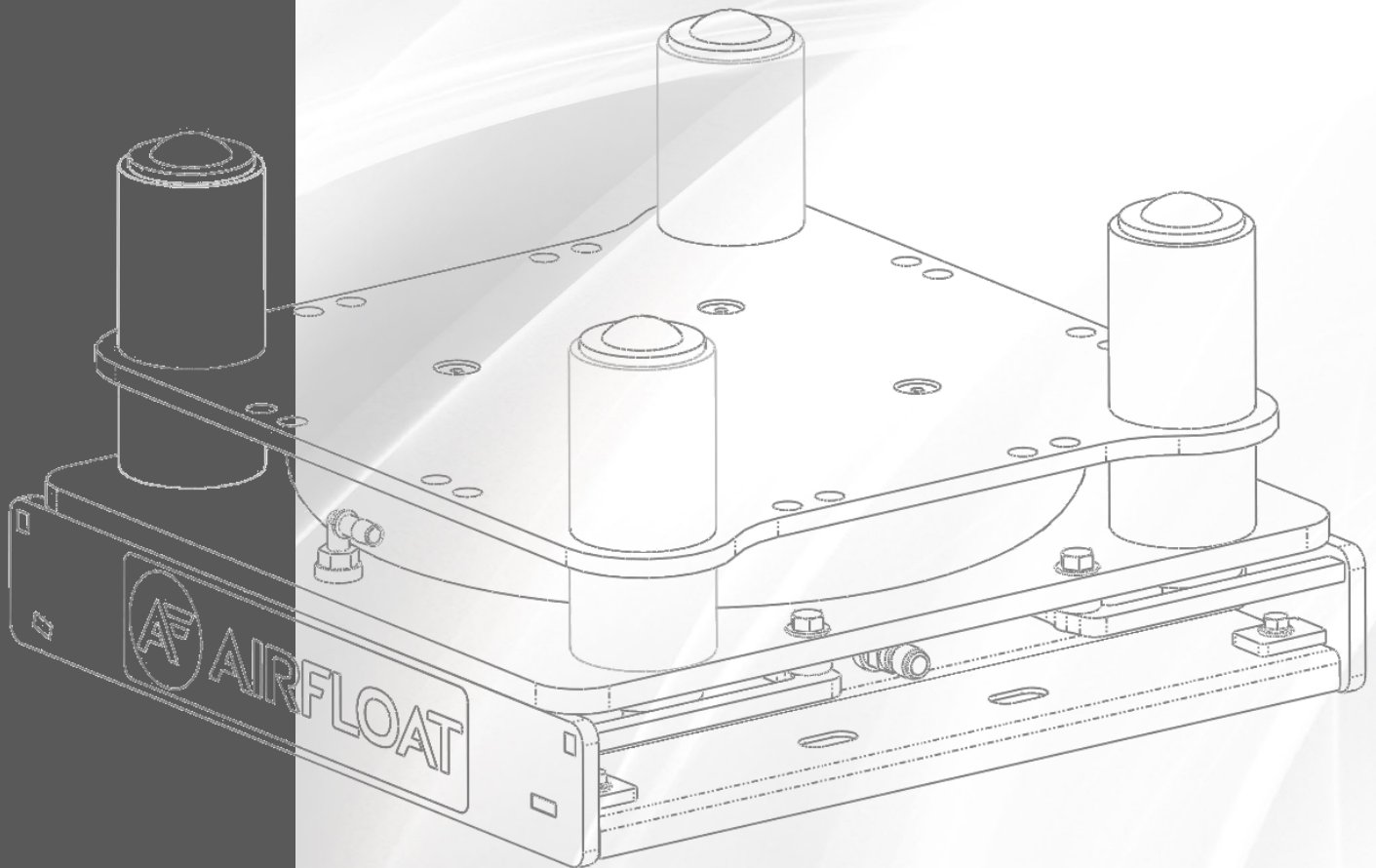




## STANDARD OPERATING MANUAL

### LIFT GLIDE AIR SKID SYSTEM



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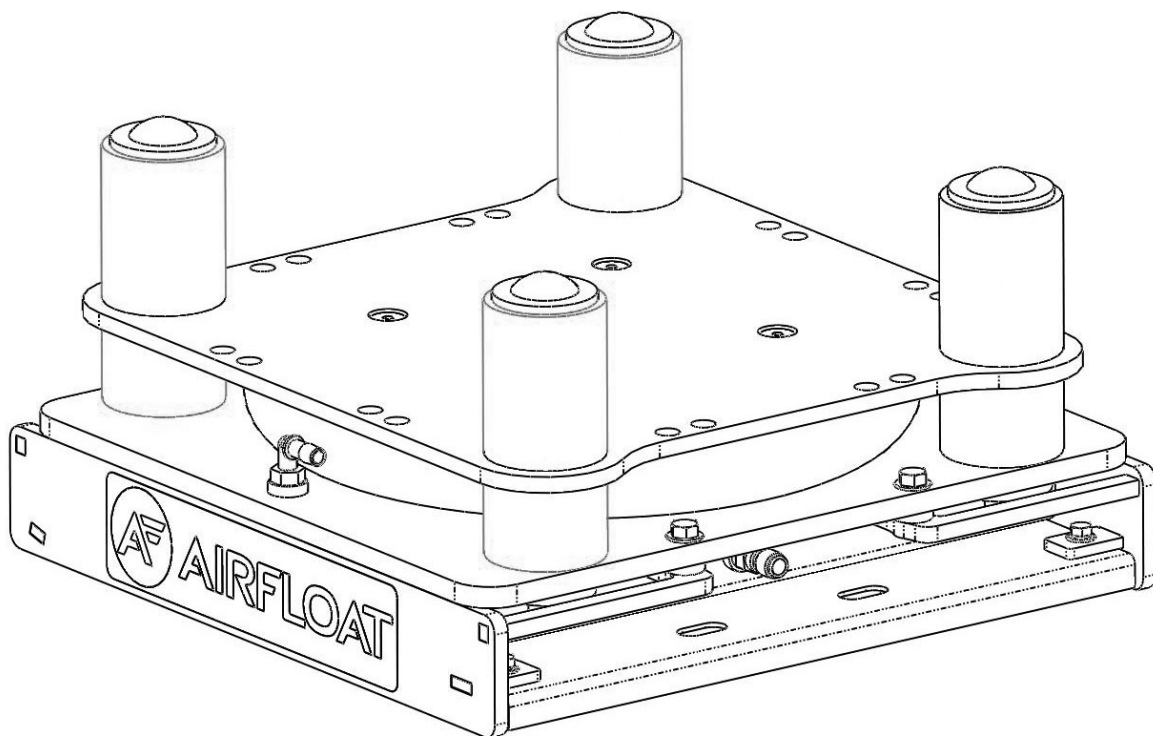
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[WWW.AIRFLOAT.COM](http://WWW.AIRFLOAT.COM)



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## I. DESCRIPTION OF EQUIPMENT

Lift Glide Air Skid Systems are primarily designed to easily move wheeled equipment that tends to become difficult to maneuver when heavily loaded. The Lift Glide system typically consists of the following:

- Four (4) Lift Glide Air Skids
- One (1) Lift/Float Control Box
- One (1) Set of Connecting Hoses
- Optional Deadman Switch with Hand Control
- Optional Riser Base

Each of the Lift Glide Air Skids is attached to the wheeled structure, suspended above the floor. When the lift bladders are energized, the modules extend down, contact the floor, and continue to extend, lifting the wheels of the structure off of the floor. The air bearings are then activated, allowing the loaded structure to float freely, which can then be easily moved to a new location.



Lift/Float Control Box



Optional Riser Base



Lift Glide Air Skid(s)



Bulk Hose (100 Feet)

## II. INSTALLATION

1. Carefully unpack Lift Glide system and place on smooth, clean area of concrete floor.
2. Inspect the equipment for possible damage in shipment or unpacking. Check especially for **cuts or damage to air bearing diaphragms**.
3. Attach the Lift Glide Air Skids to the transport equipment frame. The base of the air bearing frame should be suspended between  $\frac{1}{2}$ " and  $1 \frac{1}{2}$ " above the floor, or as specified on the drawing.

