# OPERATING & MAINTENANCE INSTRUCTIONS

## Rigging Systems using AeroGo© Load Modules

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ORIGINAL INSTRUCTIONS

# PURPOSE, SCOPE and USE

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

Training operators in proper Rigging System usage and relevant safety issues is required to ensure safe and effective operation. Follow all safety recommendations and warnings. Moving loads with AeroGo Rigging 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 at above contact information.

**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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# RIGGING SYSTEM DESCRIPTION AND ASSEMBLY

When your system arrives, it should require only basic assembly. Depending on your order request, the standard shipment includes the following:

- Load Modules™ (usually 4 or 6 units depending on qty ordered): Aero-Caster® attached to orange aluminum extrusion plate with air inlet fitting
- BN Control Console with integrated handle and wheels (sized according to Load Module qty) (also available as fixed-mount FN Control Console without handle or wheels)
- Interconnect Hoses (from control console to each Load Module)
- Main Supply Hose (if purchased)

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.

**System Operating Specifications**

Please record this information for your system – it will help during setup and operation.
(see AeroGo® Rigging System Specifications in Appendix A - or contact dealer/factory)

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

Max. Load Weight per Aero-Caster®: _____ 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 air line** – the line can whip and cause injury. Use caution when releasing air to minimize blowing dust and debris which 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 any abrasive chemicals, cutting oils or fire-resistant hydraulic fluid. Should Aero-Casters come in contact with any of these substances, clean Aero-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 system.
8) **Safety cables (hose restraints) are recommended for supply air lines.**
9) Secure your load so it doesn't shift once the Aero-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) Mount control console and hoses onto load or make other arrangement (e.g. overhead hose) to prevent tripping hazards

**Special Notes:**

- Maximum input pressure to Rigging 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 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 may be permanently upgraded for air film handling use by sealing with many kinds of commercial penetrating sealers. For information on achieving sealed concrete floors, consult AeroGo Engineering Instructions EI-16 *"Concrete Surface Treatments"* and EI-13 "*Cracks, Joints and Holes in Concrete*" (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. Contact AeroGo for overlay or see AeroGo publication #EI-15 *"Temporary and Permanent Surface Overlays"* (available upon request) for recommended overlay solutions.

For a straight path move, overlay tracks (over which your Load Modules can float) can be formed by shingling so that the Aero-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.

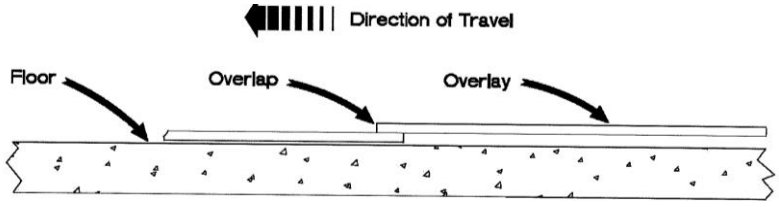



**Figure 1**

## Surface Grades

The flexible Aero-Caster 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 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 a Load Module System depends on the size and quantity of Load Modules. *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 (L/sec) 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, use a flow meter with the appropriate pressure gauge to check the output of a 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 regulators on control console.

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

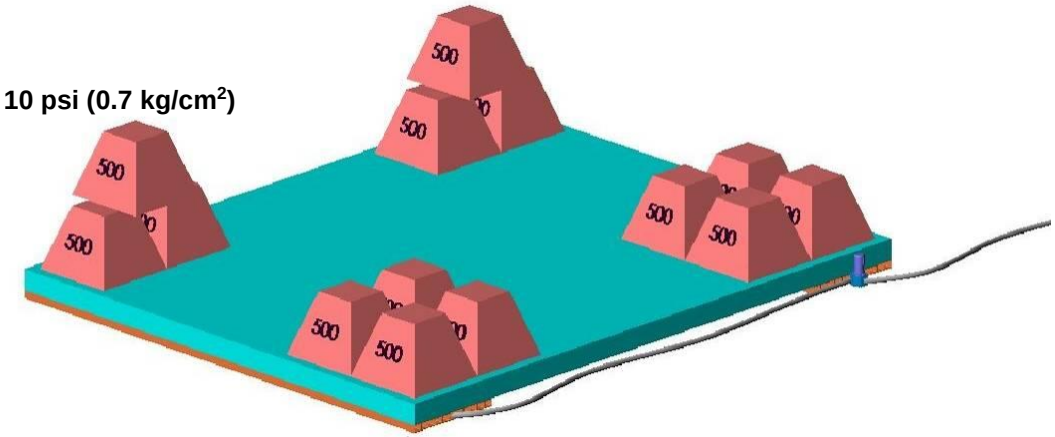
### Pressure:

Supply air at a pressure sufficient to float your load. Allow for pressure loss through hose, fittings and components. 100 psi (7 kg/cm2) is recommended plant air supply pressure. Maximum input pressure to Rigging System is 150 psi (10 bar). This will allow for pressure drops in the system, and leave enough for the required operating pressure at your Load Module. *See Rigging System Specifications for maximum pressure and load capacities Appendix A.* **Do not exceed recommended maximum air pressures.**

**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 & lines 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.**




## SETTING UP THE MOVE

Easily and successfully moving your load will be determined by three main factors: number of Load Modules used, the location and balancing of the Load Modules and their strategic placement.

### Number of Aero-Casters (Load Modules)

The number of Load Modules you will need is determined by load weight, Aero-Caster capacity and structure of the load.

## BALANCING YOUR LOAD

### Basic Even Loading

Standard AeroGo Load Module Systems are sized according to your maximum load weights and dimensions. Every effort should be taken to ensure that each Aero-Caster requires relatively the same pressure by not being loaded significantly higher than the rest. This can often be achieved by strategically placing the Load Modules beneath the load. Aero-Casters of the same size are arranged in a triangle, square, or 6-way pattern with the Center of Gravity (CG) of the load placed as close to the geometric center of the Aero-Casters as practical. The air pressure required for any load will be the load weight (including any structure) divided by the area of the Aero-Caster(s) carrying the load (e.g. 3500 pounds / 140 sq. in. = 25psi), (1588 kg / 903 $cm^2$ = 1.8 $kg/cm^2$.

**10 psi (0.7 kg/cm²)**

### Uneven Loading

If the load is not evenly distributed or a variety of loads must be lifted, independent regulation with the BN Control Console will compensate for unequal load distribution by adjusting pressure to individual Aero-Casters *(see figure 2 above).*

**18 psi (1.3 kg/cm²)**

### Special Notes

Check to make sure your load is within the minimum/maxim s for your Load Module System. **Figure 2** *A – or contact dealer/factory.*

If using temporary overlays to bridge floor joints or cracks, adjusting the BN Control Console regulators will aid in maintaining proper flotation from one surface condition to another.

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.

There is a small amount of friction during air caster moves that can cause static electricity. Normally this is not noticeable; however, if static discharge is a concern due to sensitive

equipment, a grounding strap or wire should be used to dissipate the charge.

## LOAD MODULE INSTALLATION

Know how your load's weight is distributed. A good understanding of your load will allow you to distribute the Load Modules in the easiest and most effective manner. The low profile of Aero-Casters/Load Modules makes them easy to insert under loads.


The Load Module System's low lift height maintains the load close to the floor compared to other material handling methods; however, the location of the Aero-Caster placement must be sufficient to assure that the load does not tip or become unstable. To create the most stable operation, place the load modules as far apart as possible, ensuring the outermost edge of the load is in line with the outermost edge of the load module. Unstable conditions could be created by loads that excessively overhang the footprint of the Aero-Casters. In addition, the vertical center of gravity (CG) of the load can be no more than twice the width between centers of the Aero-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 Load Modules are placed. Insert the Load Modules under the load in the most balanced position (see *Balancing Your Load*).

