# OPERATING & MAINTENANCE INSTRUCTIONS

Aero-Pallet™ Systems

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ORIGINAL INSTRUCTIONS

# PURPOSE, SCOPE and USE

The AeroGo Operating and Maintenance instructions (O&M) for Aero-Pallet Systems are provided to ensure safe and successful movement of a load utilizing air casters. The O&M manual must be used prior to operation to instruct the operator in the proper, safe and effective use of AeroGo Aero-Pallet Systems. Operators should not operate AeroGo Aero-Pallet Systems prior to training using the Operating and Maintenance instructions. The O&M includes detailed instructions for assembly of Aero-Pallet Systems, safety requirements and warnings, operating requirements and instructions, and maintenance requirements.

Training operators in proper Aero-Pallet System usage and relevant safety issues is required to ensure safe and effective operation. Follow all safety recommendations and warnings. Moving loads with AeroGo Aero-Pallet Systems is very safe; however risks are inherent when moving heavy loads. Planning the move of a heavy load is essential to efficient movement at lowest cost with the greatest success.

If you have any questions about instructions or safety requirements, please contact AeroGo.

**PRIOR to operating this equipment,**
**operators must be trained per the instructions,**
**requirements, and safety notices enclosed in this manual.**

| Operators Trained | Date Trained |
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# AERO-PALLET DESCRIPTION AND ASSEMBLY

When your air pallet system arrives, it should require only basic assembly (see sketch below). Depending on your order request, the standard shipment includes the following:

**Aero-Pallets™:**

- Usually one air pallet unit with four or six Aero-Casters® and box tube manifold with internal flow control valves
- One on/off ball valve
- One pressure regulator with gauge

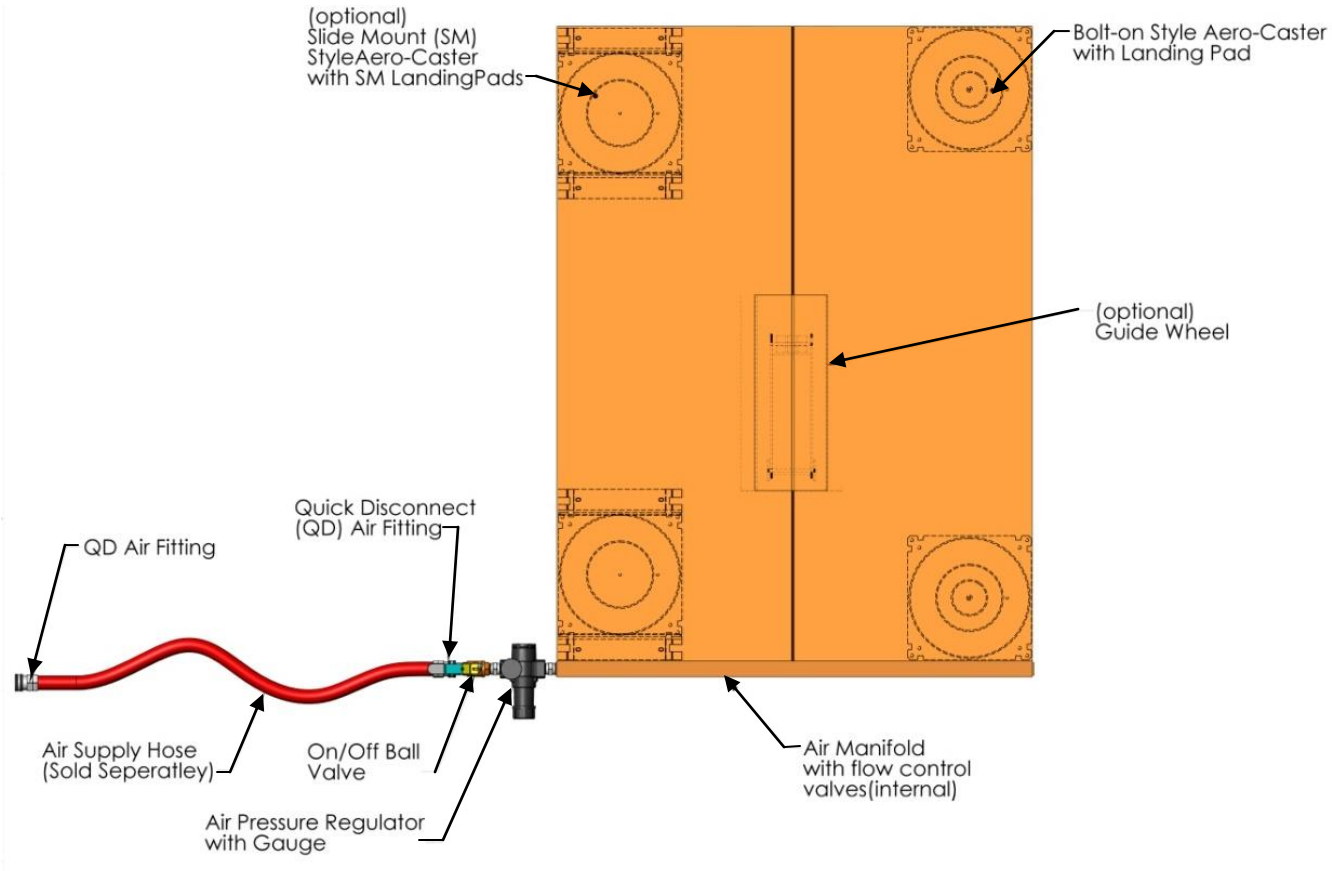
1) Immediately after opening, inspect contents to verify proper quantity, size, and model numbers.
2) Record system operating specifications (see box below) - it will help during setup and operation.
3) Follow procedures detailed in “Setting Up The Move” for setting up your air pallet.

**Air Pallet System Operating Specifications**

Please record this information for your air pallet system – it will help during setup and operation. See Aero-Pallet Systems Literature included with your product - or contact dealer/factory

Model/Size of Aero-Casters: _____ Rated Operating Pressure: _____

Max. System Load Weight: _____ Effective Lift Height: _____



# BEFORE YOU BEGIN

## Safety and Setup

1) Always inspect each component before use. Check for damaged or missing parts.
2) Compressed air is a great tool but does require care in operation. Escaping air can create hazards if not controlled.
3) **Never disconnect a pressurized airline** – the line can whip and cause injury. Use caution when releasing air to minimize blowing dust and debris that could cause eye injury. **Wear safety glasses.**
4) Inspect operating surface and sweep free of any dirt buildup or production debris.
5) Ensure surface is free of any puddles of abrasive chemicals, cutting oils or fire-resistant hydraulic fluid. Should the air casters come in contact with any of these substances, clean the air caster fabric as soon as possible with warm, soapy solution, rinse and wipe dry.
6) Check all air and mechanical connections that may have loosened during shipment or last equipment use.
7) Check air supply lines and main supply line and blow them clear of dirt or debris first before each hookup to your air pallet system.
8) **Hose restraints are recommended for supply air lines.**
9) Secure your load so it doesn't shift once the air casters are inflated.
10) Establish your path for the move ahead of time. Consider floor condition, air supply location and sufficient clearance for move.
11) If Pressure regulator and Ball valve may be a tripping hazard, they should be mounted at the wall or tied to the load during the move.

**Special Notes:**

- Maximum input pressure to Aero-Pallet System is 150 psi (10 bar)
- Vibration value to arms is less than 2.5 $m/s^2$
- Sound levels should be below 85 dBA. Some floor conditions or debris may cause excessive sound levels. Repair floor and remove debris prior to operating.

## Operating Surface

The operating surface is critical to the efficient operation of air film products. Surfaces with porosity rob your air pallet system of air, either destroying 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 within the travel path may be permanently upgraded for air film handling use by sealing with one of many kinds of commercial penetrating sealers. For information on achieving sealed concrete floors, consult AeroGo Engineering Instructions EI-16 *"Concrete Surface Treatments"* (available upon request).

To move loads 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 Aero-Pallet can float) can be formed by shingling so that the air casters are always moving from the higher to the lower overlay. (See figure 1 below for example).