## INSTALLATION (CONT.)

4. If desired, mount the control box to the equipment frame. If additional holes are required for mounting, care should be taken not to damage or interfere with the operation of the components within the control box. Typically, the control box is mounted centered on one side of the structure. Two hoses run from each Lift Glide Air Skid, one controlling the auxiliary lift function and one controlling the function of the air bearings. These hoses connect to the appropriate fitting on the control box. Typically the air bearing hose connects to the flow-controlled air supply on the control panel.
5. Measure and cut the air supply hoses to the desired length. Connect the hoses to the control box and the Lift Glide units and clamp securely in place using the provided worm gear clamps.
6. If optional deadman switch is purchased, connect hand control to control box using the provided quick disconnect fittings located on the bottom of the control box.
7. The Lift Glide system installation is now complete and ready for operation.

## III. AIR SUPPLY

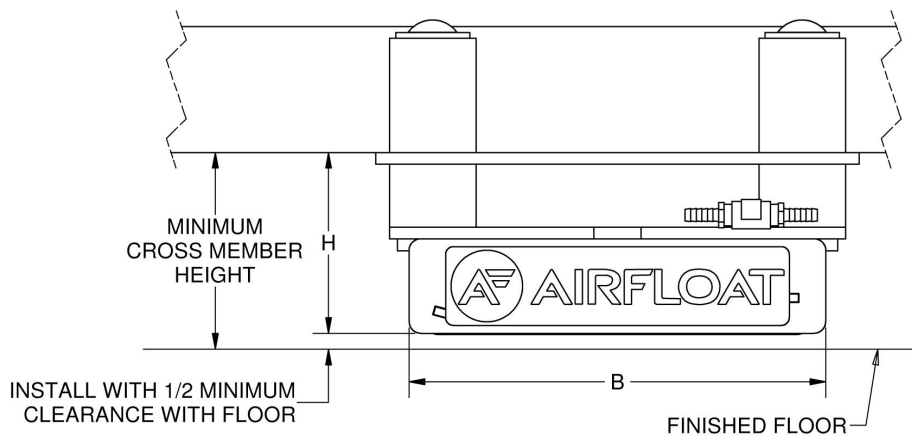
Model Number	Air Flow (SCFM) per Unit	Hose Size (I. D.) Up to 50'	Hose Size (I. D.) 50' to 100'
AF06012-1	11	1/2"	3/4"
AF06017-1	16	1/2"	3/4"
AF06020-1	18	1/2"	3/4"
AF06024-1	22	1/2"	3/4"

1. It is important that an adequate volume of air be supplied to the Lift Glide system. The table above shows the volume required for operation on a smooth surface (like steel or concrete), and the main air supply hose size required for that flow. Note: Air flow requirements for air bearings vary greatly with the quality of the floor.  
  
If unsure of compressor capacity, multiply compressor horsepower x 4 to obtain an approximate capacity (SCFM).
2. Connect main air supply to the control box.
3. At rated load capacity the incoming air pressure gauge must show a minimum of 80 psi when the air spring is being extended (valve in the "down" position). If line pressure is lower, full extension will not result, except for loads less than rated. The air spring pressure is factory set at 70 psi and should NOT be adjusted.