Load Modules can be placed directly beneath your load in the gap between the floor and load, or can be "tied together" using a beam, which runs from the center of one Load Module to the center of another. Using a beam can help distribute a load which would have overloaded a single Aero-Caster. If no gap exists, raise or jack load just enough to insert the Aero-Casters/Load Modules. Air Jacks can also be used in conjunction with the Aero-Casters. (Call your local dealer or AeroGo about Aero- Jacks).

Use strong space blocks to fill any remaining space and assure full lift height of inflated Aero-Caster will lift the load. For best operation, the full stroke of the Aero-Caster system should be available to lift clear of the landing pads.

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

The possibilities for configuration are endless, so you may need to make slight adjustments to get your Load Modules 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 Aero-Casters are inflated.

**Note: 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.**

**Mount control console and hoses in positions to reduce tripping hazards during the move. Adjust hose layout to avoid entangling of hoses or personnel with hoses.**

## AERO-CASTER ADJUSTING - INITIAL SETTING

You can estimate operating air pressure and lift height in advance. There are three common ways to adjust Aero-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 Aero-Caster, then calculate torus bag pressure to support load (see *Balancing Your Load)*. This can also be calculated by taking the load weight fraction of the rated maximum load of your 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 – or contact dealer/factory.*

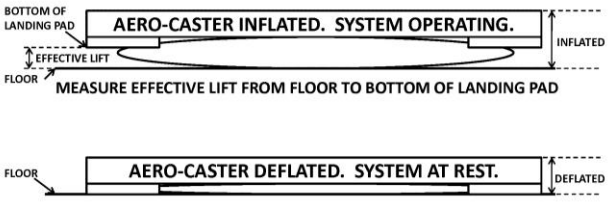



**Figure 3**

**C. Visual/Audible Inspection:** When properly inflated, air will just begin escaping from between the Aero-Caster and floor. This can be visually and audibly detected by looking for wisps of air or hearing the start of air escaping. The small amount of 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 below Step 12 for more information.

## MAKING THE MOVE

Now that you have installed the Load Modules 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.

2) Place control console in desired position. If slope is known, position control console on uphill side of load to ensure load will not drift into operator. 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.

3) Ensure all regulators are turned off (CCW) or to their minimum setting. Note: Gently pull up on regulator knobs to unlock (pushing down on knob will lock in position).

4) Close control console inlet supply air ball valve by turning ball valve handle perpendicular to ball valve body.

5) Connect air supply hose to inlet ball valve on control console and air supply source.

6) Connect hoses to Aero-Casters and the control console. These hoses are color-coded to ensure the operator knows which Aero-Caster is being affected.

Where possible, route hoses through, over or around the load and mount control console on load to prevent tripping hazard.

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

## TURNING ON AIR

8) Slowly turn on air supply at source.

*9)* Slowly open inlet ball valve on control console. Verify that system main air pressure gauge indicates pressure. Check for leaks or unexpected system reactions. If this occurs, turn ball valve off (perpendicular to ball valve body). *See Troubleshooting Section.*

## INFLATE/LIFT

10) Gradually increase pressure to Aero-Casters by turning each regulator knob clockwise in small even increments – until pressure is about one-half desired (see *Aero-Caster Adjusting*). Check to see that all Aero-Casters are contacting the floor. Gradually increase pressure in 2-3 psi (0.14-0.21 kg/cm$^2$) increments until you can hear air escaping, then back off slightly. You may inflate Aero-Casters in opposing pairs or all at once depending on the rigidity of the load and the need to avoid deflection.

11) Inspect the load and restraints (if used) to assure structure integrity and that the Load Modules are parallel to the floor.

12) Continue increasing pressure in small increments until air hiss is again heard and load floats evenly (responds to push). To achieve even floating, increase pressure to Aero-Casters that are lower. Remember there are 3 ways to determine proper lift height (see *Aero-Caster Adjusting*). The chart below will help determine height requirements visually and audibly. If an Aero-Caster bounces or "hops", it 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, Aero-Caster squeals/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 prior section *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 equipment. Never leave a system unattended while inflated or floating.**

## MOVE

13) Ensure there are sufficient personnel to safely control load. Always use 2 or more operators—one operator for controls and approximately one operator per 5,000

pounds (2268 kg) of 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 at control console.**

14) Move load to destination. Check Load Modules frequently while moving load. Unequal loading may cause Load Modules 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

15) When you have reached destination, bring system to complete stop before shutting down. Be aware of drifting of the load during shut down or loss of air supply. **Do not shut off air while in motion unless in emergency.**

16) To shut down, turn ball valve off at the control console by turning ball valve handle perpendicular to direction of air flow. The Aero-Casters will deflate and the load will drop slowly to rest. Note: Ensure that main air system pressure returns to zero. Ball valve should be in OFF position when system is not in use to prevent unexpected re-start of system.

**Warning**

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

17) Turn off each regulator on control console. **Do not turn off regulators *before* turning off ball valve at the control console,** to keep air from becoming trapped inside the control console.

**Warning**

**For several seconds after turning off regulators at control console, air will bleed from lines. Watch each regulator's gauge to verify it has reached 0 psi (0 kg/cm$^2$) before disconnecting interconnect hoses. If you have any doubt that a hose is fully discharged, do not disconnect.**

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 control console until supply pressure has been turned off and discharged from supply hose.**

19) If self-relieving ball valve is in place on main air supply line, and if supply pressure has been turned off and discharged from supply hose downstream of supply hose ball valve, the hose will be 'soft'. After confirming that the hose is soft, the main air supply line may be disconnected downstream from the ball valve and stored.

## DISCONNECT

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

20) Shut off main supply line ball valve.

21) Disconnect a single hose from control console after ensuring the corresponding regulator is turned completely off.

22) Open control console ball valve. Main air supply pressure gauge indicates pressure.

23) Slowly open regulator corresponding to disconnected hose, and allow air to escape from fitting.

24) When main air supply pressure gauge reads 0 psi (0 kg/cm$^2$) and supply hose is soft, close regulator and control console ball valve.

25) After supply line has fully discharged, disconnect from control console.

26) Inspect all components for damage prior to storage.

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

# RIGGING SYSTEM
# QUICK START GUIDE

**It is important to read entire manual and 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) Close inlet ball valve on console by turning ball valve handle perpendicular to ball valve body.
3) Ensure all regulators are turned off (CCW) or to their minimum setting. Note: Gently pull up on regulator knobs to unlock (pushing down on knob will lock in position).
4) Connect air supply hose to inlet ball valve on control console and air supply source. Then connect all hoses to Aero-Casters® and the control console.
5) Slowly turn on air supply at source. Then slowly open inlet ball valve on console.
6) Gradually increase pressure to Aero-Casters® by turning each 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.
7) To shut system down, stop movement of load. Then turn inlet ball valve on control console slowly to closed position. System shutdown while in motion may damage Aero-Casters®.
8) After shutdown, turn all regulator knobs counterclockwise until closed.

## 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 (227 kg) to 5000 tons (4536 tonnes). When planning to use your equipment in another location or under different load conditions, check with your factory-trained representative for recommendations.

# TROUBLESHOOTING

**To ensure isolation from air supply prior to performing troubleshooting of Rigging System, close ball valve – and lock if necessary – and disconnect supply air line.**

**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) Air leaking from control console: Check fittings at ball valve and interconnect hoses.
2) Check to make sure regulators are fully closed.
3) Check fittings and lines underneath console.