For applications requiring moves across larger cracks, gaps, or steps, ask your representative if the increased capabilities of the AeroGo Gapmaster would be right for you.

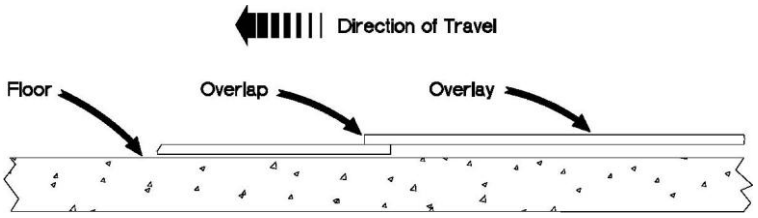



**Figure 1**

## Surface Grades

The flexible air caster (attached to the underside of the air pallet) is constructed to contour and conform to out-of-plane surface undulations. A normal factory floor with a deviation of ¼" (6 mm) in any 10' (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 (140 lbs. for 14,000 lbs.; 63.5 kg for 6350 kg on a 1% grade) must be applied.

**Drifting of the load may cause a crushing hazard, restrain loads with common rigging methods such as tether lines, winches and guide rails.**

## Air Supply

**Blow out plant air lines to clear them of any dirt or obstructions before coupling to your air plank system. The compressed air should be dry from the compressor and filtered.**
*For detailed air quality requirements, contact AeroGo, Inc.*

### Volume:

The volume of air required by an Aero-Pallet System depends on the size and quantity of air casters. *See Appendix A.*

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.

**COMPRESSOR OUTPUT FORMULA***
**Example:**

**25 hp electric motor multiplied x 4 = 100 SCFM (19 kw supplies 47 L/sec)**

**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 using regulator on air pallet.

**If air supply fails, shut off ball valve and be aware of movement of load during shut down.**

### Pressure:

Supply air at a pressure sufficient to float your load. Allow for pressure loss through hose, fittings and components. 100 psi (7 kg/cm$^2$) is the recommended plant air supply pressure. This will allow for pressure drops in the system, and leaves enough for the required operating pressure at your air pallet. *Reference Aero-Pallet System Specifications in Appendix A,*

**AeroGo recommends a safety fuse (flow sensor) for supply hoses 50 feet (15 m) and longer.**

**Warning**

**Air under pressure can be a risk if not handled properly. Assure air supply is off and that the lines are vented before disconnecting. Exercise appropriate caution & assure hoses/fittings cannot be accidentally released when under pressure - tie fittings or use fittings with safety locks. When not in use or while performing maintenance or inspections, close ball valve and disconnect air supply.**

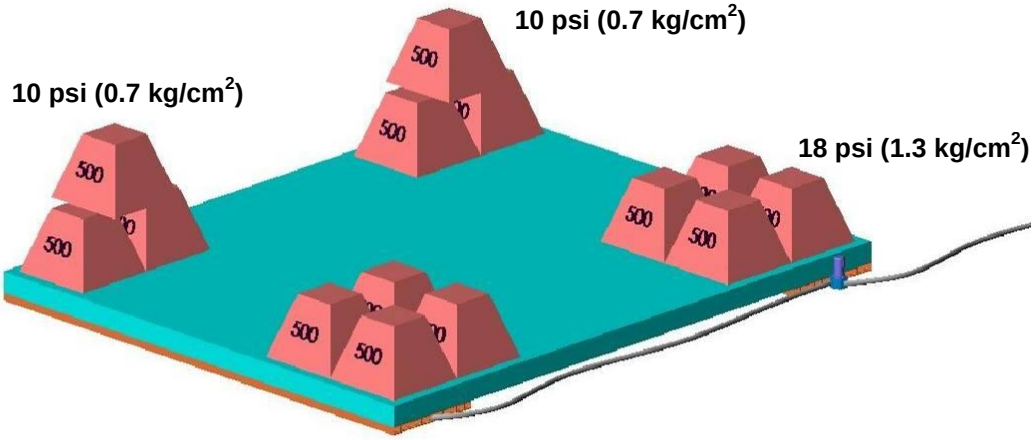



**Figure 2**

# SETTING UP THE MOVE

Depending on the overall size of the Aero-Pallet System, transport from assembly area to operating area may be accomplished by 2 or more people lifting the Aero-Pallet at the edges. If the Aero-Pallet is too heavy or the path to the operating area too difficult, the pallet may be lifted using slings under the aluminum. If lifting with slings, be aware of the position of the air casters and do not damage them. Also, AeroGo supplies as an option, no-load wheels that allow transport when the Aero-Pallet is unloaded.

## BALANCING YOUR LOAD

### Basic Even Loading

Standard AeroGo Aero-Pallet Systems are sized according to your maximum load weights and dimensions. Every effort should be taken to ensure that each air caster requires relatively the same pressure by not being loaded significantly higher than the rest. This can often be achieved by strategically placing the air pallet beneath the load. The air pressure required for any load will be the load weight (including any structure) divided by the area of the air caster(s) carrying the load (e.g. 3500 pounds / 140 sq. in. = 25 psi) (1588 kg / 903 $cm^2$ = 1.8 $kg/cm^2$).

### Uneven Loading

Aero-Pallet Systems are equipped with automatic flow controls to provide compensation for unequal load conditions. This system is effective when up to approximately 60% of the load weight is positioned over one end of the air pallet. *See Figure 2 above.*

## Special Notes

Check to make sure your load is within the minimum/maximum specifications for your Aero-Pallet System. *See Appendix A - or contact the dealer/factory.* **Do not exceed recommended pressures.**

Gapmasters: When using Gapmasters over gaps and steps, surface edges (especially corners) need to be smooth and beveled or rounded so as not to damage the face sheet of the Gapmaster Aero-Caster®.

## AERO-PALLET INSTALLATION

Know how your load's weight is distributed. A good understanding of your load will allow you to position the Aero-Pallet System in the easiest and most effective manner.

The low lift height keeps your move safely lower to the floor as compared to other methods; however, as with all lift methods, the width of

the air pallet placement must be sufficient to assure that the load does not tip or become unstable. Loads that excessively overhang the footprint of the air casters could create this condition—if load length is 2X the distance between center of air casters, consult AeroGo. In addition, the vertical center of gravity (C.G.) can be no more than twice the width between centers of the air casters.

Check floor surface under the load and be certain it is clean. Remove all oil, sand, chips, debris, etc. Make sure that your structure is strong enough to carry the load where the air pallet is placed. Insert the air pallet under the load in the most balanced position (see *Balancing Your Load*). The air pallet can be placed directly beneath your load in the gap between the floor and load. If no gap exists, raise or jack the load just enough to insert the air pallet. Aero-Jacks (see photo below) can also be used in conjunction with the Aero-Pallet. (Call your local dealer or AeroGo about Aero-Jacks).

**In most applications, the base of the load being moved provides more than enough contact area to prevent bending or tipping of the air pallet. If bending or tipping is apparent when inflating, additional structure or spacers may be required to add strength or stability. In some cases, where the load is especially sensitive, a detailed engineering analysis may be required prior to operation.**

The specified deflated "lift height" for your system will help you determine adequate spacing. *See Appendix A.*

The possibilities for configuration are endless, so you may need to make slight adjustments to get your air pallet into just the right spot.

Always ensure that fittings are not under the load. It is possible for fittings to appear free of harm's way, but damaged when air casters are inflated or deflated.

**Some form of restraint is required to control the load once floating, if the floor is not free from slope or if side clearance is small. A ball bearing or similar object dropped on the floor (or a small amount of water poured on the floor) can be used to determine downhill slope.**

**Mount regulator/ball valve and hoses in positions to reduce tripping hazards during the move. Adjust hose layout to avoid entangling of hoses or personnel with hoses.**

**Remember: slowing/stopping the load may be more difficult than starting/moving.**

Reference sketch on page 11, a guide wheel assembly may be provided as an option to control drift in direction perpendicular to movement path.

Also, handles are available to control direction of movement (i.e., steering) by the operator.

