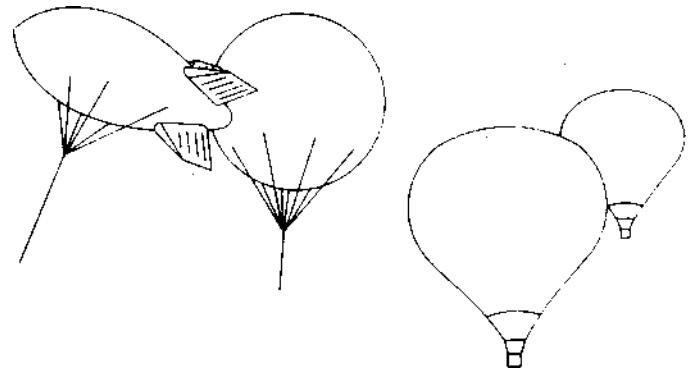


***READ this
manual thoroughly
BEFORE INFLATING.***

*This is a precision,
handcrafted product.
These instructions must be
followed very carefully!*

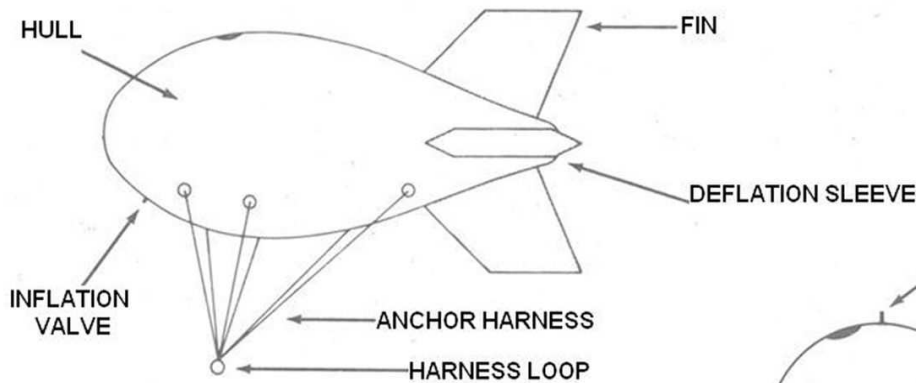


Ad Air Products

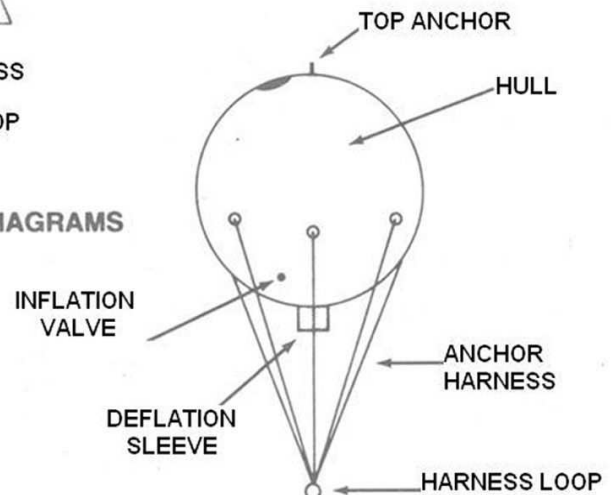
Operation & Maintenance Manual

AD AIR PRODUCTS OPERATION AND MAINTENANCE INSTRUCTIONS

Please become familiar with all the instructions in the Operation and Maintenance Manual. This will prevent problems or misunderstandings about the operation of the inflatable. If, after reading the manual, you still have any questions please take the time to contact your Ad Air Dealer for the correct answer.



SYSTEM DIAGRAMS



NOTICE:

Because the conditions under which these balloons are inflated and flown are entirely beyond our control, there is no performance or longevity warranty, expressed or implied.

THE SYSTEM

Your Ad Air inflatable consists of the following: the inflatable with harness lines and anchor loop attached; one main tether line 100' long; one 100' backup tether line; one roll of repair tape; repair material and repair solvent; inflation hose; tie-off strip.

WHEN AND WHERE TO FLY

Good judgement on your part will extend the life of your inflatable and the results it can produce for you. **It is not advisable to fly your inflatable in winds in excess of 25 mph or in rain.** If you wish to fly at night or higher than 150' consult your dealer for his advice. Vandalism and changing weather make it advisable not to leave the unit up all night unattended unless absolutely necessary. Always consider security when deciding when and where to use your inflatable. Where the tie down location is accessible to pedestrians, avoid the possibility of your inflatable being cut loose by a passerby. Tie down the tether lines where at least one of the lines won't be within easy reach. Ideally, neither of the tether ropes should be within access of passers-by.

Allow the inflatable adequate maneuvering area. The balloon will move around with the wind and even a moderate breeze will cause the balloon to sway and move over a considerable side to side area. We recommend the use of two tether ropes tied off at the base 40 to 60 feet apart. Position your tether ropes so that the balloon cannot come into contact with tall obstacles such as nearby telephone poles or wires, trees or nearby buildings. The tether ropes themselves should not be able to touch these obstacles even when there is a moderate breeze.