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

### A. Air may not be getting to Aero-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 system inlets.
4) Leaks in connections internal or external to system.
5) Valve(s) or regulator(s) partially turned off.
6) System overloaded.
7) System mishandled during prior move "brought to sliding stop" by turning off air. Casters possibly folded under when system was deflated.
8) Object caught under Aero-Casters or something stuck to face of Aero-Caster.
9) Surface is rough, porous or contains cracks; no air film seal can be established. Use overlays or upgrade surface.
10) Aero-Caster is damaged or worn and requires replacing, or Aero-Caster was mounted incorrectly.

### B. Aero-Caster(s) did not properly seal to the floor. Check:

1) Aero-Casters not correctly placed in Load Module – inlet holes do not match.
2) Load has tilted to one side, so one Aero-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 LOAD

CHECK AND CORRECT:

1) Inadequate supply pressure and/or volume. Consider increasing supply and/or hose size, and decreasing hose lengths.
2) Aero-Casters are over-inflated. Too much air pressure can cause torus bag to drag. This decreases the life of the torus bag and makes it harder to move. Adjust "Load Pressure" just until unit floats freely, then increase by 2-3 psi (0.14-0.21 kg/cm$^2$).
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 on Load Module. Reposition load or Load Modules so that the C.G. is centered. See "*Balancing Your Load*".
5) Urethane Aero-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 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 or measure lift height. See Appendix A.
2) System loaded too far off-center and operates only with excess air to those Aero-Casters carrying a light load. See "*Balancing Your Load*".
3) Inlet hole into Aero-Caster not sealed by removal of protective mylar from double-backed gasket tape, or other air leaks in connections.

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

CHECK AND CORRECT:

1) Valves, Aero-Caster inlets, or regulators to non-supporting Aero-Casters are obstructed or partially closed. Clear obstruction or open regulators further.
2) Too much air is being supplied while Aero-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 torus bag. Thoroughly check and remove obstructions.

## 8. 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 Aero-Caster. Fill crack or use 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-CASTER(S) TILT WHEN INFLATED, CAUSING INSTABILITY

CHECK AND CORRECT:

1) The load is not centered on the Aero-Caster. Ensure each Load Module has its portion of the load directly on center. See "*Balancing Your Load*".
2) The load above the Aero-Caster is either unstable or has the ability to pivot. Use a beam to tie two Load Modules together. Place load on beam instead of directly on Load Module

## 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 order a regulator rebuild kit.
2) Damaged parts in regulator (internal). Order a regulator rebuild kit.

**For regulator rebuild kits or other parts, call AeroGo (800-426-4757)**

**or your local factory certified dealer.**

# MAINTENANCE

**To ensure isolation from air supply prior to performing Rigging System maintenance, close ball valve – and lock if necessary – and disconnect supply air line.**

## PREVENTIVE AND PERIODIC

As you begin to use your 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.

Blow out compressed air lines to clear them of any dirt, moisture, or obstructions before coupling to your system.

Surfaces: 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 Aero-Casters come in contact with any of these substances, clean Aero-Caster fabric as soon as possible with warm, soapy solution, rinse and wipe dry.

Aero-Casters: Clean Aero-Casters with a cloth free of solvents or with a stiff brush (not wire) to remove any accumulation of dirt from Aero-Caster fabric (as needed).

Check inside the Aero-Caster's torus for any dirt or small object which may have lodged there. Use a little air to ensure nothing is lodged in inlet (as needed).

Check Aero-Casters thoroughly for any cuts or tears in fabric or worn areas which may result in failure during operation under load (weekly, depending on usage). To prevent failure possibility, replace Aero-Caster with a spare replacement.

Filter: Open ball valve. Inspect inside of filter for debris and condensation, using a flashlight if required. If needed, clean out debris and/or condensation and re-install filter. If the filter needs to be replaced, see *"Filter, Cleaning and Replacement" section of this manual*.

Leakage at pressure regulators may indicate debris in system.

Storage and Use: Store equipment indoors. Do not subject equipment to harsh environment (i.e. extreme heat, cold, humidity, etc.)

Other: Check all fittings, hoses and components for wear, damage, or missing parts.

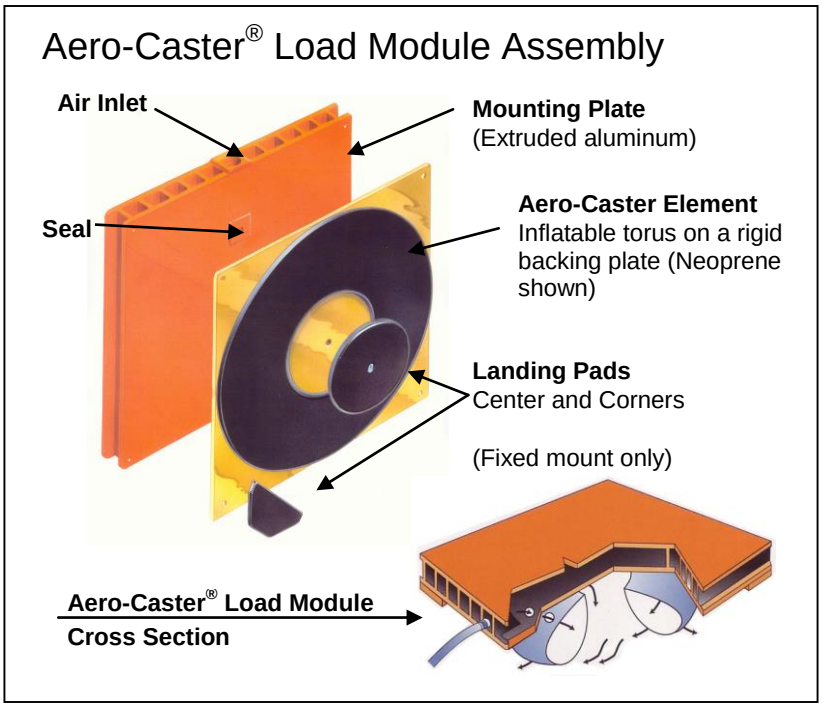
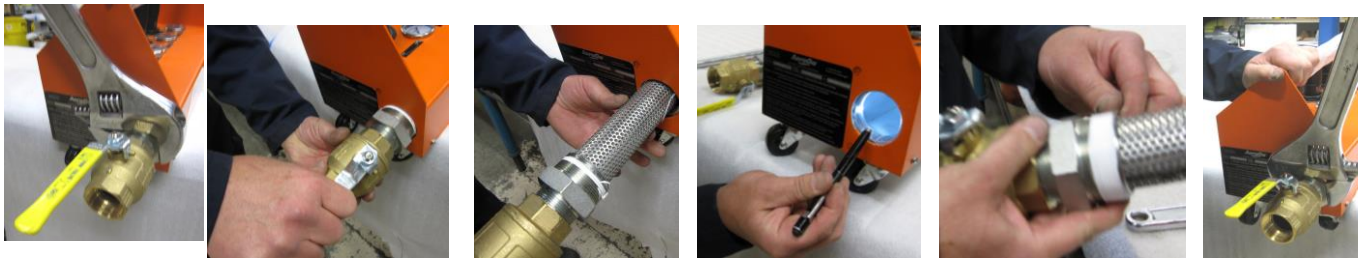



Figure 4

## REPLACEMENT INSTRUCTIONS—See Appendix B

For replacement Aero-Casters or other parts, call AeroGo (800-426-4757) or your local factory certified dealer.

## FILTER – CLEANING & REPLACEMENT



1) Disconnect air from system.
2) Using a wrench, remove Control Console filter by turning and removing nut between control console ball valve and console end.
3) Visually inspect filter element for clogged surface. Replace filter as necessary.
4) Visually inspect Control Console receptacle prior to reinstalling filter.
5) Wrap replacement filter with thread seal to prevent leaks.
6) Install new filter element into Console receptacle. Use wrench to tighten filter. Do not over tighten.
7) Be sure that the yellow air switch lands facing up, as shown in the far right photo.