## AERO-CASTER© ADJUSTING - INITIAL SETTING

You can estimate operating air pressure and lift height in advance. There are three common ways to adjust air caster pressure/flow to obtain the proper lift height for effective, smooth and economical operation. Until you become familiar with your equipment, we recommend that you use a combination of these under different conditions to achieve optimum performance.

A. **Pressure Readings:** This is helpful for predicting required pressure in advance of a move – or when determining changes. Find load and area of air caster, then calculate

torus bag pressure to support the load (see *Balancing Your Load)*. This can also be calculated by taking the load weight fraction of the rated maximum load of your air pallet system. *See Appendix A.*

When the load is not at capacity of Aero-Casters, required pressure to move the load may be less. This refers to the pressure actually found inside the torus bag. Due to pressure loss through the system, the pressure gauge will read slightly higher.

B. **Effective Lift Height:** Refers to the difference between the inflated and deflated heights. *See Appendix A.*

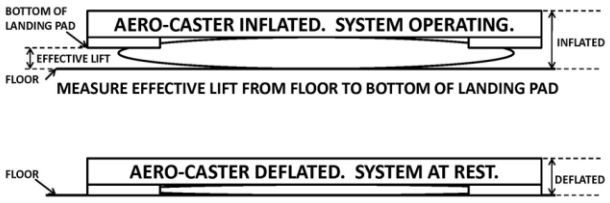



**Figure 3**

C. **Visual/Audible Inspection:** When properly inflated, air will just begin escaping from between the air caster and floor that can be visually and audibly detected by looking for wisps or hearing the start of air escaping. The light escaping air can also be felt – but use caution and never put fingers or hands below or between loads that could shift or drop. *See chart on page 9 for more information.*

## MAKING THE MOVE

Now that you have positioned the Aero-Pallet and balanced the load (see previous sections), you are ready to lift and make your move. **Read entire manual prior to moving a load.**

### CONNECT AIR & HOSES

1) Ensure all hoses and fittings are clear of debris and are in good condition. Check for worn or missing parts. Ensure supply hose length is sufficient for its move to destination or to next air supply source. Ensure that hoses will not be a tripping hazard during the move: tie to load, position outside path of operator (and spotters, if applicable).

2) For safety, first connect the ball valve and Quick Disconnect (QD) fitting to the end of the supply hose that will be attached to the air pallet.

3) Connect air supply hose to air supply source.

4) Ensure regulator is turned off counter clockwise (CCW) or to its minimum setting. Note: Gently pull up on regulator knob to unlock (pushing down on knob will lock in position).

5) Connect ball valve, QD fitting and supply hose to air pallet, ensuring ball valve is in off position (ball valve handle is perpendicular to ball valve body).

6) To safely control the load, spotters must be able to see all sides, and an operator must remain at the control valves at all times. Observers or nearby workers must be removed from the area of the move.

### TURNING ON AIR

7) Slowly turn on air supply at source.

8) Slowly open inlet ball valve on the air pallet system.

### INFLATE/LIFT

9) Gradually increase pressure to air casters by turning the regulator knob clockwise in small even increments – until pressure is about one-half desired (see *Aero-Caster®*

*Adjusting - Initial Setting*). Check to see that all air casters are contacting the floor. Gradually increase pressure until you can hear air escaping, and then back off slightly.

10) Inspect the load and restraints (if used) to assure structure integrity and that the air casters are parallel to the floor.

11) Continue increasing pressure in small increments until an air hiss is again heard and the load floats evenly (responds to push). Remember there are 3 ways to determine proper lift height (See *Aero-Caster® Adjusting - Initial Setting*). The chart below will help determine height requirements visually and audibly. If an air pallet bounces or "hops", one of its air casters may be over-inflated and require less air volume. Adjust accordingly by decreasing pressure.

**Always keep load under control.**

**Operating Conditions**

| Observe | Cause | Remedy |
|---|---|---|
| Below rated Lift Height, no air escaping, air caster squeals or rubs | Too little pressure/ flow | Increase air flow; check instructions |
| Near rated Lift Height; Friction reduced and load can begin drifting; wisps starting to show escaping air | Ideal air pressure/ flow | ----- |
| Excess air escaping; Load bouncing or hopping | Too much pressure/ flow | Reduce air flow |

Note: Verify proper inflation before moving load. Indication of proper inflation is that the load may "drift" slightly to find the lowest section of floor (This will not happen with Gapmaster models). See *Aero-Caster® Adjusting - Initial Setting* for discussion of achieving proper airflow.

**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 the equipment. Never leave an air pallet system unattended while inflated or floating.**

If the load appears to be significantly off-center, then you may deflate the air casters and re-center your load. For loads that are difficult to re-center, consult the factory.

**Warning**

**Do not disconnect supply hose from source at any time during the move. Air discharge may result if safe procedure for shutting off Aero-Pallet System and disconnecting hose are not followed.**

## MOVE

12) Ensure there are sufficient personnel to safely control load and provide visibility if operator cannot see around the load. Remember: It takes as long or longer to stop a moving load as it took to get it started. **Plan Ahead!**

**Warning**

**Personnel must not be between load and walls or other possible crushing hazards. In emergency, operator must turn off ball valve.**

13) Move load to destination. Check the air pallet frequently while moving load. Unequal loading may cause it to shift. Always stay on established path.

**If supply air is interrupted during the move, turn ball valve OFF.**

**Warning**

**If one or more Aero-Casters deflates, or sticks; shut down system and determine cause. Do Not Force. Injury to personnel or damage to load or Aero-Casters may occur. *See Troubleshooting Section.***

## STOP

14) When you have reached your destination, bring the air pallet system to a complete stop before shutting down.

**Do not shut off air while in motion unless in emergency.**

15) To shut down, turn air pallet ball valve off by turning handle perpendicular to ball valve. The air casters under the air pallet will deflate and the load will drop slowly to rest. Note: Ensure that main air system pressure returns to zero.

**Warning**

- **Supply Hose is still fully charged – do not disconnect!**

16) Turn off the regulator, counterclockwise. **Do not turn off regulator *before* turning off ball valve,** to keep air from becoming trapped between the ball valve and the regulator.

**Warning**

**For several seconds after turning off regulator, air will bleed from air casters. Watch pressure gauge to verify it has reached 0 psi (0 kg/cm$^2$) before disconnecting fittings or hose. If you have any doubt that a hose is fully discharged, do not disconnect.**

17) Disconnect the ball valve & QD fitting from the air pallet.

18) Turn off main air supply at source. Main air supply line must be equipped with a self-relieving ball valve.

**Warning**

**Do not disconnect supply hose from source until supply pressure has been turned off and discharged from supply hose downstream of supply hose ball valve.**

19) If self-relieving ball valve is in place on main air supply line and supply pressure has been turned off and discharged from supply hose downstream of supply hose ball valve (check for soft hose), main air supply line may now be disconnected downstream from the ball valve and stored.

## DISCONNECT

**If ball valve/shutoff is not relieving style, discharge supply line by completing the following steps:**

20) Shut off main supply line ball valve.

21) Open air pallet ball valve. Main air supply pressure gauge indicates pressure.

22) Slowly open regulator to air pallet system, and allow air to escape through air casters.

23) When main air supply pressure gauge reads 0 psi (0 kg/cm$^2$) and supply hose is soft, close regulator and ball valve on the air pallet system.

24) After supply line has fully discharged, disconnect from source.

25) Inspect all components for damage prior to storage.

**To ensure isolation from air supply when air pallet is not in use, close ball valve – and lock if necessary – and disconnect supply air line.**

## PLANNING ANOTHER MOVE?

Aero-Caster® 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.