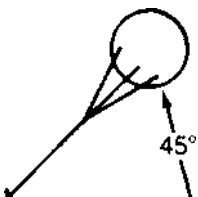
Shown below are three methods of tethering the inflatable. We recommend the use of two tether lines at all times. **Should the wind velocity at any time be strong enough to cause the balloon to lean closer to the ground than 45 degrees as shown below take it down until the wind subsides.**

Listed below are some of the methods by which balloons can be protected overnight or in overly windy conditions:

- Put into a nearby empty truck, trailer or garage. Make sure there are no splinters or protruding nails that can tear balloon fabric.
- Brought inside if you (or a friendly neighbor) have a large enough overhead door.
- Tied down inside a secure fenced in area. A fish net can be thrown over all but the largest balloons and weighted down to secure it. Place adequate tarps on the ground so balloon cannot rub or bounce against any rough surfaces, (a single rough pebble can puncture a balloon).
- Tied down to a flat rooftop in the same manner as in C above.

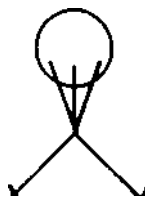
On days your inflatable is flying, observe it carefully for a few minutes several times a day. An increase in wind velocity or a change in wind direction might place your inflatable too close to an obstruction. Observe carefully at the same time for any loss of helium. Wrinkles will appear first where the harness lines are attached to the inflatable and the fins on blimps will begin to droop as soon as there is any appreciable helium loss. Obviously if leaks are neglected the balloon will come down and might be vulnerable to substantial damage, theft or vandalism.

one tether line



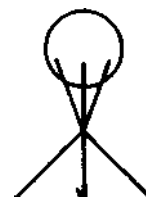
allow a 360° circular area for inflatable to lean up to 45°.

two tether lines



holds inflatable semi-stationary allow oval area for maneuvering.

three tether lines



holds inflatable almost stationary.

HELIUM

Helium is an inert non-flammable gas that can be obtained from your local industrial gas or welding supply company. Although helium is a safe, non-toxic gas, the helium cylinder is under high pressure and should be handled with care. Helium suppliers will deliver the helium and pick up the empty cylinders. Check the volume of helium you will require for your particular balloon on the chart shown on page 4 and tell your helium supplier how much helium you will need. Allow 15% to 20% extra for topping off purposes if you plan to fly your balloon for more than a week or two at a time. Helium is usually available in various size cylinders so your helium supplier will be able to supply you with the approximate amount of gas you require.

Helium contracts and expands with temperature fluctuations. An inflatable stored in a warm building and taken out into the cold will contract; add some helium to compensate. By the same token a softly inflated unit in a cool environment may expand considerably when taken out into the sun or as the temperature rises during the day. Think about temperature changes when adding helium.

Because helium is a very penetrating gas, your inflatable may lose about 1 % of its volume per day. When you add helium consider the temperature changes expected as stated above. You should have to add a small amount of helium only once every two to four days. If you are having to add helium more than once a day, check for holes or leaks, especially checking to see that the deflation port is properly tied off. Inspect very closely because leaks can come from tiny holes, as small as a pin hole acquired from handling. See Repairs Section.

TRIMMING ON BLIMP MODELS

Ad Air Blimps are designed to fly best at an approximate 10 degree nose high attitude. Harness lines should be checked periodically for proper adjustment, particularly if your blimp has a tendency to nose dive. In adjusting the harness lines, adjust the set of front lines first, then the rear lines, then snug up the middle lines.

INFLATE AND FLY ASSEMBLY INSTRUCTIONS

1. Carefully inspect the inflation, handling and storage areas for your inflatable before use for any debris, sharp or rough objects or any other obstructions that may damage the inflatable. If ground surface is not clear of pebbles, etc. spread a couple of blankets or plastic tarps (available in any paint store). Take care not to step on balloon fabric - even grit on shoes can damage fabric.
2. Unfold the inflatable making sure the harness is not tangled. Very securely tie off the deflation sleeve to prevent helium leakage using a short length of rope or the tie strip provided. By twisting the deflation sleeve into a tight twist and folding one half of the twisted section over into itself, you can create a tight seal. Wrap and tie the tie strip or rope over this folded twisted section.
3. Attach the main and back-up tether lines to the harness loop. Tie the tether lines to whatever you have selected as mooring points remembering to keep out of reach so as not to tempt vandals. Always secure the tether lines to both the inflatable and the mooring points before inflating.
4. Remove the protective hood from the helium cylinder and attach the inflation hose using the hand twist tightener.
5. Insert the end of the hose into the inflation valve. If tube fits too snugly, lubricate with Vaseline or grease.
6. The inflation process can be handled by one experienced person, but it is recommended that you have assistance the first time, or if the conditions are the least bit windy. The larger size blimps also mandate assistance.
7. Filling the inflatable should take place in a sheltered area if possible, especially if the wind is blowing more than 5 to 7 miles per hour - a protected area such as the downwind or lee side of a building for example, is favorable.
8. **CAUTION!!** Open helium cylinder valve **very, very slowly** (1/8th turn or less will start the helium flow). Take your time. Inflation will take only a few minutes. The helium in the cylinder is under extremely high pressure and can easily rupture the balloon fabric if released too rapidly. The pressure is greatest when the cylinder is full, so open the valve VERY SLOWLY when starting, just barely cracking the valve open until you hear the gas flowing. After a few minutes of inflating, the pressure in the cylinder will start to diminish and the valve can be opened a little further. When inflating, try to keep the end of the hose pointed towards the inner center of the inflatable and does not touch the inner sides of the balloon with the end of the hose. If possible, keep one hand on the cylinder valve when inflating so you can keep constant control over the flow of gas.
9. Fill the inflatable only until the wrinkles have disappeared from the hull. Do not overinflate. Close cover of inflation valve after inflating.
10. After you have the inflatable filled, raise it slowly to the desired height. Never release it and let it rise unchecked.
11. Consider surrounding obstacles when deciding how high to fly your inflatable. Consider the wide area the balloon can swing if it gets windy. Could it reach nearby tall obstacles such as high buildings or trees - avoid potential problems.

