# **OPERATING & MAINTENANCE INSTRUCTIONS** LOAD MODULE SYSTEM

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# **ASE SYSTEMS**

The Ergonomics & Productivity Specialists! 5611 Guhn Road Ste: A1 \* Houston Texas 77040 ph.713-462-3072 \* fax: 713-462-3540 \* toll: 1800-245-2163 \* <u>www.asesystems.com</u> 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): Air 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
- 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.

Model/Size of Air Casters: \_\_\_\_\_ Rated Operating Pressure: \_\_\_\_\_

Max. Load Weight per Air Caster:\_\_\_\_\_ Effective Lift Height: \_\_\_\_\_

# LOAD MODULE 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.
- Close inlet ball valve on console by turning ball valve handle perpendicular to ball valve body.
- 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).
- Connect air supply hose to inlet ball valve on control console and air supply source. Then connect all hoses to Air 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 Air

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.

- 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 Air Casters.
- 8) After shutdown, turn all regulator knobs counterclockwise until close.

# 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.
- Never disconnect a pressurized airline 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 fireresistant

hydraulic fluid. Should Air Casters come in contact with any of these substances, clean Air Caster fabric as soon as possible with warm, soapy solution, rinse and wipe dry.

- 6) Check all air and mechanical connections that may have loosened during shipment or last equipment use.
- 7) Check air supply lines and main supply line and blow them clear of dirt or debris first before each hookup to your system.
- 8) Secure your load so it doesn't shift once the Air Casters are inflated.
- 9) Establish your path for the move ahead of time. Consider floor condition, air supply location and sufficient clearance for move.

# **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. Fill cracks with a sealistic compound filler. For information on achieving sealed concrete floors, Consult with a representative at ASE Systems.

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.

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

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



# **Surface Grades**

The flexible Air Caster is constructed to contour and conform to out-of-plane surface undulations. A normal factory floor with a deviation of <sup>1</sup>/<sub>4</sub>" in any 10' 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 a 14,000 load on a 1-% grade) must be applied. If drifting is not permissible, restrain loads with common rigging methods such as tether lines, winches and guide rails.

# Air Supply

### Blowout plant airlines to clear them of any dirt or obstructions before coupling to your system.

### **VOLUME:**

The volume of air required by a Load Module System depends on the size and quantity of Load Modules.

To check if your compressor will provide the air volume needed, multiply the horsepower rating of your compressor by four to give you its approximate SCFM output.

### **COMPRESSOR OUTPUT FORMULA** Example: A 25hp electric motor multiplied x 4 = 100scfm

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

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

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

### **PRESSURE:**

Supply air at a pressure sufficient to float your load. Allow for pressure loss through hose, fittings and components. 100 psi is recommended plant air supply pressure. This Spillsheets/LoadModuleManual will allow for pressure drops in the system, and leave enough for the required operating pressure at your Load Module. This is 25 psig for Standard Neoprene (N) and Urethane (U) Air Casters and 15 psig for Gapmasters (G) Air Casters. In Heavy-Duty Air Casters (HD), the operating pressure is 50 psig.

### AIR HOSES:

Recommended minimum hose sizes for a four Air Caster Load Module System:

	Hose ID*		
Model	Supply Hose		Interconnecting
	-50	50-100	Hoses
K12N	3/4"	3/4"	1/2"
K15N	3/4"	3/4"	1/2"
K21N	3/4"	1"	1/2"
K27N	1"	1 1/4"	3/4"
K36N	1"	1 1/4"	3/4"
K48N	1 1/4"	1 1/4"	1"
K21NHD	1 1/4"	1 1/4"	3/4"
K27NHD	1 1/4"	1 1/2"	1"
K36NHD	1 1/4"	1 1/2"	1"
K48NHD	1 1/4"	1 1/2"	1"

\*Based on a standard 100 psig pressure source and a smooth, sealed operating surface

## WARNING

Caution: Air under pressure can be a risk if nor handled properly. Assure air supply is off & lines vented before disconnecting. Exercise appropriate caution & assure hoses/fittings can not be accidentally released

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### 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 Air Casters (Load Modules)

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

### **BALANCING YOUR LOAD**

#### **Basic Even Loading**

Standard Load Module Systems are sized according to your maximum load weights and dimensions. Every effort should be taken to ensure that each Air Caster requires relatively the same pressure by not being loaded significantly higher than the rest. This can often be achieved by strategically placing the Load Modules beneath the load. Air 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 Air Casters as practical. The air pressure required for any load will be the load weight (including any structure) divided by the area of the Air Caster(s) carrying the load (e.g. 3500 pounds/140 sq. in. =25psi).

### **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 Air Casters

### **Special Notes**

Check to make sure your load is within the minimum/maximum specifications for you Load Module System.