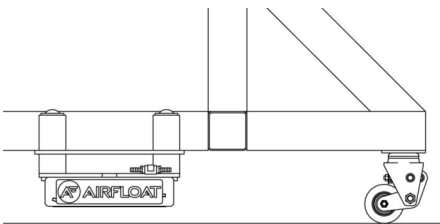
## IV. SIZING CHART

Lift Glide Model No.	Capacity	Dimensions (A x B x H)	Minimum Cross Member Height	Lift Glide Stroke	Bearing Number	Air Spring Number
AF06012-1	2,500 lbs. each 1,134 kg each	15 <sup>3</sup> / <sub>8</sub> x 14 <sup>1</sup> / <sub>4</sub> x 5 <sup>3</sup> / <sub>4</sub> in. 391 x 362 x 146mm	6 <sup>1</sup> / <sub>4</sub> in. (159 mm)	2 <sup>7</sup> / <sub>8</sub> in. 73 mm	H-0012	ASPF7008
AF06017-1	4,500 lbs. each 2,041 kg each	18 <sup>1</sup> / <sub>2</sub> x 18 <sup>1</sup> / <sub>4</sub> x 5 <sup>7</sup> / <sub>8</sub> in. 470 x 464 x 149 mm	6 <sup>3</sup> / <sub>8</sub> in. (162 mm)	2 <sup>7</sup> / <sub>8</sub> in. 73 mm	H-0017	ASPF7103
AF06020-1	8,000 lbs. each 3,629 kg each	21 <sup>1</sup> / <sub>2</sub> x 21 <sup>1</sup> / <sub>4</sub> x 6 in. 546 x 540 x 152 mm	6 <sup>1</sup> / <sub>2</sub> in. 165 mm	2 <sup>7</sup> / <sub>8</sub> in. 73 mm	H-0020	ASP0002
AF06024-1	12,000 lbs. each 5,440 kg each	25 <sup>3</sup> / <sub>4</sub> x 25 <sup>1</sup> / <sub>4</sub> x 7 <sup>1</sup> / <sub>8</sub> in. 654 x 641 x 181 mm	7 <sup>5</sup> / <sub>8</sub> in. 194 mm	2 <sup>7</sup> / <sub>8</sub> in. 73 mm	H-0024	ASP0004

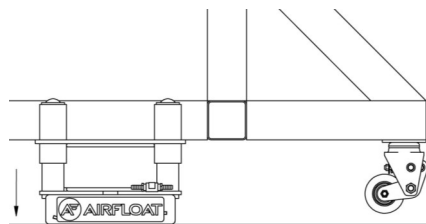
## DIAGRAMS



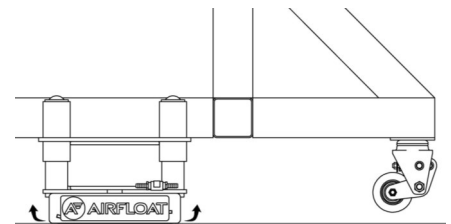
## HOW LIFT GLIDES WORK



1. Compression springs keep Lift Glides off the floor.



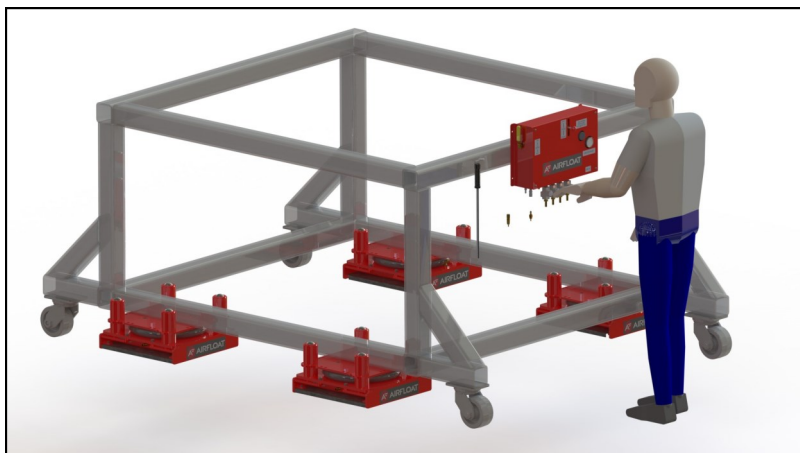
2. When air spring is pressurized, the Lift Glide extends down to lift wheels.