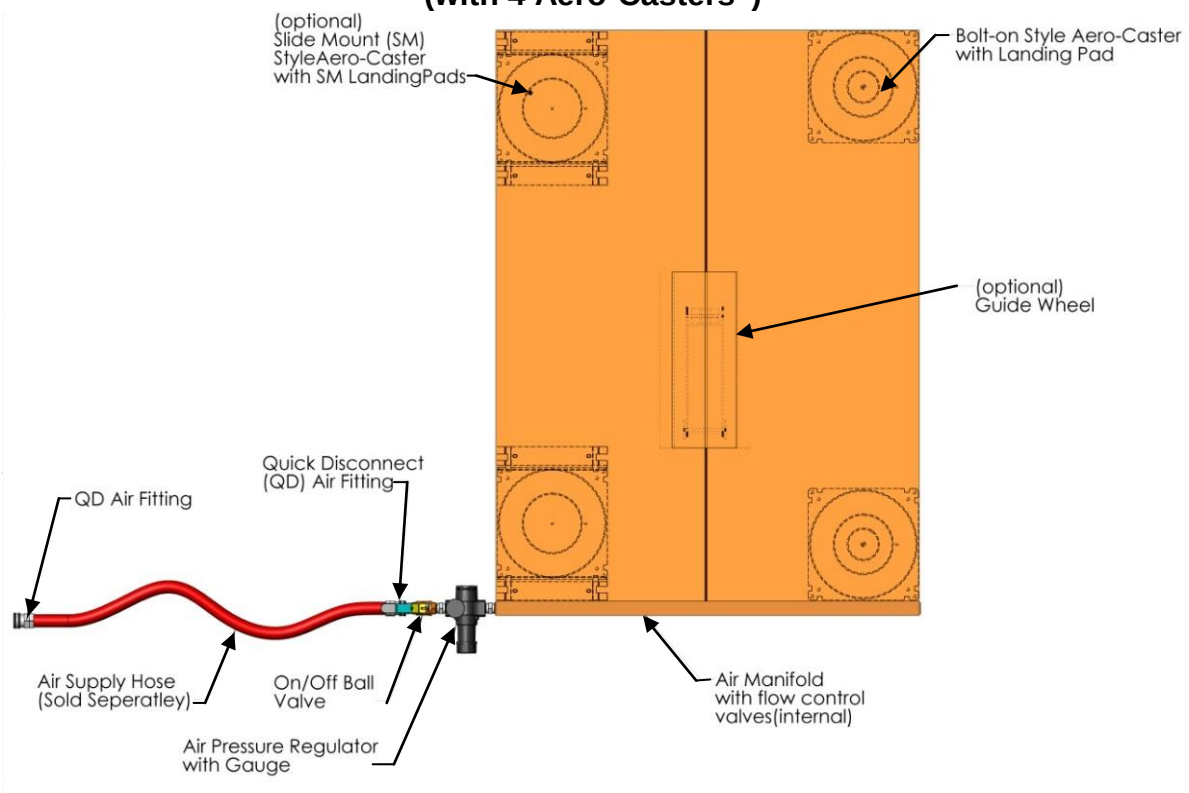
# AERO-PALLET
# QUICK START GUIDE

**It is important to read the entire manual and to note safety issues prior to operating this equipment.** Once you have done this and become familiar with your actual operating conditions, you may check this section for reference.

## TO OPERATE

1) Clean any debris from all hose assemblies and supply lines.
2) For safety, first connect the ball valve and QD fitting to the end of the supply hose that will be attached to the air pallet.
3) Connect air supply hose to air supply source.
4) Ensure the regulator is turned off counter clockwise (CCW) or to its minimum setting. Note: Gently pulling up on a regulator knob will unlock (pushing down on a knob will lock in position).
5) Connect ball valve, QD fitting and supply hose to air pallet, ensuring ball valve is in off position (ball valve handle is perpendicular to ball valve body).
6) Slowly turn on air supply at source. Then slowly open inlet ball valve on the air pallet system.
7) Gradually increase pressure to air casters by turning the regulator knob clockwise in small even increments until load begins to lift. Always keep load under control. Continue increasing pressure in small increments until load floats evenly.
8) To shut the air pallet system down, stop movement of load. Then slowly turn inlet ball valve on the air pallet to closed position. System shutdown while in motion may damage air casters.
9) After shutdown, turn regulator knob counterclockwise until closed.

## Aero-Pallet
### (with 4 Aero-Casters®)



# TROUBLESHOOTING

**Prior to repairing or performing maintenance on Aero-Pallet System, ensure supply air hose is disconnected or ball valve is closed and locked.**

**CHECK THE FOLLOWING LIST FOR THE SOURCE OF YOUR PROBLEM AND ITS CORRECTION. CONTACT YOUR AEROGO SERVICE REPRESENTATIVE OR THE FACTORY FOR UNUSUAL CONDITIONS.**

## 1. AIR LEAKS

### CHECK AND CORRECT:

1) Check all hoses and fittings.
2) Check to make sure regulators are fully closed before turning on the air pallet system ball valve.
3) Consult factory for assistance.

## 2. ONE OR ALL OF THE AERO-CASTERS® FAIL TO INFLATE PROPERLY

**A.** Air may not be getting to the air casters. Some common things to check are:

1) Inadequate air supply.
2) Restrictive fittings or undersized hose lines.
3) Obstructions in lines or debris in valves or air pallet system inlets.
4) Leaks in connections internal or external to air pallet system.
5) Valve(s) or regulator(s) partially turned off.
6) Air pallet system overloaded.
7) Air pallet system mishandled during prior move “brought to sliding stop” by turning off air. Air casters possibly folded under when air pallet system was deflated.
8) Object caught under an air caster or something stuck to the face of the air caster.
9) Surface is rough, porous or contains cracks; no air film seal can be established. Use overlays or upgrade surface.
10) C.G. of load too far off center excessively overloading some air casters.
11) Air caster is damaged or worn and requires replacing, or air caster was mounted incorrectly.
12) Unusual ramp angle has caused air caster to ground out or floor is too wavy and casters cannot inflate to floor to establish seal.

**B.** Air caster(s) did not properly seal to the floor. Check:

1) Air casters not correctly placed on the air pallet – inlet holes do not match.
2) Load has tilted to one side; so one air caster is not completely on the floor.

## 3. UNEVEN INFLATING OF AERO-CASTERS® OR INSTABILITY

### CHECK AND CORRECT:

1) C.G. of load too far off center excessively overloading or unloading Aero-Caster(s).
2) Load is too light for size or type of Aero-Casters. Contact factory.
3) Air flow/pressure setting incorrect. Adjust pressure/flow per “Aero-Caster Adjusting”.

4) Unusual ramp angle has caused Aero-Casters to ground out or floor is too wavy and Aero-Casters cannot inflate to floor to establish seal.

## 4. AERO-CASTERS® APPEAR TO BE EQUALLY INFLATED, BUT LARGE FORCE IS REQUIRED TO MOVE THE LOAD

### CHECK AND CORRECT:

1) Inadequate supply pressure and/or volume. Consider increasing supply and/or hose size, and decreasing hose lengths.
2) Air casters are over-inflated. Too much air pressure can cause the torus bag to drag. This decreases the life of the torus bag and makes it harder to move. Adjust regulator just until unit floats freely, then increase by 2-3 psi.
3) Floor grade is too great. Unit will want to travel toward lowest point. See “Operating Surfaces” in previous section.
4) Load is improperly balanced. Reposition the load so that the C.G. is centered. See "*Balancing Your Load*”.
5) Urethane air casters (U), when new, may have a sticky coating that may be alleviated by the use of a silicone-type coating such as Armor All® or water on the operating surface. After an initial break-in period, additional friction reducing coatings should not be necessary.

## 5. AERO-CASTERS® ARE WHISTLING OR SQUEALING

### CHECK AND CORRECT:

A slight hissing noise in the air supply system is normal. A squeal or whistle will occur when crossing a small crack or hole or traversing a slight step or when floating over thin non-rigid overlays (plastic). A continuous and loud squealing noise may indicate:

1) Excess air being applied. Turn pressure down until noise stops and load floats freely.
2) System loaded too far off-center and operates only with excess air to those air casters carrying a light load. See “*Balancing Your Load”*.
3) Inlet hole into air caster not sealed by removal of protective Mylar from double-backed gasket tape, or other air leaks in connections.
4) With a light load, the guide wheel pressure may be set too high, thereby lifting the front of the unit.