# 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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info@aerogo.com

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# Appendix A

# PRODUCT SPECIFICATIONS: ENGLISH & METRIC

= English
= Metric

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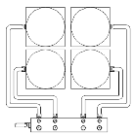
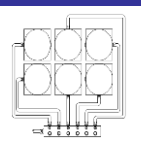
## NEOPRENE FOUR LOAD MODULE SYSTEMS / AIR CASTER RIGGING SYSTEMS



| NEOPRENE | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| ***Part#*** | ***Model*** | ***Part Number*** | ***Model*** | ***Standard Slide-Mount Price*** | ***Capacity (lbs)*** | ***Air Flow ++ (scfm)*** | ***Control Console*** | ***Net Weight (lbs)*** |
| ***33201*** | ***4K8NL*** | ***33211*** | ***4K8NSML*** | #REF! | 4,000 | 32 | BN34 | 60 |
| ***33221*** | ***4K12NL*** | ***33232*** | ***4K12NSML*** | #REF! | 10,000 | 56 | BN34 | 80 |
| ***33243*** | ***4K15NL*** | ***33254*** | ***4K15NSML*** | #REF! | 17,000 | 56 | BN64 | 115 |
| ***33265*** | ***4K21NL*** | ***33276*** | ***4K21NSML*** | #REF! | 28,000 | 48 | BN64 | 170 |
| ***33287*** | ***4K27NL*** | ***33297*** | ***4K27NSML*** | #REF! | 56,000 | 88 | BN64 | 290 |
| ***33307*** | ***4K36NL*** | ***33317*** | ***4K36NSML*** | #REF! | 96,000 | 116 | BN64 | 460 |
| ***33327*** | ***4K48NL*** | ***33337*** | ***4K48NSML*** | #REF! | 192,000 | 124 | BN84 | 740 |

| NEOPRENE HIGH LIFT | | | | | |
|---|---|---|---|---|---|
| ***Part#*** | ***Model*** | ***Capacity (lbs)*** | ***Air Flow Range ++ (scfm)*** | ***Control Console*** | ***Net Weight (lbs)*** |
| ***33237*** | ***4K12N-HLSML*** | 8,000 | 48/108 | BN34 | 80 |
| ***33259*** | ***4K15N-HLSML*** | 14,000 | 56/200 | BN64 | 115 |
| ***33281*** | ***4K21N-HLSML*** | 28,000 | 64/240 | BN64 | 170 |

## NEOPRENE SIX LOAD MODULE SYSTEMS / AIR CASTER RIGGING SYSTEMS



| NEOPRENE | | | | | | | |
|---|---|---|---|---|---|---|---|
| ***Part#*** | ***Model*** | ***Part Number*** | ***Model*** | ***Capacity (lbs)*** | ***Air Flow ++ (scfm)*** | ***Control Console*** | ***Net Weight (lbs)*** |
| ***33401*** | ***6K8NL*** | ***33411*** | ***6K8NSML*** | 6,000 | 48 | BN66 | 105 |
| ***33421*** | ***6K12NL*** | ***33432*** | ***6K12NSML*** | 15,000 | 84 | BN66 | 135 |
| ***33443*** | ***6K15NL*** | ***33454*** | ***6K15NSML*** | 25,500 | 84 | BN66 | 170 |
| ***33465*** | ***6K21NL*** | ***33476*** | ***6K21NSML*** | 42,000 | 72 | BN66 | 255 |
| ***33487*** | ***6K27NL*** | ***33497*** | ***6K27NSML*** | 84,000 | 132 | BN66 | 430 |
| ***33507*** | ***6K36NL*** | ***33517*** | ***6K36NSML*** | 144,000 | 174 | BN66 | 685 |
| ***33527*** | ***6K48NL*** | ***33537*** | ***6K48NSML*** | 288,000 | 186 | BN86 | 1,100 |

| NEOPRENE HIGH LIFT | | | | | |
|---|---|---|---|---|---|
| ***Part#*** | ***Model*** | ***Capacity (lbs)*** | ***Air Flow Range ++ (scfm)*** | ***Control Console*** | ***Net Weight (lbs)*** |
| ***33437*** | ***6K12N-HLSML*** | 12,000 | 72/162 | BN66 | 135 |
| ***33459*** | ***6K15N-HLSML*** | 21,000 | 84/300 | BN66 | 170 |
| ***33481*** | ***6K21N-HLSML*** | 42,000 | 96/360 | BN66 | 255 |

**Each Load Module System includes:**

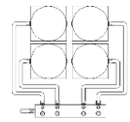
Four or Six Load Modules with quick disconnect (QD) adapters

Four or Six 20 foot long color coded interconnection hoses with quick disconnect (QD) coupler (both ends)

Four or Six station regulator control console with four or six quick disconnect (QD) adapter outlets and one on/off valve

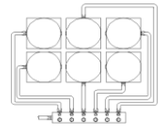
++ **NOTE ON ESTIMATED AIR FLOW** - Air flow listed on this page is an estimate of the air flow at a given load, and a good operating surface. Always multiply this air flow data times 1.75 (1.5 for Gapmaster) to provide a safety factor; when providing data to a customer; or when calculating air compressor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

## NEOPRENE HEAVY DUTY FOUR LOAD MODULE SYSTEMS/AIR CASTER RIGGING SYSTEMS



| Part# | Model | Part Number | Model | Capacity (lbs) | Air Flow++ (scfm) | Control Console | Net Weight (lbs) |
|---|---|---|---|---|---|---|---|
| 33206 | 4K8NHDL | 33216 | 4K8NHDSML | 8,000 | 48 | BN34 | 60 |
| 33227 | 4K12NHDL | 33238 | 4K12NHDSML | 20,000 | 64 | BN34 | 85 |
| 33249 | 4K15NHDL | 33260 | 4K15NHDSML | 34,000 | 80 | BN64 | 125 |
| 33271 | 4K21NHDL | 33282 | 4K21NHDSML | 64,000 | 100 | BN64 | 185 |
| 33292 | 4K27NHDL | 33302 | 4K27NHDSML | 112,000 | 192 | BN84 | 315 |
| 33312 | 4K36NHDL | 33322 | 4K36NHDSML | 200,000 | 216 | BN84 | 480 |
| 33332 | 4K48NHDL | 33342 | 4K48NHDSML | 360,000 | 240 | BN84 | 820 |

## NEOPRENE HEAVY DUTY SIX LOAD MODULE SYSTEMS/AIR CASTER RIGGING SYSTEMS



| Part# | Model | Part Number | Model | Capacity (lbs) | Air Flow++ (scfm) | Control Console | Net Weight (lbs) |
|---|---|---|---|---|---|---|---|
| 33406 | 6K8NHDL | 33416 | 6K8NHDSML | 12,000 | 72 | BN66 | 105 |
| 33427 | 6K12NHDL | 33438 | 6K12NHDSML | 30,000 | 96 | BN66 | 140 |
| 33449 | 6K15NHDL | 33460 | 6K15NHDSML | 51,000 | 120 | BN66 | 185 |
| 33471 | 6K21NHDL | 33482 | 6K21NHDSML | 96,000 | 150 | BN66 | 270 |
| 33492 | 6K27NHDL | 33502 | 6K27NHDSML | 168,000 | 288 | BN86 | 460 |
| 33512 | 6K36NHDL | 33522 | 6K36NHDSML | 300,000 | 324 | BN86 | 710 |
| 33532 | 6K48NHDL | 33542 | 6K48NHDSML | 540,000 | 360 | BN86 | 1,220 |

**Each Load Module System includes:**

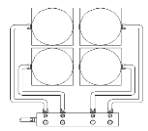
Four or Six Load Modules with quick disconnect (QD) adapters

Four or Six 20 foot long color coded interconnection hoses with quick disconnect (QD) coupler (both ends)

Four or Six station regulator control console with four or six quick disconnect (QD) adapter outlets and one on/off valve at the inlet.