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

### 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 Air Casters/Load Modules makes them easy to insert under loads. The low lift height keeps your move safely lower to the floor compared to other methods; however, as with all lift methods, the width of the Air Caster placement must be sufficient to assure that the load does not tip or become unstable. This condition

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4 ASE SYSTEMS Rev.VI March 2004 could be created by loads that excessively overhang the footprint of the Air Casters. In addition, **the vertical center of gravity (CG) can be no more than twice the width between centers of the Air Casters.** 

Check floor surface under the load and be certain it is clean. Remove all oil, sand, chips, debris, etc. Make sure that your structure is strong enough to carry the load where the Load Modules are placed. Insert the Load Modules under the load in the most balanced position. 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 Air Caster. If no gap exists, raise or jack load just enough to insert the Air Caster/Load Modules. Air Jacks can also be used in conjunction with the Air Casters.

Use strong space blocks to fill any remaining space and assure full lift height of inflated Air Caster will lift the load. For best operation, the full stroke of the air 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 Air 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 specified deflated "lift height" for you system will help you determine adequate spacing.

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 Air 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.

### <u>AIR CASTER ADJUSTING – INITIAL</u> <u>SETTING</u>

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

 Pressure Readings: This is helpful for predicting required pressure in advance of a move – or when determining changes. Find load and area of Air Caster, and then calculate torus bag pressure to support load. This can also be calculated by taking the load weight fraction of the rated maximum load of your system.

The Air Caster's "operating pressure" is 25 psi at full capacity for most models and 50 psi at full capacity for heavy-duty models. When the load is not at capacity of Air 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 gauge will read slightly higher.

2. Effective Lift Height: Refers to the difference between the inflated and deflated height



AIR CASTER DEFLATED, SYSTEM AT REST

Spillsheets/LoadModuleManual ©1999 ASE Systems, Inc  Visual/Audible Inspection: When properly inflated, air will just begin escaping from between the Air Caster and floor. This can be visually and audibly detected by looking for wisps or hearing the start of air escaping. The light escaping air can also be felt – but use caution and never put fingers or hands below or between loads that could shift or drop. See chart below Step 11 for more information.

# MAKING THE MOVE

Now that you have installed the Load Modules and balanced the load, you are ready to lift and make your move.

### Read entire manual prior to moving a load.

### **CONNECT AIR & HOSES**

- 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 dropped on the floor (or a small amount of water poured on the floor) can be used to determine downhill slope.
- 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).
- 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 all hoses to Air Casters and the control console. These hoses are color-coded to ensure the operator knows which Air Caster is being affected. Where possible, route hoses through, over or around the load to keep them off the floor. **SAFETY NOTE:**

If 2 supply hoses are joined together, the cam locks on hose ends should be secured, i.e. cable tied or taped down, to ensure they don't get caught and disconnect during your move.

### TURNING ON AIR

- 7) Slowly turn on air supply at source.
- Slowly open inlet ball valve on control console. Verify that system main air pressure gauge indicates pressure. Check for leaks or une xpected system reactions. If this occurs, turn ball valve off (perpendicular to ball valve body). See Troubleshooting Section 1.

### INFLATE/LIFT

- 9) Gradually increase pressure to Air Casters by turning each regulator knob clockwise in small even increments – until pressure is about one-half desired (see Air Caster Adjusting). Check to see that all Air Casters are contacting the floor. Gradually increase pressure in 2-3 psi increments until you can hear air escaping, then back off slightly. You may inflate Air Casters in opposing pairs or all at once depending on the rigidity of the load and the need to avoid deflection.
- 10) Inspect the load and restraints (if used) to assure structure integrity and that the Load Modules are parallel to the floor.

11) 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 Air Casters that are lower. Remember there are 3 ways to determine proper lift height (see Air Caster Adjusting). The chart below will help determine height requirements visually and audibly. If an Air 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	Too little	Increase air
Height, no air	pressure/flow	Flow; check
escaping,		instructions
Air Caster		
Squeals/rubs		
Near rated Lift	Ideal air	
Height; Friction	pressure/flow	
reduced and load		
can begin drifting;		
wisps starting to		
show escaping air		
Excess air escaping;	Too much	Reduce air
Load bouncing or	pressure/flow	flow
hopping		

### 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 Air Caster Adjusting – Initial Setting for discussion of achieving proper airflow.

### WARNING

Keep hands, feet, hoses and other objects from under the 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

**12)** Ensure there are sufficient personnel to safely control load. Remember: It takes as long or longer to stop a moving load as it took to get it started. **Plan Ahead!** 

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13) Move load to destination. Check Load Modules frequently while moving load. Unequal loading may cause Load Modules to shift. Always stay on established path.

### CAUTION

If one or more Air Casters deflates, or sticks; shut down system and determine cause. **Do Not Force**. Injury to personnel or damage to load or Air Casters may occur. See Troubleshooting Section 2.