## 6. TWO AERO-CASTERS® ARE CARRYING THE LOAD, CAUSING A DIAGONAL ROCKING

### CHECK AND CORRECT:

1) Valves, caster inlets, or regulators to non-supporting air casters are obstructed or partially closed. Clear obstruction or open regulators further.
2) Too much air is being supplied while air casters are too lightly loaded. Reduce pressure.

## 7. AERO-CASTER(S)® HAVE STRAIGHT-LINE CUTS OR SCRATCHES

### CHECK AND CORRECT:

1) There are obstructions in the travel path, which are damaging the air caster. Thoroughly check and remove obstructions.

## 8. AIR PALLET SYSTEM HAS TROUBLE CROSSING GAPS OR STEPS

### CHECK AND CORRECT:

1) The travel path includes a crack, gap, or step, which exceeds the capabilities of the air caster. Fill the crack or use an overlay on steps and gaps. (See AeroGo Engineering Instructions – EI-15 Temporary and Permanent Surface Overlays)

For applications requiring moves across larger cracks, gaps, or steps, ask your representative if the increased capabilities of the Gapmaster would be right for you.

## 9. AERO-PALLET TILT WHEN INFLATED, CAUSING INSTABILITY

### CHECK AND CORRECT:

1) The load is not centered on the air pallet. Ensure each side has its portion of the load directly on center. See "*Balancing Your Load".*

## 10. REGULATOR LEAKING (OUT OF RELIEF BLEEDER HOLE IN BONNET) OR WILL NOT SHUT OFF

1) Contamination or debris in regulator mechanism. Clean regulator or replace.
2) Damaged parts in regulator (internal). Replace regulator.

**For replacement regulators or other parts, call AeroGo (800-426-4757)**

**or your local factory certified dealer.**

# MAINTENANCE

**Prior to repairing or performing maintenance on Aero-Pallet System, ensure supply air hose is disconnected or ball valve is closed and locked.**

## PREVENTIVE & PERIODIC

As you begin to use your air pallet system, you'll discover the need for minimum maintenance. Although very simple preventive maintenance is required, the key to maintaining long equipment life rests on your attention to following these easy, routine procedures.

1. Blow out compressed air lines to clear them of any dirt, moisture, or obstructions before coupling to your system.
2. Inspect operating surface and sweep free of any dirt buildup or production debris. Ensure surface is free of any chemicals, oils or hydraulic fluid. Should air casters come in contact with any of these substances, clean the air caster fabric as soon as possible with warm, soapy solution, rinse and wipe dry.
3. Check all fittings, hoses and components for wear, damage, or missing parts.
4. Clean air casters with a cloth free of solvents or with a stiff brush (not wire) to remove any accumulation of dirt from the air caster fabric (as needed).
5. Check between air bag and backing plate for any dirt or small object, which may have lodged there. Use a little air to ensure nothing is lodged in inlet (as needed).
6. Check air casters thoroughly for any cuts or tears in fabric or worn areas, which may result in failure during operation while under the load (weekly, depending on usage). If damage is found, to prevent failure possibility, replace air caster with a spare replacement.
7. Check regulator for leaks or damage. Call AeroGo or your local factory trained dealer if a regulator-rebuild kit or replacement parts are needed.
8. Store equipment indoors. Do not subject equipment to harsh environment (i.e. extreme heat, cold, humidity, etc.)

# 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 twenty four (24) 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.

AEROGO WARRANTY IS THE SOLE WARRANTY OF AEROGO WITH RESPECT TO THE MANUFACTURED PRODUCTS SOLD HEREUNDER AND AEROGO SPECIFICALLY DISCLAIMS ANY AND ALL OTHER WARRANTIES OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION, IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR IMPLIED WARRANTIES ARISING FROM USAGE OF TRADE, COURSE OF PERFORMANCE OR COURSE OF DEALING.

Vendor Products: Certain items supplied by AeroGo hereunder are provided and manufactured by vendors other than AeroGo and are subject to warranty terms provided by such vendors ("Vendor Products"). AeroGo makes no warranties of any kind with respect to such Vendor Products, whether express or implied. The foregoing notwithstanding, AeroGo will exert reasonable efforts to assist the Customer in the handling of warranty claims associated with such Vendor Products.

LIMITATION OF LIABILITY: IN NO EVENT SHALL AEROGO BE LIABLE TO CUSTOMER, OR TO ANY THIRD PARTY CLAIMING BY OR THROUGH CUSTOMER, FOR ANY DIRECT, SPECIAL, CONSEQUENTIAL OR PUNITIVE DAMAGES (INCLUDING BUT NOT LIMITED TO DAMAGES FOR LOSS OF BUSINESS REVENUE OR GOODWILL) ARISING OUT OF OR IN CONNECTION WITH THE PURCHASE, SALE OR USE OF PRODUCTS HEREUNDER. THE FOREGOING NOTWITHSTANDING THE AGGREGATE LIABILITY OF AEROGO WITH RESPECT TO THE TRANSACTIONS CONTEMPLATED HEREBY, WHETHER IN TORT, CONTRACT OR OTHERWISE SHALL IN NO EVENT EXCEED THE COMPENSATION PAID BY CUSTOMER TO AEROGO PURSUANT TO THE INVOICE.

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# Appendix A

# PRODUCT SPECIFICATIONS: ENGLISH & METRIC

= English
= Metric

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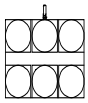
## NEOPRENE FOUR CASTER AERO-PALLET SYSTEMS - ENGLISH SPECIFICATIONS

| Model Number | Capacity (lbs) | Deck Size Area+ (sq ft) | | Fixed-Mount | | Slide-Mount | | Net Weight (lbs) | Air Flow (scfm)++ |
|---|---|---|---|---|---|---|---|---|---|
| | | Min | Max | Height (in) | Lift (in) | Height (in) | Lift (in) | | |
| ***4P8N -- --*** | 4,000 | 2 | 15 | 1-7/8 | 3/8 | 1-7/8 | 5/16 | 55 - 115 | 32 |
| ***4P8NHD -- --*** | 8,000 | 2 | 15 | 1-7/8 | 3/8 | 1-7/8 | 5/16 | 55 - 115 | 48 |
| ***4P12N -- --*** | 10,000 | 4 | 25 | 1-7/8 | 3/4 | 2 | 9/16 | 85 - 175 | 56 |
| ***4P12NHD -- --*** | 20,000 | 4 | 25 | 1-7/8 | 3/4 | 2 | 9/16 | 85 - 175 | 64 |
| ***4P15N -- --*** | 17,000 | 7 | 25 | 1-7/8 | 7/8 | 2 | 11/16 | 90 - 180 | 56 |
| ***4P15NHD -- --*** | 34,000 | 7 | 25 | 1-7/8 | 7/8 | 2 | 11/16 | 90 - 180 | 80 |
| ***4P21N -- --*** | 28,000 | 13 | 25 | 2 | 1-1/8 | 2-1/8 | 15/16 | 130 - 190 | 48 |
| ***4P21NHD -- --*** | 64,000 | 13 | 25 | 2 | 1-1/8 | 2-1/8 | 15/16 | 130 - 190 | 100 |

## NEOPRENE SIX CASTER AERO-PALLET SYSTEMS - ENGLISH SPECIFICATIONS



| Model Number | Capacity (lbs) | Deck Size Area+ (sq ft) | | Fixed-Mount | | Slide-Mount | | Net Weight (lbs) | Air Flow (scfm)++ |
|---|---|---|---|---|---|---|---|---|---|
| | | Min | Max | Height (in) | Lift (in) | Height (in) | Lift (in) | | |
| ***6P12N -- --*** | 15,000 | 25 | 45 | 1-7/8 | 3/4 | 2 | 9/16 | 210 - 300 | 84 |
| ***6P12NHD -- --*** | 30,000 | 25 | 45 | 1-7/8 | 3/4 | 2 | 9/16 | 210 - 300 | 96 |
| ***6P15N -- --*** | 25,500 | 25 | 45 | 1-7/8 | 7/8 | 2 | 11/16 | 215 - 305 | 84 |
| ***6P15NHD -- --*** | 51,000 | 25 | 45 | 1-7/8 | 7/8 | 2 | 11/16 | 215 - 305 | 120 |

**Each Aero-Pallet includes:**

- Four/Six Aero-Casters
- Manifold matches width dimensions
- Automatic flow control valves
- One pressure regulator with gauge
- One on/off ball valve
- Slide-Mount Systems also include Aero-Caster removal tool

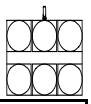
***+ Manifold at air inlet ends add 1.5-inch to overall length. Manifold cannot support the load weight and must extend beyond the load.***

**++ NOTE ON ESTIMATED AIR FLOW** - Air flow listed on this page is an estimate of the air flow at a given load, and a good operating surface. Always multiply this air flow data times 1.75 (1.5 for Gapmaster) to provide a safety factor; when providing data to a customer; or when calculating air compressor requirements.