3. Air turned on to the air bearings to allow friction-free movement.

## V. OPERATING INSTRUCTIONS

1. To float the load, first set each of the individual flow control valves located at each Lift Glide approximately  $\frac{1}{2}$  of a turn open.
2. At the control box, actuate the auxiliary lift lever to lift the load. When released, the lever will spring-return to the “hold” position. Continue lifting the load until all lift bladders are fully extended and tight against their positive stops. Note: Auxiliary lift requires full inflation of lift bladders against positive stops for proper function. Inflation and deflation are not guaranteed to be level during the process of raising and lowering, as weights and centers of gravity will apply varying forces to the lift bladders.
3. If the system is equipped with a deadman switch, air flow to the air bearings passes through a control valve controlled by an on/off pushbutton device. The pushbutton is a spring-return type that must be actuated to maintain air bearing inflation. The pushbutton also allows for ease of operation from a distance.
4. Open the air bearing valve on the control box (and if equipped, press deadman switch) until the load is floating free. *Excessive air flow will waste air and may cause stability problems.* Increase or decrease the air flow at the individual flow control valves to approximately equalize air bearing lift.
5. If the load has a high center of gravity and/or an off-center load, the Lift Glide Air Skid flow control may need to be adjusted. Either increase or decrease the flow controls for the air bearings to create equal lift.
6. After movement is complete, turn off the air to the air bearings at the control box (or by releasing the deadman switch, if equipped). To extend the life of air bearing equipment, the load should come to a complete stop before the air is turned off. Activate the auxiliary lift lowering lever until the load rests on its wheels (or other primary supports) and the retracting compression springs have fully retracted the Lift Glide above the floor.
7. The main air supply hose (provided by customer) may now be vented and disconnected.



*Typical Lift Glide  
Air Skid setup.*

## VI. FLOORING REQUIREMENTS

The floor condition is an essential and integral part of any successful air film transport system. New installation or existing floor repair methods for air bearing use are generally different from those found in a typical plant or warehouse. Airfloat designs, manufactures, and tests our air bearings to the floor requirements listed below. Compliance to these floor requirements will ensure that your air bearing system operates at its optimum performance levels for which it was designed.

### FLATNESS

Floor flatness refers to the length and amplitude of waviness, humps, bulges, ridges, gullies, troughs or depressions. Floor undulations considered here must be non-abrupt with well rounded edges. Abrupt floor irregularities must be repaired or avoided. Ways to navigate cracks, expansion joints, holes, seams, etc. are discussed further below in this manual. Airfloat air bearing equipment is engineered to operate on floors that meet the following flatness specification:

Deviation under straight edge (inches)	1/16	1/8	1/4	3/8
Length of straight edge (feet)	1/2	3	10	12

Chart 1

Chart 1 (above) lists allowable depression deviations under various lengths of straight edges laid anywhere on the floor surface where the air bearing transportation system is intended to operate. Diagram 1 (below) illustrates the relative floor flatness of any given location in the air bearing equipment operating area.

*Airfloat air bearings are designed to operate on smooth, machine-troweled concrete floors, or other floor types with better or like finishes.*

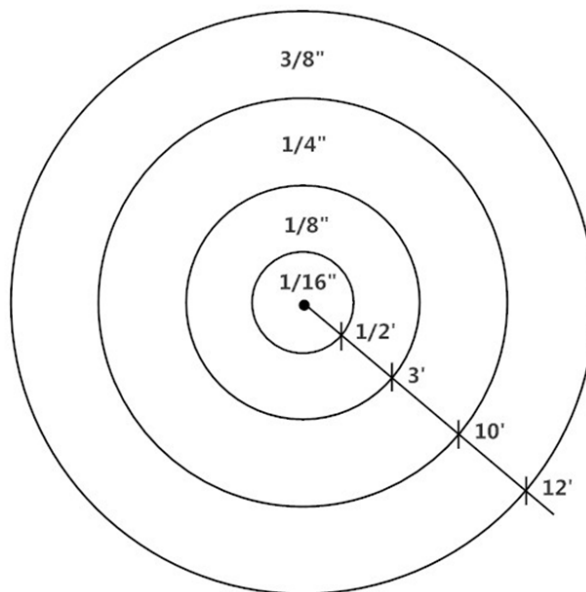


Diagram 1



## LEVELNESS

The levelness of a floor does not affect the air film produced by an air bearing and therefore does not degrade its performance. Floor levelness is only considered within the context of the overall control and maneuverability of the air bearing transport system.

