



# ***General Instructions and Operating Manual for Operators and Attendants of Children's Inflatable Play Equipment***

For CONTROLLERS (those who have overall control of the equipment and who are responsible for its inspection & maintenance e.g. Hirers)

For OPERATORS (those persons, over 18 years, appointed by the controller to be in charge of the day to day operation of the equipment)

For ATTENDANTS (those persons, over 16 years, working under the direction of the operator to assist in the operation of the equipment)

Version 28-06-12

## **IMPORTANT**

We advise all Controllers of inflatables to obtain and study BS EN14960:2006 - Inflatable Play Equipment - Safety Requirements and Test Methods - and to make sure that their operators are trained sufficiently and are competent to operate the equipment safely.

### **CONFORMITY AND STANDARDS**

For the purposes of this instructional manual, it is assumed that at some time during the previous 12 months the inflatable and its accessories have undergone annual testing by a competent person and passed as complying with the European Standard BS EN 14960:2006 Inflatable play equipment - Safety requirements and test methods.

This can be accomplished by submitting the equipment to a Pertexa Inflatable Play Accreditation (PIPA) scheme inspector who has been examined and registered as competent by the Register of Play Inspectors International (RPII).

### **SAFE HANDLING**

Inflatables can be very heavy and require some care in their handling if injuries are not to be caused. The first requirement for safe handling is that the inflatable was folded and rolled properly after its last use. A good, hard roll, flat at both ends, is so much more easily handled than a floppy heap of PVC. It can be handled and moved on a 2-wheeled sack barrow and easily bowled over onto a truck or trailer. Do not try to lift a complete inflatable. Lift only one end at a time. When the rolled inflatable is lying down, take up a squat position, lean a shoulder into the end and push with the legs. Your leg muscles are the strongest you have and will lift the inflatable onto its end. It can then be easily moved using the sack barrow. When loading the inflatable onto a truck or trailer, stand it up on its end close to the truck or trailer, lean the top onto the edge of the platform and then lift the bottom end and bowl it over.

When loading a petrol blower after an event, be careful not to burn yourself on the exhaust.

### **SETTING UP OUTDOORS ON GRASS/EARTH**

#### Choose your site

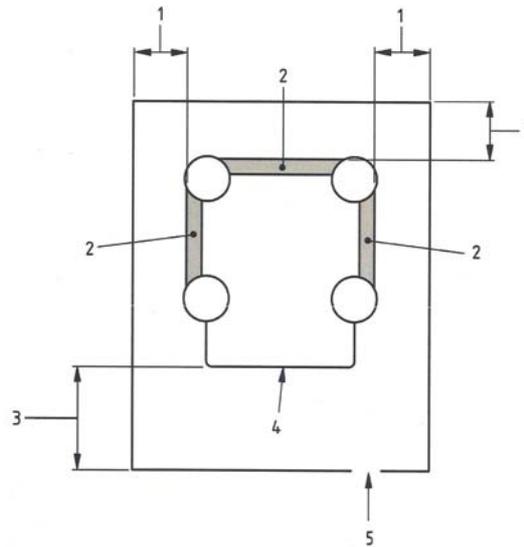
The site must be big enough to accommodate the equipment, bearing in mind the open space needed at front and sides and the length of the blow-tube.

The site must be level or have a slope of not more than 5 degrees in any direction.

The inflatable must be sited well away from possible hazards such as overhead power lines or other obstacles with hazardous projections (e.g. fences and/or trees).

The site must be cleared of debris and sharp objects on, or embedded in, the surface.

If, for crowd-control purposes, a perimeter fence is used, it must be at least 1.8m from walled sides and at least 3.5m from open sides. The gateway must be 1.0m wide. If there are guy-ropes on a high inflatable they must be contained within the fenced area.