## URETHANE FOUR CASTER AERO-PALLET SYSTEMS - ENGLISH SPECIFICATIONS

| Model Number | Capacity (lbs) | Deck Size Area+ (sq ft) | | Fixed-Mount | | Slide-Mount | | Net Weight (lbs) | Air Flow (scfm)++ |
|---|---|---|---|---|---|---|---|---|---|
| | | Min | Max | Height (in) | Lift (in) | Height (in) | Lift (in) | | |
| ***4P12U -- --*** | 10,000 | 4 | 25 | 1-7/8 | 3/4 | 2 | 9/16 | 85 - 175 | 56 |
| ***4P15U -- --*** | 17,000 | 7 | 25 | 1-7/8 | 7/8 | 2 | 11/16 | 90 - 180 | 48 |
| ***4P15UHD -- --*** | 34,000 | 7 | 25 | 1-7/8 | 7/8 | 2 | 11/16 | 90 - 180 | 64 |
| ***4P21U -- --*** | 28,000 | 13 | 25 | 2 | 1-1/8 | 2-1/8 | 15/16 | 130 - 190 | 56 |
| ***4P21UHD -- --*** | 56,000 | 13 | 25 | 2 | 1-1/8 | 2-1/8 | 15/16 | 130 - 190 | 120 |

## URETHANE SIX CASTER AERO-PALLET SYSTEMS - ENGLISH SPECIFICATIONS



| Model Number | Capacity (lbs) | Deck Size Area+ (sq ft) | | Fixed-Mount | | Slide-Mount | | Net Weight (lbs) | Air Flow (scfm)++ |
|---|---|---|---|---|---|---|---|---|---|
| | | Min | Max | Height (in) | Lift (in) | Height (in) | Lift (in) | | |
| ***6P12U -- --*** | 15,000 | 25 | 45 | 1-7/8 | 3/4 | 2 | 9/16 | 210 - 300 | 84 |
| ***6P15U -- --*** | 25,500 | 25 | 45 | 1-7/8 | 7/8 | 2 | 11/16 | 215 - 305 | 72 |
| ***6P15UHD -- --*** | 51,000 | 25 | 45 | 1-7/8 | 7/8 | 2 | 11/16 | 215 - 305 | 96 |

**Each Aero-Pallet includes:**
- Four/Six Aero-Casters
- Manifold on narrow end
- Automatic flow control valves
- One pressure regulator with gauge
- One on/off ball valve
- Slide-Mount Systems also include Aero-Caster removal tool

***+ Manifold at air inlet ends add 1.5-inch to overall length. Manifold cannot support the load weight and must extend beyond the load.***

**++ NOTE ON ESTIMATED AIR FLOW** - Air flow listed on this page is an estimate of the air flow at a given load, and a good operating surface. Always multiply this air flow data times 1.75 (1.5 for Gapmaster) to provide a safety factor; when providing data to a customer; or when calculating air compressor requirements.

## DURAGLIDE FOUR CASTER AERO-PALLET SYSTEMS - ENGLISH SPECIFICATIONS

| Model Number | Capacity (lbs) | Deck Size Area+ (sq ft) | | Fixed-Mount | | Slide-Mount | | Net Weight (lbs) | Air Flow Range (scfm)++ |
|---|---|---|---|---|---|---|---|---|---|
| | | Min | Max | Height (in) | Lift Range (in) | Height (in) | Lift Range (in) | | |
| ***4P15D -- --*** | 14,000 | 7 | 25 | 2-9/16 | 3/8-5/8 | 2-1/2 | 3/8-5/8 | 90 - 180 | 40/100 |
| ***4P21D -- --*** | 28,000 | 13 | 25 | 2-1/2 | 3/8-3/4 | 2-1/2 | 5/16-11/16 | 130 - 190 | 48/120 |

## DURAGLIDE SIX CASTER AERO-PALLET SYSTEMS - ENGLISH SPECIFICATIONS

| Model Number | Capacity (lbs) | Deck Size Area+ (sq ft) | | Fixed-Mount | | Slide-Mount | | Net Weight (lbs) | Air Flow Range (scfm)++ |
|---|---|---|---|---|---|---|---|---|---|
| | | Min | Max | Height (in) | Lift Range (in) | Height (in) | Lift Range (in) | | |
| ***6P15D -- --*** | 21,000 | 25 | 45 | 2-9/16 | 3/8-5/8 | 2-1/2 | 3/8-5/8 | 215 - 305 | 60/150 |

**Each Aero-Pallet includes:**
- Four/Six Aero-Casters
- Manifold on narrow end
- Automatic flow control valves
- One pressure regulator with gauge
- One on/off ball valve
- Slide-Mount systems also include removal tool

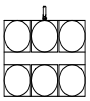
***+ Manifold at air inlet ends add 1.5-inch to overall length. Manifold cannot support the load weight and must extend beyond the load.***

**++ NOTE ON ESTIMATED AIR FLOW** - Air flow listed on this page is an estimate of the air flow at a given load, and a good operating surface. Always multiply this air flow data times 1.75 (1.5 for Gapmaster) to provide a safety factor; when providing data to a customer; or when calculating air compressor requirements.

## NEOPRENE FOUR CASTER AERO-PALLET SYSTEMS - METRIC SPECIFICATIONS

| Model Number | Capacity (kg) | Deck Size Area+ ($m^2$) Min | Deck Size Area+ ($m^2$) Max | Fixed-Mount Height (mm) | Fixed-Mount Lift (mm) | Slide-Mount Height (mm) | Slide-Mount Lift (mm) | Net Weight (kg) | Air Flow (L/Sec)++ |
|---|---|---|---|---|---|---|---|---|---|
| ***4P8N -- --*** | 1,816 | 0.19 | 1.39 | 48 | 10 | 48 | 8 | 25 - 52 | 15 |
| ***4P8NHD -- --*** | 3,628 | 0.19 | 1.39 | 48 | 10 | 48 | 8 | 25 - 52 | 23 |
| ***4P12N -- --*** | 4,536 | 0.37 | 2.32 | 48 | 19 | 51 | 14 | 39 - 79 | 26 |
| ***4P12NHD -- --*** | 9,072 | 0.37 | 2.32 | 48 | 19 | 51 | 14 | 39 - 79 | 30 |
| ***4P15N -- --*** | 7,708 | 0.65 | 2.32 | 48 | 22 | 51 | 17 | 41 - 82 | 26 |
| ***4P15NHD -- --*** | 15,424 | 0.65 | 2.32 | 48 | 22 | 51 | 17 | 41 - 82 | 38 |
| ***4P21N -- --*** | 12,700 | 1.21 | 2.32 | 51 | 29 | 54 | 24 | 59 - 86 | 23 |
| ***4P21NHD -- --*** | 29,028 | 1.21 | 2.32 | 51 | 29 | 54 | 24 | 59 - 86 | 47 |