# <u>STOP</u>

**14)** When you have reached destination, bring system to complete stop before shutting down.

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

**15)** To shut down, turn ball valve off at the control console by turning ball valve handle perpendicular to ball valve. The Air Casters will deflate and the load will drop slowly to rest.

Note: Ensure that main air system pressure returns to zero.

### **SAFETY NOTE**

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

16) 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 <u>console</u>.

### CAUTION

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 before disconnecting interconnect hoses. **If you have any doubt that a hose is fully discharged, do not disconnect.** 

**17**) 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 downstream of supply hose ball valve.

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

### **DISCONNECT**

- **19**) Shut off main supply line ball valve.
- **20)** Disconnect a single hose from control console after ensuring the corresponding regulator is turned off.
- **21)** Open control console ball valve. Main air supply pressure gauge indicates pressure.

- 18) If self-relieving ball valve is in place on main air supply line and supply hose downstream of supply hose ball valve (check for soft hose), main air supply line may now be disconnected downstream from the ball valve and stored.
- **22**) Slowly open regulator corresponding to disconnected hose, and allow air to escape from fitting.
- **23)** When main air supply pressure gauge reads 0 psi, and supply hose is soft, close regulator and control console ball valve.
- **24)** After supply line has fully discharged, disconnect from console.
- **25)** Inspect all components for damage prior to storage.



# TROUBLESHOOTING

### CHECK THE FOLLOWING LIST FOR THE SOURCE OF YOUR PROBLEM AND ITS CORRECTION. CONTACT YOUR ASE REPRESENTATIVE FOR UNUSUAL CONDITIONS.

### 1. AIR LEAKS CHECK AND CORRECT:

- 1) Air leaking form 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 AIR CASTERS FAIL TO INFLATE PROPERLY

- A. Air may not be getting to Air Casters. Some common things to check are:
- 1) Inadequate air supply.
- 2) Restrictive fittings or undersized hose lines.
- 3) Obstructions in lines or debris in valves or system inlets.
- 4) Leaks in connections internal or external to system.
- 5) Valve(s) or regulator(s) partially turned off.
- 6) System overloaded.
- System mishandled during prior move "brought to sliding stop" by turning off air. Casters possibly folded under when system was deflated.

- Object caught under Air Casters or something stuck to face of Air Caster.
- Surface is rough, porous or contains cracks; no air film seal can be established. Use overlays or upgrade surface.
- 10) C.G. of load too far off center excessively overloading some Air Casters.
- 11) Air Caster is damaged or worn and requires replacing, or Air Caster was mounted incorrectly.
- 12) Unusual ramp angle has caused Air Casters to ground out or floor is too wavy and Air Casters cannot inflate to floor to establish seal.

2) Load has tilted to one side, so one Air

Caster is not completely on the floor.

- **B.** Air Caster(s) did not properly seal to the floor. Check:
- Air Casters not correctly placed in Load Module – inlet holes do not match.

# 3. UNEVEN INFLATING OF AIR CASTERS <u>CHECK AND CORRECT:</u>

1) Ensure all regulators are fully closed before turning on ball valve at control console.

### 4. AIR CASTERS APPEAR TO BE EQUALLY INFLATED, BUT LARGE FORCE IS REQUIRED TO MOVE LOAD CHECK AND CORRECT:

- Inadequate supply pressure and/or volume. Consider increasing supply and/or hose size, and decreasing hose lengths.
- Air 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.
- 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 Air Casters (U), when new, may have a sticky 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. AIR 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.
- System loaded too far off-center and operates only with excess air to those Air Casters carrying a light load. See "Balancing Your Load".
- Inlet hole into Air Caster not sealed by removal of protective mylar from doublebacked gasket tape or other air leaks in connections.

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

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### **CHECK AND CORRECT:**

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

# 7. AIR CASTER(S) HAVE STRAIGHT-LINE CUTS OR SCRATCHES <u>CHECK AND CORRECT:</u>

 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 <u>CHECK AND CORRECT:</u>

 The travel path includes a crack, gap, or step, which exceeds the capabilities of the Air Caster. Fill crack or use overlay on steps and gaps.

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. AIR CASTER(S) TILT WHEN INFLATED, CAUSING INSTABILITY <u>CHECK AND CORRECT:</u>

- The load is not centered on the Air Caster. Ensure each Load Module has its portion of the load directly on center. See "Balancing Your Load".
- The load above the Air 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 CHECK AND CORRECT:

- 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.

### **<u>SAFETY NOTE:</u>** Flow Sensor (Safety Fuse)

For supply hoses, it is strongly recommended to fit a Flow Sensor at the main air supply outlet. This will cut off the air supply to the main hose should it become detached whilst under pressure. This will stop the dangers associated to a whipping hose.