For manually operated equipment, it is recommended that the floor not exceed a slope of .1% in any 10 foot run (a total of 1/8 inch rise in any 10 feet). For power driven or assisted equipment, it is required that the floor not exceed a slope of .2% in any 10 foot run (a total of 1/4 inch rise in any 10 feet). See Diagram 2 in which A = rise and B = run.

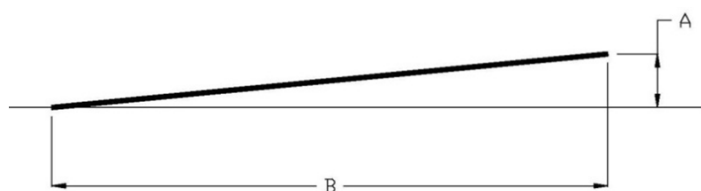


Diagram 2

Please note that unlevelled floors will allow an air bearing transport system to drift along the floor grade if a guide wheel or power drive is not provided.

## SURFACE TEXTURE

Air bearings operate with a paper-thin film of air between the air bearing diaphragm and the floor. The degree of floor surface smoothness is of paramount importance. Airfloat air bearings are designed to operate on smooth, machine-troweled concrete floors, or other floor types with better or like finishes.

## POROSITY

Our equipment is designed for efficient operation on non-porous floors. Air bearings make a floating pressure seal with the floor. A porous floor wastes air through the pores of the floor surface which degrade the pressure seal.

## CRACKS AND EXPANSION JOINTS

Hairline cracks are generally acceptable for air bearing use. As cracks widen, they must be filled and sealed to avoid air loss.

If at all possible, expansion joints should be avoided in the path of air bearing movement. If unavoidable, the joint should be filled with a backer rod, finished with a flexible epoxy and sanded flush to blend with the rest of the floor.

## PROJECTIONS

Any floor projections such as anchor bolts or cover plates should be finished flush with the floor surface. Blind holes with a diameter less than 3/4" will work acceptably with air bearing systems, but should be filled if not used.

## BRIDGE AND RAMP TRANSITIONS

A bridge or ramp can be used to transition from one surface to another or navigate over obstacles. Typically only light gauge sheet metal is needed to bridge seams, cover floor grating, or ramp to differing floor materials. Please note that bridge and/or ramps must be longer than the diameter of their bearing so that the bearing only transitions over one edge at a time. It is recommended that a very slight break be placed two inches behind the leading and trailing edges of the sheet metal to help keep the edges in uniform contact with the floor.

## SHEET MATERIAL OVERLAYS

Overlays are typically used in temporary rigging moves as they are the most cost effective way to achieve floor compliance over rough or porous floor surfaces. The most common materials used for overlays are sheet steel, plastic, hard tempered Masonite, and non-textured linoleum. The overlay material thickness should not exceed 1/32" to ease transition on to the overlay. When thicker overlay materials are required, they may necessitate the use of a ramp, which can be created by breaking the edge of the overlay material or by taping the leading edge with a thinner material. Overlay selection needs to consider subsurface conditions. Please consult with the factory.

Please note that in some instances, Airfloat may have the ability to design air bearing transport systems which can be specially engineered to operate on floor conditions outside the parameters of the requirements listed in this manual. Again, please consult with the factory for more information.

## VII. TROUBLE SHOOTING



For operator video tips, visit

[www.airfloat.com/videos](http://www.airfloat.com/videos)

Or visit our YouTube channel:

[www.youtube.com/airfloat](http://www.youtube.com/airfloat)