++ **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.

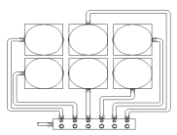
## URETHANE FOUR LOAD MODULE SYSTEMS / AIR CASTER RIGGING SYSTEMS



| Part# | Model | Part Number | Model | Capacity (lbs) | Air Flow (scfm)++ | Control Console | Net Weight (lbs) |
|---|---|---|---|---|---|---|---|
| 33223 | 4K12UL | 33234 | 4K12USML | 10,000 | 56 | BN34 | 80 |
| 33245 | 4K15UL | 33256 | 4K15USML | 17,000 | 48 | BN64 | 115 |
| 33267 | 4K21UL | 33278 | 4K21USML | 28,000 | 56 | BN64 | 170 |
| 33289 | 4K27UL | 33299 | 4K27USML | 56,000 | 128 | BN64 | 290 |
| 33309 | 4K36UL | 33319 | 4K36USML | 96,000 | 172 | BN64 | 465 |
| 33329 | 4K48UL | 33339 | 4K48USML | 192,000 | 188 | BN84 | 760 |

| Part# | Model | Part Number | Model | Capacity (lbs) | Air Flow (scfm)++ | Control Console | Net Weight (lbs) |
|---|---|---|---|---|---|---|---|
| 33251 | 4K15UHDL | 33262 | 4K15UHDSML | 34,000 | 64 | BN64 | 125 |
| 33273 | 4K21UHDL | 33284 | 4K21UHDSML | 56,000 | 120 | BN64 | 180 |
| 33294 | 4K27UHDL | 33304 | 4K27UHDSML | 112,000 | 288 | BN84 | 315 |
| 33314 | 4K36UHDL | 33324 | 4K36UHDSML | 200,000 | 324 | BN84 | 495 |
| 33334 | 4K48UHDL | 33344 | 4K48UHDSML | 360,000 | 360 | BN84 | 845 |
| 33354 | 4K60UHDL | - | - | 480,000 | 380 | BN84 | 1,295 |

## URETHANE SIX LOAD MODULE SYSTEMS / AIR CASTER RIGGING SYSTEMS



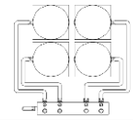
| Part# | Model | Part Number | Model | Capacity (lbs) | Air Flow (scfm)++ | Control Console | Net Weight (lbs) |
|---|---|---|---|---|---|---|---|
| 33423 | 6K12UL | 33434 | 6K12USML | 15,000 | 84 | BN66 | 135 |
| 33445 | 6K15UL | 33456 | 6K15USML | 25,500 | 72 | BN66 | 170 |
| 33467 | 6K21UL | 33478 | 6K21USML | 42,000 | 84 | BN66 | 255 |
| 33489 | 6K27UL | 33499 | 6K27USML | 84,000 | 192 | BN66 | 425 |
| 33509 | 6K36UL | 33519 | 6K36USML | 144,000 | 258 | BN66 | 685 |
| 33529 | 6K48UL | 33539 | 6K48USML | 288,000 | 282 | BN86 | 1,130 |

| Part# | Model | Part Number | Model | Capacity (lbs) | Air Flow (scfm)++ | Control Console | Net Weight (lbs) |
|---|---|---|---|---|---|---|---|
| 33451 | 6K15UHDL | 33462 | 6K15UHDSML | 51,000 | 96 | BN66 | 185 |
| 33473 | 6K21UHDL | 33484 | 6K21UHDSML | 84,000 | 180 | BN66 | 275 |
| 33494 | 6K27UHDL | 33504 | 6K27UHDSML | 168,000 | 432 | BN86 | 460 |
| 33514 | 6K36UHDL | 33524 | 6K36UHDSML | 300,000 | 486 | BN86 | 730 |
| 33534 | 6K48UHDL | 33544 | 6K48UHDSML | 540,000 | 540 | BN86 | 1,250 |
| 33554 | 6K60UHDL | - | - | 720,000 | 570 | BN86 | 1,910 |

**Each Load Module System includes:**
Four or Six Load Modules with quick disconnect (QD) adapters
Four or Six 20 foot long color coded interconnection hoses with quick disconnect (QD) coupler (both ends)
Four or Six station regulator control console with four or six quick disconnect (QD) adapter outlets and one on/off valve at the inlet.

++ **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.

## GAPMASTER FOUR LOAD MODULE SYSTEMS / AIR CASTER RIGGING SYSTEMS

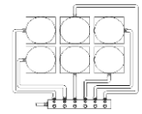


Gapmaster Load Modules are recommended for special applications for the movement of loads over gaps and steps in the operation surface. Always consult AeroGo for instructions on the use of Gapmaster Load Modules in any application.

| Part# | Model | Part Number | Model | Capacity (lbs) | Air Flow (scfm)++ | Control Console | Net Weight (lbs) |
|---|---|---|---|---|---|---|---|
| 33224 | 4K12GL | 33235 | 4K12GSML | 4,800 | 60 | BN34 | 80 |
| 33246 | 4K15GL | 33257 | 4K15GSML | 8,000 | 72 | BN64 | 120 |
| 33268 | 4K21GL | 33279 | 4K21GSML | 16,000 | 80 | BN64 | 175 |
| 33290 | 4K27GL | 33300 | 4K27GSML | 28,000 | 100 | BN64 | 290 |
| 33310 | 4K36GL | 33320 | 4K36GSML | 48,000 | 120 | BN64 | 460 |

| Part# | Model | Part Number | Model | Capacity (lbs) | Air Flow (scfm)++ | Control Console | Net Weight (lbs) |
|---|---|---|---|---|---|---|---|
| 33252 | 4K15GHDL | 33263 | 4K15GHDSML | 18,400 | 120 | BN64 | 125 |
| 33274 | 4K21GHDL | 33285 | 4K21GHDSML | 32,000 | 140 | BN64 | 185 |
| 33295 | 4K27GHDL | 33305 | 4K27GHDSML | 66,000 | 180 | BN84 | 315 |
| 33315 | 4K36GHDL | 33325 | 4K36GHDSML | 96,000 | 240 | BN84 | 520 |

## GAPMASTER SIX LOAD MODULE SYSTEMS / AIR CASTER RIGGING SYSTEMS



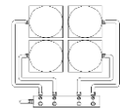
| Part# | Model | Part Number | Model | Capacity (lbs) | Air Flow (scfm)++ | Control Console | Net Weight (lbs) |
|---|---|---|---|---|---|---|---|
| 33424 | 6K12GL | 33435 | 6K12GSML | 7,200 | 90 | BN66 | 135 |
| 33446 | 6K15GL | 33457 | 6K15GSML | 12,000 | 108 | BN66 | 175 |
| 33468 | 6K21GL | 33479 | 6K21GSML | 24,000 | 120 | BN66 | 255 |
| 33490 | 6K27GL | 33500 | 6K27GSML | 42,000 | 150 | BN66 | 435 |
| 33510 | 6K36GL | 33520 | 6K36GSML | 72,000 | 180 | BN66 | 685 |

| Part# | Model | Part Number | Model | Capacity (lbs) | Air Flow (scfm)++ | Control Console | Net Weight (lbs) |
|---|---|---|---|---|---|---|---|
| 33452 | 6K15GHDL | 33463 | 6K15GHDSML | 27,600 | 180 | BN66 | 185 |
| 33474 | 6K21GHDL | 33485 | 6K21GHDSML | 48,000 | 210 | BN66 | 270 |
| 33495 | 6K27GHDL | 33505 | 6K27GHDSML | 99,000 | 270 | BN86 | 470 |
| 33515 | 6K36GHDL | 33525 | 6K36GHDSML | 144,000 | 360 | BN86 | 770 |

**Each Load Module System includes:**
Four or Six Load Modules with quick disconnect (QD) adapters
Four or Six 20 foot long color coded interconnection hoses with quick disconnect (QD) coupler (both ends)
Four or Six station regulator control console with four or six quick disconnect (QD) adapter outlets and one on/off valve at the inlet.