Flow Sensors (Safety Fuses) are sized to the diameter and length of the hose.

These can be ordered through your ASE representative.

# MAINTENANCE PREVENTIVE AND PERIODIC

**Surfaces:** Inspect operating surface and sweep free of any dirt buildup or production debris. Ensure surface is free of any chemical, oils or hydraulic fluid. Should Air Casters come in contact with any of these substances, clean the Air Caster fabric as soon as possible with warm, soapy solution, rinse and wipe dry.

**Air Casters:** Clean Air Casters with a cloth free of solvents or with a stiff brush (not wire) to remove any accumulation of dirt form the Air Caster fabric (as needed).

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

Re-coat the Air Caster outer fabric with protective urethane should fabric lose its shine after excessive equipment usage. Consult your sales person for proper Aero-Coat Kit and re-coating instructions.

Check Air 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 Air Caster with a spare replacement element.

**Filter:** Check control console filter for effectiveness. If needed, clean and re-install. If it needs replacement, see "Filter, Cleaning and Replacement".

**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 and replace as needed.



For Replacement Air Casters or other parts, call ASE Systems Inc. (800-245-2163).

# **REPLACEMENT AIR CASTER INSTRUCTIONS**

## Fixed-Mount Air Casters

- 1) Disconnect air from system.
- Remove center bolt, center landing pad, and corner mounting bolts\*. Save all hardware.

\*For GapMaster models, no center-landing pad is used. Instead, corner-landing pads are used. On 27" models and up, corner pads and a center pad are used.

- 3) Remove any seal material from mounting surface. Apply new seals to air inlet hole and center mounting hole of Air Caster.
- Inspect mounting assembly for damage for missing parts prior to installing new Air Caster.

### **Slide-Mounted Air-Casters**

For Air Casters 21" and bellow, unlock corner slide locks (2 each per Air Caster) with standard screwdriver. Using extraction tool # 11157 included with shipment, slide the Air Caster out. Reverse instructions to insert new Air Caster Element.

- 5) Line up inlet hole of new Air Caster with inlet hole on mounting surface. Holes must line up for proper operation.
- 6) Re-install landing pad(s) and all mounting hardware in original locations.

**Caution:** Never inflate Air Caster with bag facing up. Possible eye damage.

7) Inflate Air Caster briefly to ensure proper operation.

For Air Casters 27" and above, loosen hex head bolt, turn the slide lock. Using extraction tool # 11157 (included with shipment) slide the Air Caster out. Reverse instructions to insert new Air Caster.

**Note:** Install Air Caster with inlet I proper position (see label on unit for proper inlet position. If Air Caster is installed incorrectly, i.e. inlet hole is not in correct position; Air Caster will not inflate.

### Filter – Cleaning & Replacement

- 1) Disconnect air from system.
- Remove Control Console filter by turning and removing nut between control console ball valve and console end.
- 3) Inspect filter element for clogged surface, and replace as necessary.
- 4) Install new filter element by turning new filter nut until tight. Use thread seal to prevent leaks.

### ACCESORIES

### AIR JACK

Specifically designed for industrial lifting or jacking aplications, Air-jacks are built tough for continouous use in demanding rigging applications. And because Air-jacks are lightweight and portable, they are easy to handle, store, transport and set up.

Inflatable Air-Jacks are designed to jack or lift heavy loads and can be inserted into spaces less than one inch high.





The low profile of the Air-jacks requires less than one inch (25mm) of insertion space and inflate to full hieght in just seconds. Air-jacks are available in a variety of sizes with single jack capacity up to 73 tons, (66.2 Mtons) to provide virtually limitless lifting capacities.

The BN64 series console and up include an extra quick-disconnect fitting with auto-shut-off suitable for the air-jack system.

### PORTABLE STORAGE BOX

Keep your Load Module set and accessories together in a secure storage box



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# PLANNING ANOTHER MOVE?

Air Caster handling equipment is rapidly gaining a wide variety of uses in diverse load handling applications. Air Caster systems are available – or may be Custom Engineered – for different load sizes and shapes form 500 ponds to 5,000 tons. When planning to use your equipment in another location or under different load conditions, check with your factory-trained Representative for recommendations.

## WARRANTY

ASE Systems Inc. warrants its products to be free of defects I material and workmanship for a period of 12 months from the date of shipment of original equipment, when operated in accordance with the manufacture's instructions and product specifications. This warranty is limited to the repair or replacement, without charge, F.O.B. factory, of any product or part thereof determined by ASE Systems to have failed due to defective material or workmanship.

ASE Systems Inc. shall not be liable for any direct, indirect, special, consequential or commercial damages or for injuries to persons or damage to property arising form the use or operation of or any way connected with the product, from whatever cause arising.

ASE Systems Inc. makes no other warranty, express or implied, of any kind, including any warranty or merchantability or fitness for any particular use.

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