## NEOPRENE SIX CASTER AERO-PALLET SYSTEMS - METRIC SPECIFICATIONS



| Model Number | Capacity (kg) | Deck Size Area+ ($m^2$) Min | Deck Size Area+ ($m^2$) Max | Fixed-Mount Height (mm) | Fixed-Mount Lift (mm) | Slide-Mount Height (mm) | Slide-Mount Lift (mm) | Net Weight (kg) | Air Flow (L/Sec)++ |
|---|---|---|---|---|---|---|---|---|---|
| ***6P12N -- --*** | 6,804 | 2.32 | 4.18 | 48 | 19 | 51 | 14 | 95 - 136 | 40 |
| ***6P12NHD -- --*** | 13,608 | 2.32 | 4.18 | 48 | 19 | 51 | 14 | 95 - 136 | 46 |
| ***6P15N -- --*** | 11,562 | 2.32 | 4.18 | 48 | 22 | 51 | 17 | 98 - 138 | 40 |
| ***6P15NHD -- --*** | 23,136 | 2.32 | 4.18 | 48 | 22 | 51 | 17 | 98 - 138 | 56 |

**Each Aero-Pallet includes:**

- Four/Six Aero-Casters
- Manifold matches width dimensions
- Automatic flow control valves
- One pressure regulator with gauge
- One on/off ball valve
- Slide-Mount Systems also include Aero-Caster removal tool

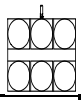
***+ Manifold at air inlet ends add 38mm to overall length. Manifold cannot support the load weight and must extend beyond the load.***

**++ NOTE ON ESTIMATED AIR FLOW** - Air flow listed on this page is an estimate of the air flow at a given load, and a good operating surface. Always multiply this air flow data times 1.75 (1.5 for Gapmaster) to provide a safety factor; when providing data to a customer; or when calculating air compressor requirements.

## URETHANE FOUR CASTER AERO-PALLET SYSTEMS - METRIC SPECIFICATIONS

| Model Number | Capacity (kg) | Deck Size Area+ ($m^2$) Min | Deck Size Area+ ($m^2$) Max | Fixed-Mount Height (mm) | Fixed-Mount Lift (mm) | Slide-Mount Height (mm) | Slide-Mount Lift (mm) | Net Weight (kg) | Air Flow (L/Sec)++ |
|---|---|---|---|---|---|---|---|---|---|
| ***4P12U -- --*** | 4,536 | 0.37 | 2.32 | 48 | 19 | 51 | 14 | 39 - 79 | 26 |
| ***4P15U -- --*** | 7,708 | 0.65 | 2.32 | 48 | 22 | 51 | 17 | 41 - 82 | 23 |
| ***4P15UHD -- --*** | 15,424 | 0.65 | 2.32 | 48 | 22 | 51 | 17 | 41 - 82 | 30 |
| ***4P21U -- --*** | 12,700 | 1.21 | 2.32 | 51 | 29 | 54 | 24 | 59 - 86 | 26 |
| ***4P21UHD -- --*** | 25,400 | 1.21 | 2.32 | 51 | 29 | 54 | 24 | 59 - 86 | 57 |

## URETHANE SIX CASTER AERO-PALLET SYSTEMS - METRIC SPECIFICATIONS



| Model Number | Capacity (kg) | Deck Size Area+ ($m^2$) Min | Deck Size Area+ ($m^2$) Max | Fixed-Mount Height (mm) | Fixed-Mount Lift (mm) | Slide-Mount Height (mm) | Slide-Mount Lift (mm) | Net Weight (kg) | Air Flow (L/Sec)++ |
|---|---|---|---|---|---|---|---|---|---|
| ***6P12U -- --*** | 6,804 | 2.32 | 4.18 | 48 | 19 | 51 | 14 | 95 - 136 | 40 |
| ***6P15U -- --*** | 11,562 | 2.32 | 4.18 | 48 | 22 | 51 | 17 | 98 - 138 | 34 |
| ***6P15UHD -- --*** | 23,136 | 2.32 | 4.18 | 48 | 22 | 51 | 17 | 98 - 138 | 46 |

**Each Aero-Pallet includes:**
- Four/Six Aero-Casters
- Manifold on narrow end
- Automatic flow control valves
- One pressure regulator with gauge
- One on/off ball valve
- Slide-Mount Systems also include Aero-Caster removal tool

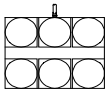
***+ Manifold at air inlet ends add 38mm to overall length. Manifold cannot support the load weight and must extend beyond the load.***

**++ NOTE ON ESTIMATED AIR FLOW** - Air flow listed on this page is an estimate of the air flow at a given load, and a good operating surface. Always multiply this air flow data times 1.75 (1.5 for Gapmaster) to provide a safety factor; when providing data to a customer; or when calculating air compressor requirements.

## DURAGLIDE FOUR CASTER AERO-PALLET SYSTEMS - METRIC SPECIFICATIONS

| Model Number | Capacity (kg) | Deck Size Area+ ($m^2$) Min | Deck Size Area+ ($m^2$) Max | Fixed-Mount Height (mm) | Fixed-Mount Lift (mm) | Slide-Mount Height (mm) | Slide-Mount Lift (mm) | Net Weight (kg) | Air Flow Flow (L/Sec)++ |
|---|---|---|---|---|---|---|---|---|---|
| ***4P15D -- --*** | 6,348 | 0.65 | 2.32 | 65 | 10-16 | 64 | 10-16 | 41 - 82 | 19/48 |
| ***4P21D -- --*** | 12,700 | 1.21 | 2.32 | 64 | 10-19 | 64 | 8-17 | 59 - 86 | 23/56 |

## DURAGLIDE SIX CASTER AERO-PALLET SYSTEMS - METRIC SPECIFICATIONS



| Model Number | Capacity (kg) | Deck Size Area+ ($m^2$) Min | Deck Size Area+ ($m^2$) Max | Fixed-Mount Height (mm) | Fixed-Mount Lift (mm) | Slide-Mount Height (mm) | Slide-Mount Lift (mm) | Net Weight (kg) | Air Flow Flow (L/Sec)++ |
|---|---|---|---|---|---|---|---|---|---|
| ***6P15D -- --*** | 9,522 | 2.32 | 4.18 | 65 | 10-16 | 64 | 10-16 | 98 - 138 | 28/72 |

**Each Aero-Pallet includes:**
- Four/Six Aero-Casters
- Manifold on narrow end
- Automatic flow control valves
- One pressure regulator with gauge
- One on/off ball valve
- Slide-Mount systems also include removal tool

***+ Manifold at air inlet ends add 38mm to overall length. Manifold cannot support the load weight and must extend beyond the load.***

**++ NOTE ON ESTIMATED AIR FLOW** - Air flow listed on this page is an estimate of the air flow at a given load, and a good operating surface. Always multiply this air flow data times 1.75 (1.5 for Gapmaster) to provide a safety factor; when providing data to a customer; or when calculating air compressor requirements.

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# Appendix B

# REPLACING OR REMOVING AERO-CASTERS

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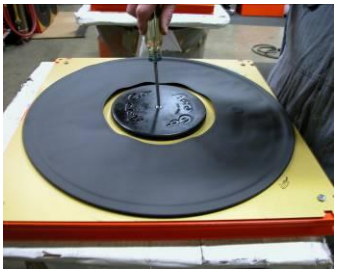
## Instructions to Remove or Replace

# Fixed Mount Aero-Caster

**STEP 1:** Be sure to disconnect air from Load Module System.




**STEP 2:** Remove the center bolt, center landing pad, and corner mounting bolts. On 27-inch models and larger, corner pads and a center pad are used. (NOTE: For Gapmaster models, no center-landing pad is used. Instead, corner-landing pads are used.) **Be sure to save all hardware.**

**STEP 3:** Clean mounting structure and remove any old double back foam sealing tape with scraper (utility knife or similar) to provide a smooth, clean and dry surface to apply new seal tape.

**STEP 4:** Remove the protective white sheet from the foam tape on the new element. Line up the inlet hole of the new air caster with the inlet hole on the mounting surface. **Holes must line up for proper operation, with the air inlet hole properly positioned.**


**STEP 5:** Align holes in air caster replacement with holes on load module. Re-install landing pad(s) and all the mounting hardware in original locations.