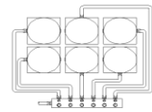
**++ NOTE ON ESTIMATED AIR FLOW** - Air flow listed on this page is an estimate of the air flow at a given load, and a good operating surface. Always multiply this air flow data times 1.75 (1.5 for Gapmaster) to provide a safety factor; when providing data to a customer; or when calculating air compressor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

## DURAGLIDE FOUR LOAD MODULE SYSTEMS / AIR CASTER RIGGING SYSTEMS



| Part# | Model | Part Number | Model | Capacity (lbs) | Air Flow Range (scfm)++ | Control Console | Net Weight (lbs) |
|---|---|---|---|---|---|---|---|
| ***33247*** | ***4K15DL*** | ***33258*** | ***4K15DSML*** | 14,000 | 40/100 | BN64 | 120 |
| ***33269*** | ***4K21DL*** | ***33280*** | ***4K21DSML*** | 28,000 | 48/120 | BN64 | 160 |
| ***33291*** | ***4K28DL*** | - | - | 52,000 | 68/140 | BN64 | 290 |

## DURAGLIDE SIX LOAD MODULE SYSTEMS / AIR CASTER RIGGING SYSTEMS



| Part# | Model | Part Number | Model | Capacity (lbs) | Air Flow Range (scfm)++ | Control Console | Net Weight (lbs) |
|---|---|---|---|---|---|---|---|
| ***33447*** | ***6K15DL*** | ***33458*** | ***6K15DSML*** | 21,000 | 60/150 | BN66 | 195 |
| ***33469*** | ***6K21DL*** | ***33480*** | ***6K21DSML*** | 42,000 | 72/180 | BN66 | 235 |
| ***33491*** | ***6K28DL*** | - | - | 78,000 | 102/210 | BN66 | 475 |

**Each Load Module System includes:**
Four or Six Load Modules with quick disconnect (QD) adapters
Four or Six 20 foot long color coded interconnection hoses with quick disconnect (QD) coupler (both ends)
Four or Six station regulator control console with four or six quick disconnect (QD) adapter outlets and one on/off valve at the inlet.

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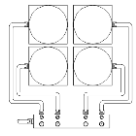
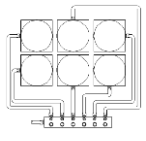
## NEOPRENE FOUR LOAD MODULE SYSTEMS / AIR CASTER RIGGING SYSTEMS



| NEOPRENE | | | | | | | |
|---|---|---|---|---|---|---|---|
| Part# | Model | Part Number | Model | Capacity (kg) | Air Flow ++ (L/Sec) | Control Console | Net Weight (kg) |
| 33201 | 4K8NL | 33211 | 4K8NSML | 1,816 | 15 | BN34 | 27 |
| 33221 | 4K12NL | 33232 | 4K12NSML | 4,536 | 26 | BN34 | 36 |
| 33243 | 4K15NL | 33254 | 4K15NSML | 7,708 | 26 | BN64 | 52 |
| 33265 | 4K21NL | 33276 | 4K21NSML | 12,700 | 23 | BN64 | 77 |
| 33287 | 4K27NL | 33297 | 4K27NSML | 25,396 | 42 | BN64 | 132 |
| 33307 | 4K36NL | 33317 | 4K36NSML | 43,536 | 55 | BN64 | 209 |
| 33327 | 4K48NL | 33337 | 4K48NSML | 87,076 | 58 | BN84 | 336 |

| NEOPRENE HIGH LIFT | | | | | |
|---|---|---|---|---|---|
| Part# | Model | Capacity (kg) | Air Flow Range ++ (L/Sec) | Control Console | Net Weight (kg) |
| 33237 | 4K12N-HLSML | 3,628 | 22/52 | BN34 | 36 |
| 33259 | 4K15N-HLSML | 6,348 | 26/96 | BN64 | 52 |
| 33281 | 4K21N-HLSML | 12,700 | 30/112 | BN64 | 77 |

## NEOPRENE SIX LOAD MODULE SYSTEMS / AIR CASTER RIGGING SYSTEMS



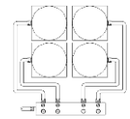
| NEOPRENE | | | | | | | |
|---|---|---|---|---|---|---|---|
| Part# | Model | Part Number | Model | Capacity (kg) | Air Flow ++ (L/Sec) | Control Console | Net Weight (kg) |
| 33401 | 6K8NL | 33411 | 6K8NSML | 2,724 | 23 | BN66 | 48 |
| 33421 | 6K12NL | 33432 | 6K12NSML | 6,804 | 40 | BN66 | 61 |
| 33443 | 6K15NL | 33454 | 6K15NSML | 11,562 | 40 | BN66 | 77 |
| 33465 | 6K21NL | 33476 | 6K21NSML | 19,050 | 34 | BN66 | 116 |
| 33487 | 6K27NL | 33497 | 6K27NSML | 38,094 | 62 | BN66 | 195 |
| 33507 | 6K36NL | 33517 | 6K36NSML | 65,304 | 82 | BN66 | 311 |
| 33527 | 6K48NL | 33537 | 6K48NSML | 130,614 | 88 | BN86 | 499 |

| NEOPRENE HIGH LIFT | | | | | |
|---|---|---|---|---|---|
| Part# | Model | Capacity (kg) | Air Flow Range ++ (L/Sec) | Control Console | Net Weight (kg) |
| 33437 | 6K12N-HLSML | 5,442 | 34/78 | BN66 | 61 |
| 33459 | 6K15N-HLSML | 9,522 | 40/144 | BN66 | 77 |
| 33481 | 6K21N-HLSML | 19,050 | 46/168 | BN66 | 116 |

**Each Load Module System includes:**
Four or Six Load Modules with quick disconnect (QD) adapters
Four or Six 20 foot long color coded interconnection hoses with quick disconnect (QD) coupler (both ends)
Four or Six station regulator control console with four or six quick disconnect (QD) adapter outlets and one on/off valve at the inlet.

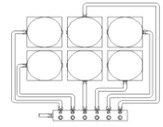
++ **NOTE ON ESTIMATED AIR FLOW** - Air flow listed on this page is an estimate of the air flow at a given load, and a good operating surface. Always multiply this air flow data times 1.75 (1.5 for Gapmaster) to provide a safety factor; when providing data to a customer; or when calculating air compressor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

## NEOPRENE HEAVY DUTY FOUR LOAD MODULE SYSTEMS/AIR CASTER RIGGING SYSTEMS



| Part# | Model | Part Number | Model | Capacity (kg) | Air Flow++ (L/Sec) | Control Console | Net Weight (kg) |
|---|---|---|---|---|---|---|---|
| 33206 | 4K8NHDL | 33216 | 4K8NHDSML | 3,628 | 23 | BN34 | 27 |
| 33227 | 4K12NHDL | 33238 | 4K12NHDSML | 9,072 | 30 | BN34 | 39 |
| 33249 | 4K15NHDL | 33260 | 4K15NHDSML | 15,420 | 38 | BN64 | 57 |
| 33271 | 4K21NHDL | 33282 | 4K21NHDSML | 29,024 | 47 | BN64 | 84 |
| 33292 | 4K27NHDL | 33302 | 4K27NHDSML | 50,792 | 91 | BN84 | 143 |
| 33312 | 4K36NHDL | 33322 | 4K36NHDSML | 90,704 | 102 | BN84 | 218 |
| 33332 | 4K48NHDL | 33342 | 4K48NHDSML | 163,264 | 113 | BN84 | 372 |