Problem	Cause	Remedy
Load doesn't lift or lifts but doesn't move easily.	Supply hose quick disconnect too restrictive.	Install larger or less restrictive quick disconnect.
	Supply hose too small for its length.	Increase hose size.
	Load is too heavy.	Try lighter load.
	Surface too rough for the air supply (insufficient air flow).	Test on smooth surface to verify.
One corner of the load is low or drags.	Too much restriction to that bearing.	Increase flow control valve setting.
	Torn or damaged diaphragm.	Replace bearing.
	Dirt or object clinging to diaphragm.	Clean diaphragm.
	Bearing over a hole or porous floor section, or cracks in the floor	Check on good surface.
	Low corner more heavily loaded than others.	Increase air flow to low corner or reduce flow to other corners.
Load does not lift when lift bladders are activated.	No air.	Check supply line is activated and connected to the control box.
	Low air pressure.	80 psi required.
	Load exceeds lift capacity.	Reduce load.
	Damaged air spring.	Inspect and replace if necessary.
Load rocks.	Individual flow controls too restricted.	Open individual flow controls and reduce inlet pressure.
	Modules too close together.	Space modules farther apart, use beams if required.
Load hops.	Excess air is being supplied.	Decrease air flow.

## VIII. SPARE PARTS

Model Number	Air Bearing Number	Air Spring Number
AF06012-1	H-0012	ASPF7008
AF06017-1	H-0017	ASPF7103
AF06020-1	H-0020	ASP0002
AF06024-1	H-0024	ASP0004

To reorder a part, please call **1-800-888-0018** and ask for the Parts Department.

If possible, please have your Airfloat serial number handy for reference.

## LIMITED WARRANTY

Align Production Systems (APS) warrants all of its products to be free of defects in material and workmanship for a period of one (1) year from date of shipment to the original purchaser or 2,000 operating hours, whichever comes first, provided purchaser gives APS prompt notice of the alleged defect(s) and, if requested by APS, returns the defective items, freight prepaid (F.O.B. APS's plant in Decatur, Illinois). THE WARRANTIES SET FORTH HEREIN ARE IN LIEU OF ALL OTHER WARRANTIES, WHETHER EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, FITNESS FOR A PARTICULAR PURPOSE AND MERCHANTABILITY, ALL OF WHICH ARE EXPRESSLY DISCLAIMED.

For any claim under warranty, APS may elect to repair or replace the defective component or components. All claims for warranty must be accompanied by a Return Goods Authorization number, which may be obtained from APS. This warranty does not cover, and APS is not responsible for, any labor or other expense for inspections, removal or reinstallation of components or products.

This warranty does not cover, among other things, damages resulting from foreign matter or water, negligence, accident, unreasonable use, abuse or misuse, alterations not authorized by APS, failure to provide reasonable and necessary maintenance or failure to follow operating instructions or load limits. IN ADDITION, IN NO EVENT SHALL APS BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL, CONSEQUENTIAL OR CONTINGENT DAMAGES, WHETHER OR NOT IT HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

APS makes no representation that the product complies with local, state or federal safety/product standards codes. If the product fails to comply in any way with those codes, it shall not be considered a defect in materials or workmanship, and APS shall not be liable for any damages resulting from noncompliance. This limited warranty is provided to the original purchaser (meaning the original end user) and is nontransferable. This limited warranty constitutes the complete and final agreement regarding APS warranty obligations for the product.

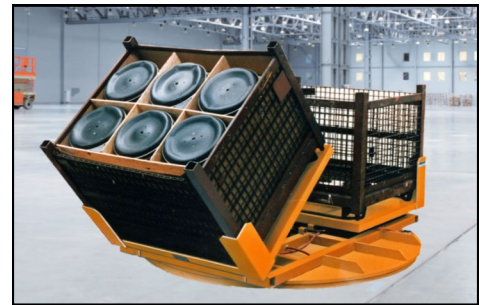
## ALIGN PRODUCTION SYSTEMS BRAND LINEUP



Airfloat



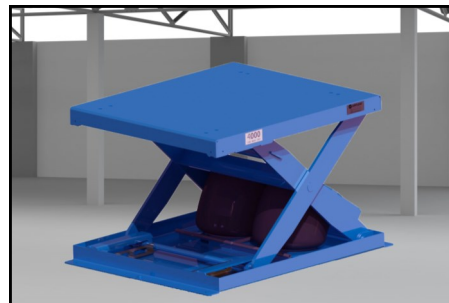
Silvestrini NA



Axial Industrial Turntables



Tecbo Tooling



Safebilt