**STEP 6:** Return the Load Module to the standard operating position with air caster against the floor. Inflate the air caster briefly to ensure proper operation.

**Caution:** When inflating air caster with bag facing up wear safety goggles. Possible eye damage may occur.


**Reading Aero-Caster Tags:**

1. Air caster model number = 12N; use this number for ordering replacements.
2. Serial Number is 1D084-46
3. Capacity (CAP: 1.25T @ 30psi or 1134Kg @ 2.1 Kg/cm$^2$) of air caster at recommended air rating in English and Metric units
4. AeroGo contact information
5. If additional tags are present on caster, Aero-Caster number is needed for reordering



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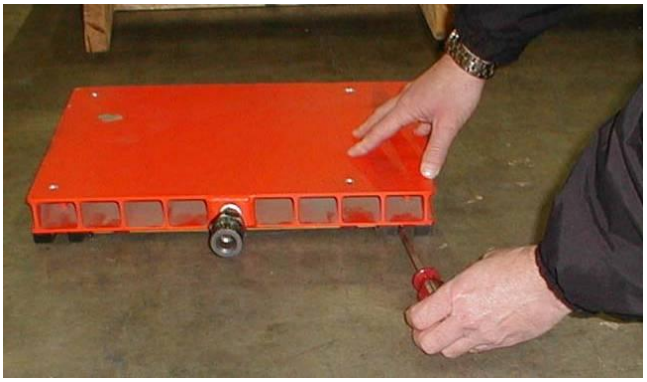
## Instructions to Remove or Replace

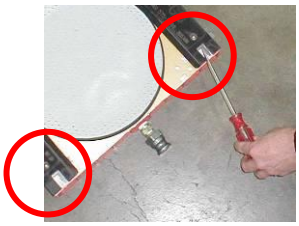
# Slide Mount Aero-Caster

**STEP 1:** Approach Slide-Mount Load Module from air hose connector side, as shown below. The slide mount Aero-Caster can be replaced with the load module either loaded or unloaded.

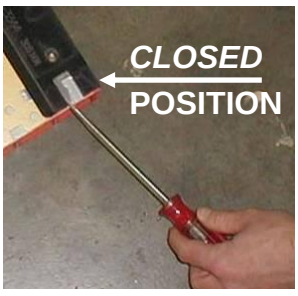


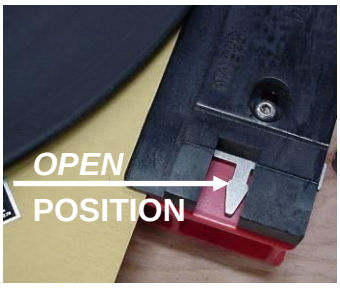
**STEP 2:** Be sure to disconnect air from the Load Module/Air Caster Rigging System prior to removing or replacing the Aero-Caster. Have a flat screwdriver and your slide-mount removal tool ready.

**STEP 3:** Insert flat screwdriver into slide lock opening and move slide lock away from center. There is normally one slide lock per side, two slide locks per module total.



**NOTE:** Slide locks are located on the air connection side of the Load Module. From this underside view you can better see the slide lock positions. Slide locks are circled in red in photo.




**STEP 4:** Insert the flat screwdriver and pry the lock away from the Aero-Caster to open on either side. Picture shows the underneath close-up view of the slide lock in its locked position. Locked position is toward the center of the Aero-Caster.

**STEP 5:** Using slide-mount removal tool, insert tool end into hole in corner of slide-mount caster base. Gently pull caster towards you.

**STEP 6:** Insert the replacement Aero-Caster so that the inlet location hole is towards the outside of the module (closest to you) to ensure air caster will inflate. Push slide locks toward center to secure caster.

**STEP 7:** Return the Module to the standard operating position with air caster against the floor. Inflate the air caster briefly to ensure proper operation.

**Caution:** When inflating air caster with bag facing up, wear safety goggles. Possible eye damage may occur.


**Reading Aero-Caster Tags:**

1. Air caster model number = 12NSM; use this number for ordering replacements.
2. Serial Number is OC893-66
3. Capacity (CAP: 1.25T @ 30 Psi or 1134Kg @2.1 Kg/cm$^2$) of air caster at recommended air rating in English and Metric units
4. AeroGo contact information
5. If additional tags are present on caster, Aero-Caster number is needed for reordering



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# Appendix C

# DEFINITIONS

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# DEFINITIONS

**"AERO-CASTER"**
The registered trade name for AeroGo's air caster including: backing plate, torus bag with air inlet, landing pad(s). Also: aero-caster element, air caster, air bearing.

**AERO-CASTER LOAD MODULE**
An Aero-Caster element attached to a rigid load distribution surface, usually with a quick disconnect at the air inlet.

**COMPRESSOR**
A high pressure air source.

**CONTROL CONSOLE**
A packaged air regulation assembly for use with Aero-Caster Load Modules. It contains regulators, gauges, a ball valve shut off and quick disconnects at the air outlets.

**DEFLATED HEIGHT**
Height from floor to top of Aero-Caster Load Modules with air bearings deflated.

**DRIVE**
A power driven unit for applying tractive effort and control. Also: Tractor, Drive assembly, Drive unit.

**GUIDE WHEEL ASSEMBLY**
Wheeled unit used to control steering and drift of loads. Also: Guide wheel.

**INFLATED HEIGHT**
Height from the floor to the top of the Aero-Caster Load Module with air bearings inflated and floating.

**LANDING PAD**
The load supporting surfaces, which prevent the torus bag from being crushed when a load is at rest.

**LIFT AREA**
The effective area over which the air pressure is applied, somewhat less than the total area of the Aero-Caster.

**LIFT HEIGHT**
Effective lift, which is measured between landing pad and floor with bearings inflated and floating. Also, difference between inflated height and deflated height.

**LINK-UP HANDLE**
Over center style clamp used to attach the Drive assembly to the mounting plate in the closed position. Locks the steering handle in the open position.

**MANIFOLD**
A chamber for distributing air, which can be steel tubing, pipe, or hosing (for a plank it is the inlet piping).

**OMNIDIRECTIONAL**
Capable of movement in all directions.

**PLENUM CHAMBER**
The interior area of the Aero-Caster, which contains the dynamic "bubble" of air.

**PSIG**
Pounds per square inch - gauge.

**QUICK DISCONNECTS**
Pneumatic devices that couple hoses to Aero-Caster Load Modules, control consoles, air supply, etc.

**SEALED CONCRETE**
Concrete, which has had a commercial penetrating sealant, applied. Does not fill in peaks and valleys.

**TORUS BAG**
Fabricated bag attached to backing plate of air caster.

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# Appendix D

# CE DECLARATION OF CONFORMITY

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# EC Declaration of Conformity

In accordance with EN ISO 17050-1:2004

*We* AeroGo, Inc.

*of* 1170 Andover Park West, Seattle,Washington, 98188, USA

*in accordance with the following Directives:*

2006/42/EC The Machinery Directive

*hereby declare under our sole responsibility that:*

Equipment Aero-Pallet

Model number xPxxx

Serial Number Range: 53xxx-x to 60xxx-x

*is in conformity with the applicable requirements of the following documents:*

| Ref. No. | Title | Edition/date |
|---|---|---|
| BS EN ISO 12100 | Safety of machinery. General principles for design. Risk assessment and risk reduction | 2010 |
| BS EN ISO 4414 | Pneumatic fluid power. General rules and safety requirements for systems and their components | 2010 |

I hereby declare that the equipment named above has been designed to comply with the relevant sections of the above referenced specifications and is in accordance with the requirements of the Directive.

Signed by: Richard L Ruelle Jr

Name: Richard L Ruelle Jr

Position: Director of Compliance

Done at: AeroGo, Inc.

On: August 15, 2014

CE

Document ref. No.
(see Serial number)

The technical documentation for the machinery is available from:

Name: Doceupoint Ltd.

Address: The Old Methodist Chapel, Great Hucklow, Buxton, Derbyshire, SK17 8RG, UK

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ISO 9001: 2008