## NEOPRENE HEAVY DUTY SIX LOAD MODULE SYSTEMS/AIR CASTER RIGGING SYSTEMS



| Part# | Model | Part Number | Model | Capacity (kg) | Air Flow++ (L/Sec) | Control Console | Net Weight (kg) |
|---|---|---|---|---|---|---|---|
| 33406 | 6K8NHDL | 33416 | 6K8NHDSML | 5,442 | 34 | BN66 | 48 |
| 33427 | 6K12NHDL | 33438 | 6K12NHDSML | 13,608 | 46 | BN66 | 64 |
| 33449 | 6K15NHDL | 33460 | 6K15NHDSML | 23,130 | 56 | BN66 | 84 |
| 33471 | 6K21NHDL | 33482 | 6K21NHDSML | 43,536 | 71 | BN66 | 122 |
| 33492 | 6K27NHDL | 33502 | 6K27NHDSML | 76,188 | 136 | BN86 | 209 |
| 33512 | 6K36NHDL | 33522 | 6K36NHDSML | 136,056 | 153 | BN86 | 322 |
| 33532 | 6K48NHDL | 33542 | 6K48NHDSML | 244,896 | 170 | BN86 | 553 |

**Each Load Module System includes:**

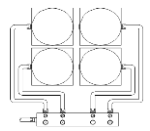
Four or Six Load Modules with quick disconnect (QD) adapters

Four or Six 20 foot long color coded interconnection hoses with quick disconnect (QD) coupler (both ends)

Four or Six station regulator control console with four or six quick disconnect (QD) adapter outlets and one on/off valve at the inlet.

++ **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.

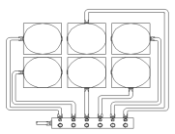
## URETHANE FOUR LOAD MODULE SYSTEMS / AIR CASTER RIGGING SYSTEMS



| Part# | Model | Part Number | Model | Capacity (kg) | Air Flow (L/Sec)++ | Control Console | Net Weight (kg) |
|---|---|---|---|---|---|---|---|
| ***33223*** | ***4K12UL*** | ***33234*** | ***4K12USML*** | 4,536 | 26 | BN34 | 36 |
| ***33245*** | ***4K15UL*** | ***33256*** | ***4K15USML*** | 7,708 | 23 | BN64 | 52 |
| ***33267*** | ***4K21UL*** | ***33278*** | ***4K21USML*** | 12,700 | 26 | BN64 | 77 |
| ***33289*** | ***4K27UL*** | ***33299*** | ***4K27USML*** | 25,396 | 60 | BN64 | 132 |
| ***33309*** | ***4K36UL*** | ***33319*** | ***4K36USML*** | 43,536 | 81 | BN64 | 211 |
| ***33329*** | ***4K48UL*** | ***33339*** | ***4K48USML*** | 87,076 | 89 | BN84 | 345 |

| Part# | Model | Part Number | Model | Capacity (kg) | Air Flow (L/Sec)++ | Control Console | Net Weight (kg) |
|---|---|---|---|---|---|---|---|
| ***33251*** | ***4K15UHDL*** | ***33262*** | ***4K15UHDSML*** | 15,420 | 30 | BN64 | 57 |
| ***33273*** | ***4K21UHDL*** | ***33284*** | ***4K21UHDSML*** | 25,396 | 57 | BN64 | 82 |
| ***33294*** | ***4K27UHDL*** | ***33304*** | ***4K27UHDSML*** | 50,792 | 136 | BN84 | 143 |
| ***33314*** | ***4K36UHDL*** | ***33324*** | ***4K36UHDSML*** | 90,704 | 153 | BN84 | 225 |
| ***33334*** | ***4K48UHDL*** | ***33344*** | ***4K48UHDSML*** | 163,264 | 170 | BN84 | 384 |
| ***33354*** | ***4K60UHDL*** | - | - | 217,687 | 180 | BN84 | 588 |

## URETHANE SIX LOAD MODULE SYSTEMS / AIR CASTER RIGGING SYSTEMS



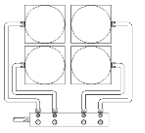
| Part# | Model | Part Number | Model | Capacity (kg) | Air Flow (L/Sec)++ | Control Console | Net Weight (kg) |
|---|---|---|---|---|---|---|---|
| ***33423*** | ***6K12UL*** | ***33434*** | ***6K12USML*** | 6,804 | 40 | BN66 | 61 |
| ***33445*** | ***6K15UL*** | ***33456*** | ***6K15USML*** | 11,562 | 34 | BN66 | 77 |
| ***33467*** | ***6K21UL*** | ***33478*** | ***6K21USML*** | 19,050 | 40 | BN66 | 116 |
| ***33489*** | ***6K27UL*** | ***33499*** | ***6K27USML*** | 38,094 | 91 | BN66 | 193 |
| ***33509*** | ***6K36UL*** | ***33519*** | ***6K36USML*** | 65,304 | 122 | BN66 | 311 |
| ***33529*** | ***6K48UL*** | ***33539*** | ***6K48USML*** | 130,614 | 133 | BN86 | 513 |

| Part# | Model | Part Number | Model | Capacity (kg) | Air Flow (L/Sec)++ | Control Console | Net Weight (kg) |
|---|---|---|---|---|---|---|---|
| ***33451*** | ***6K15UHDL*** | ***33462*** | ***6K15UHDSML*** | 23,130 | 46 | BN66 | 84 |
| ***33473*** | ***6K21UHDL*** | ***33484*** | ***6K21UHDSML*** | 38,094 | 85 | BN66 | 125 |
| ***33494*** | ***6K27UHDL*** | ***33504*** | ***6K27UHDSML*** | 76,188 | 204 | BN86 | 209 |
| ***33514*** | ***6K36UHDL*** | ***33524*** | ***6K36UHDSML*** | 136,056 | 229 | BN86 | 331 |
| ***33534*** | ***6K48UHDL*** | ***33544*** | ***6K48UHDSML*** | 244,896 | 255 | BN86 | 567 |
| ***33554*** | ***6K60UHDL*** | - | - | 326,532 | 269 | BN86 | 868 |

**Each Load Module System includes:**
Four or Six Load Modules with quick disconnect (QD) adapters
Four or Six 20 foot long color coded interconnection hoses with quick disconnect (QD) coupler (both ends)
Four or Six station regulator control console with four or six quick disconnect (QD) adapter outlets and one on/off valve at the inlet.

++ **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.

