in Concrete”*. For larger surface areas that are damaged or cannot be sealed, consult AeroGo EI-15 *“Temporary and Permanent Surface Overlays”*.
3. Inspect the air casters.
  - A. Are they damaged or excessively dirty? Clean or replace as necessary – see *Maintenance* section.
4. Follow the air supply lines from malfunctioning air caster back to the main supply line. Look for loose fittings, kinked hoses, etc.
5. Inspect all fittings and pneumatic components.
  - A. Are there any loose fittings, hose kinks or holes, damaged or missing parts, or disconnected hoses?
  - B. Is the fault in the component itself to the component? Replace faulty components when isolated.
  - C. Did you recently replace an air caster? If an air caster’s inlet hole is incorrectly positioned, the air caster will not inflate.
7. Air caster inlet seals are damaged or installed incorrectly.

## PLANNING ANOTHER MOVE?

Aero-Caster<sup>®</sup> load handling equipment is rapidly gaining a wide variety of uses in diverse load handling applications. AeroGo products are available – or may be Custom Engineered – for different load sizes and shapes from 500 pounds to 5000 tons. When planning to use your equipment in another location or under different load conditions, check with your factory-trained representative for recommendations

## **AEROGO WARRANTY:**

AeroGo warrants the Products and Product components manufactured by AeroGo ("Manufactured Products") shall substantially conform to AeroGo's product specifications, and shall be free from material defects in materials and workmanship for a period of twelve (12) months from the date of shipment by AeroGo ("AeroGo Warranty"). AeroGo shall not be liable for any breach of the AeroGo Warranty due to (i) acts or omissions of Customer or any third party after delivery; (ii) any abuse, damage beyond normal wear and tear or failure, (iii) operation or use of Manufactured Products other than in accordance with manufacturer's instructions and product specifications; or (iv) modification or alteration of the Manufactured Products by any party other than AeroGo. In the event any Manufactured Product is determined by AeroGo to be in breach of the aforementioned AeroGo Warranty, the sole remedy of complaining party and AeroGo's sole obligation shall be, at AeroGo's discretion and cost, to either repair or replace the allegedly defective Product, F.O.B. AeroGo's facility. AeroGo reserves the right to void its warranty where final destination and specific application information are withheld.

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