REPAIRS

If you suspect leaking, first check to make sure the deflation sleeve is tied off properly and that the inflation valve press cap is secure. If the balloon has already lost most of its helium, open the deflation sleeve and fill with air. Use either a tank type vacuum cleaner (which will blow air through its hose) or a hand held hair blower to inflate.

Temporary repairs on small tears and punctures can be made using the clear vinyl repair tape provided. The color coordinated repair material and solvent are for larger rips, and provide permanent repairs. Cut the desired size of material making sure of at least 1" overlap around the tear. Spread the solvent on the repair material VERY SPARINGLY AND THINLY. Apply solvent to larger patches only a couple of inches at a time.

If even a small drop of solvent is left on the balloon surface itself or is allowed to run down the side of the balloon, it must be wiped off immediately. It can damage the balloon fabric. Solvent should be applied to the patching material only, and not to the balloon itself. You might find it best to use paper toweling to press on the patches to absorb any excess solvent.

Test your repairs by leaving the balloon filled with air and allow to stand for a few hours to be sure you have found all holes before reinflating with helium.

If balloon is noticeably softer after letting stand for a few hours, it most likely still has another small hole or several pinhole size holes. If possible, position the balloon with a good light source behind it and look for holes on the shaded side. Using the sun outside when it is relatively low in the sky is one method. Another method is to position the balloon inside in front of a window with all lights in the room turned off. If at night time and the balloon is inside, still another method is to place the balloon in front of 2 or 3 bright lamps (DO NOT LET THE BALLOON COME IN CONTACT WITH HOT LAMPS), turning off all other lights in room. Position yourself on the darker side of the balloon and look for the pinpoint of light showing small holes. Turn or rotate the balloon as you inspect the surface carefully.

If damage to balloon is too extensive for the balloon to be readily repaired as described above, factory repair service is available. Contact your distributor for authorization to return your balloon to factory for repair estimate.

CLEANING

Your Ad Air inflatable may be easily cleaned with a detergent and warm water or window cleaner and a soft cloth. All painted artwork has been lightly powdered with talcum powder for protection during shipping. It can be cleaned off with a damp cloth.

ARTWORK

All artwork is hand painted in weather proof vinyl paint. Brush strokes that appear prominent close at hand will be barely visible when balloon is in use in the air.

LIMITED WARRANTY

Ad Air Products warrants its products to be free from defects at time of purchase. Replacement or repair, should defects exist will be at the discretion of Ad Air Products, provided written notification of such defects is made to the company via your dealer within 30 days of purchase. This warranty does not extend to damage done through mishandling or misuse of the product. Ad Air Products shall not in any event be liable for incidental or consequential damages by reason of any warranty claim. The warranty contained herein is expressly in lieu of all other warranties, expressed or implied. Because the conditions under which these balloons are inflated and flown are entirely beyond our control, there is no performance or longevity warranty, expressed or implied.

BALLOON SPECIFICATIONS AND HELIUM REQUIREMENTS

	MODEL	SIZE	HELIUM VOLUME
	AA-73	7'3" diameter	180 cu. ft.
Ad Air Balls (Sphere)	AA-83	8'3" diameter	290 cu. ft.
	AA-100	10' diameter	524 cu. ft.
	HAB-1	7' x 7'8" tall	170 cu. ft.
Hot Air Balloon Shapes	HAB-2	8' x 8'6" tall	310 cu. ft.
	HAB-3	10' x 10'10" tall	500 cu. ft.
	HAB-3M	10' x 10'10" tall	500 cu. ft.
	AA-2	5'3" x 13'	160 cu. ft.
Ad Air Blimps	AA-3	5'6" x 16'	303 cu. ft.
	AA-6	7' x 20'	560 cu. ft.
	AA-9	8'6" x 25'	940 cu. ft.