## GAPMASTER FOUR LOAD MODULE SYSTEMS / AIR CASTER RIGGING SYSTEMS

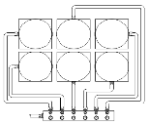


Gapmaster Load Modules are recommended for special applications for the movement of loads over gaps and steps in the operation surface. Always consult AeroGo for instructions on the use of Gapmaster Load Modules in any application.

| Part# | Model | Part Number | Model | Capacity (kg) | Air Flow (L/Sec)++ | Control Console | Net Weight (kg) |
|---|---|---|---|---|---|---|---|
| 33224 | 4K12GL | 33235 | 4K12GSML | 2,176 | 28 | BN34 | 36 |
| 33246 | 4K15GL | 33257 | 4K15GSML | 3,628 | 34 | BN64 | 54 |
| 33268 | 4K21GL | 33279 | 4K21GSML | 7,256 | 38 | BN64 | 79 |
| 33290 | 4K27GL | 33300 | 4K27GSML | 12,700 | 47 | BN64 | 132 |
| 33310 | 4K36GL | 33320 | 4K36GSML | 21,768 | 57 | BN64 | 209 |

| Part# | Model | Part Number | Model | Capacity (kg) | Air Flow (L/Sec)++ | Control Console | Net Weight (kg) |
|---|---|---|---|---|---|---|---|
| 33252 | 4K15GHDL | 33263 | 4K15GHDSML | 8,344 | 57 | BN64 | 57 |
| 33274 | 4K21GHDL | 33285 | 4K21GHDSML | 14,512 | 66 | BN64 | 84 |
| 33295 | 4K27GHDL | 33305 | 4K27GHDSML | 29,932 | 85 | BN84 | 143 |
| 33315 | 4K36GHDL | 33325 | 4K36GHDSML | 43,536 | 113 | BN84 | 236 |

## GAPMASTER SIX LOAD MODULE SYSTEMS / AIR CASTER RIGGING SYSTEMS



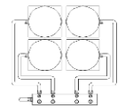
| Part# | Model | Part Number | Model | Capacity (kg) | Air Flow (L/Sec)++ | Control Console | Net Weight (kg) |
|---|---|---|---|---|---|---|---|
| 33424 | 6K12GL | 33435 | 6K12GSML | 3,264 | 43 | BN66 | 61 |
| 33446 | 6K15GL | 33457 | 6K15GSML | 5,442 | 51 | BN66 | 79 |
| 33468 | 6K21GL | 33479 | 6K21GSML | 10,884 | 56 | BN66 | 116 |
| 33490 | 6K27GL | 33500 | 6K27GSML | 19,050 | 71 | BN66 | 197 |
| 33510 | 6K36GL | 33520 | 6K36GSML | 32,652 | 85 | BN66 | 311 |

| Part# | Model | Part Number | Model | Capacity (kg) | Air Flow (L/Sec)++ | Control Console | Net Weight (kg) |
|---|---|---|---|---|---|---|---|
| 33452 | 6K15GHDL | 33463 | 6K15GHDSML | 12,516 | 85 | BN66 | 84 |
| 33474 | 6K21GHDL | 33485 | 6K21GHDSML | 21,769 | 99 | BN66 | 122 |
| 33495 | 6K27GHDL | 33505 | 6K27GHDSML | 44,898 | 127 | BN86 | 213 |
| 33515 | 6K36GHDL | 33525 | 6K36GHDSML | 65,304 | 170 | BN86 | 349 |

**Each Load Module System includes:**
Four or Six Load Modules with quick disconnect (QD) adapters
Four or Six 20 foot long color coded interconnection hoses with quick disconnect (QD) coupler (both ends)
Four or Six station regulator control console with four or six quick disconnect (QD) adapter outlets and one on/off valve at the inlet.

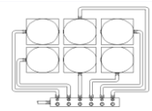
**++ NOTE ON ESTIMATED AIR FLOW** - Air flow listed on this page is an estimate of the air flow at a given load, and a good operating surface. Always multiply this air flow data times 1.75 (1.5 for Gapmaster) to provide a safety factor; when providing data to a customer; or when calculating air compressor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

## DURAGLIDE FOUR LOAD MODULE SYSTEMS / AIR CASTER RIGGING SYSTEMS



| Part# | Model | Part Number | Model | Capacity (kg) | Air Flow Range (L/Sec)++ | Control Console | Net Weight (kg) |
|---|---|---|---|---|---|---|---|
| 33247 | 4K15DL | 33258 | 4K15DSML | 6,348 | 19/48 | BN64 | 54 |
| 33269 | 4K21DL | 33280 | 4K21DSML | 12,700 | 23/56 | BN64 | 73 |
| 33291 | 4K28DL | - | - | 23,584 | 32/68 | BN64 | 132 |

## DURAGLIDE SIX LOAD MODULE SYSTEMS / AIR CASTER RIGGING SYSTEMS



| Part# | Model | Part Number | Model | Capacity (kg) | Air Flow Range (L/Sec)++ | Control Console | Net Weight (kg) |
|---|---|---|---|---|---|---|---|
| 33447 | 6K15DL | 33458 | 6K15DSML | 9,522 | 28/72 | BN66 | 88 |
| 33469 | 6K21DL | 33480 | 6K21DSML | 19,050 | 34/84 | BN66 | 107 |
| 33491 | 6K28DL | - | - | 35,376 | 48/102 | BN66 | 215 |

**Each Load Module System includes:**

Four or Six Load Modules with quick disconnect (QD) adapters

Four or Six 20 foot long color coded interconnection hoses with quick disconnect (QD) coupler (both ends)

Four or Six station regulator control console with four or six quick disconnect (QD) adapter outlets and one on/off valve at the inlet.

++ 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

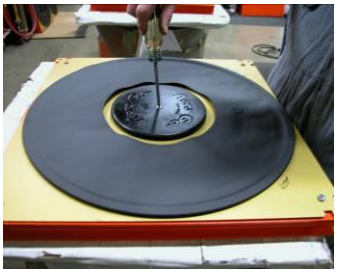
# REPLACING OR REMOVING AERO-CASTERS

1170 Andover Park West
Seattle, WA USA 98188-3909
Toll-free: (800) 426-4757
Phone : (206) 575-3344
Fax: (206) 575-3505
www.aerogo.com
info@aerogo.com

## 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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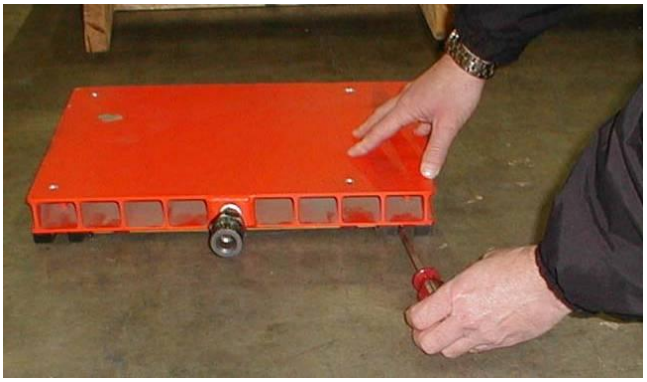
## Instructions to Remove or Replace

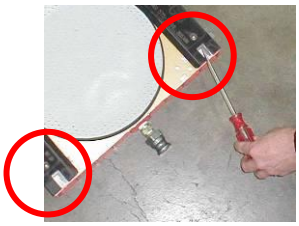
# Slide Mount Aero-Caster

**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.

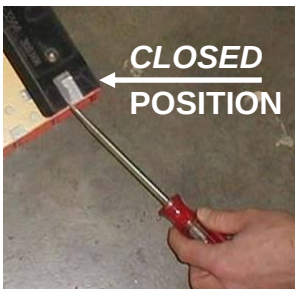


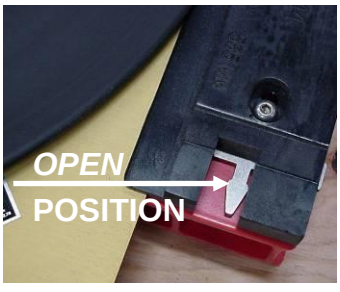
**STEP 2:** Be sure to disconnect air from the Load Module/Air Caster Rigging System prior to removing or replacing the Aero-Caster. Have a flat screwdriver and your slide-mount removal tool ready.

**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

1170 Andover Park West
Seattle, WA USA 98188-3909
Toll-free: (800) 426-4757
Phone : (206) 575-3344
Fax: (206) 575-3505
www.aerogo.com
info@aerogo.com

# 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 Rigging System

Model number xKxxxxxL

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