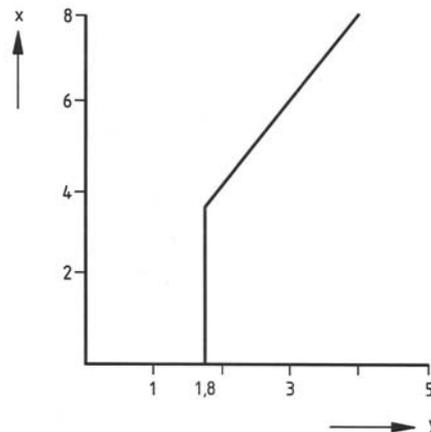


**Key**

- 1 At least 1.8m
- 2 Walled Side
- 3 At least 3.5m
- 4 Open Side
- 5 1m Gateway

**Positioning of perimeter fence**

A clear area must be maintained around the inflatable. The extent of this clear area is established by dividing the height of the highest platform by 2. However, the clear area must be at least 1.8m.



**Key**

- X Height of highest platform (a platform is any surface on which a user can stand)
- Y Extent of clear area

**Clear area around an inflatable**

An exception to this rule is when an inflatable with inflated walls is sited directly against a solid wall or walls, for example the walls of a building. In such a case, the solid wall(s) must be 2m higher than the highest platform height. Use of this exception must not result in the creation of additional hazards.

### Check the wind

The wind-speed must be no more than Force 5 on the Beaufort scale(maximum 24 mph/38 km/h) which is when small trees in leaf begin to sway. On the morning of the event or the night before, listen carefully to the weather forecast so that you have a good idea of what wind to expect. On the day and during the event, you can check the wind-speed using an anemometer

### Position and roll out the inflatable

Make sure that it faces the right way and all 'siting rules' have been observed.

### Anchor it down temporarily

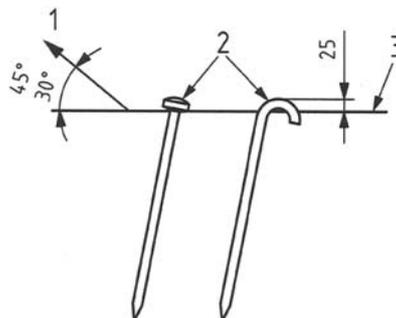
If ropes form part of the anchorage system, attach them to the anchor-points. The windward side of the inflatable needs to be anchored temporarily while it is inflating so drive anchor-stakes into the ground on the windward side and loosely tie on the windward side ropes. Using industry standard 38cm long x minimum 16mm diameter stakes, there is little risk of penetrating underground services. However, you should check that there are no obvious signs of excavation for cable runs, pipes etc. and check with the client for the location of any underground services before driving the stakes in.

### Inflate

Make sure onlookers keep away. Ensure all electrical equipment is suitable for outdoor use. Check that you have the correct size and type of blower and attach it securely to the blow-tube. Tie up any other tubes and close any zips. Switch on the blower and allow the inflatable to inflate fully. Watch the temporary anchorages you have connected in case they are positioned wrongly and pull tight. If they do pull tight, switch off the blower quickly and re-position either the inflatable or the stake, or loosen the rope. When the inflatable is fully inflated, you can push or pull it into its correct position.

### Anchor it down permanently

You must use every anchorage point on the inflatable because their number and positioning has been calculated for each inflatable. Drive an anchor-stake into the ground for each remaining anchorage point and securely connect the ropes or webbings. The original temporary anchorages might want moving so as to be in the correct position. The stakes need to be positioned so that the ropes or webbings go upwards from the stake towards the inflatable at between 30 and 45 degrees. Moving the stake closer makes the angle bigger. Moving it away makes the angle smaller. The stakes should be driven into the ground slightly inclined away from the inflatable and the ropes or webbings should not be pulled too tight. They should curve gently up to the inflatable so as to allow movement of the inflatable up and down when in use. The stakes should protrude no more than 25mm above the ground. If the inflatable requires anchorages in the impact area, make sure the stakes are as close in to the base of the inflatable as possible.

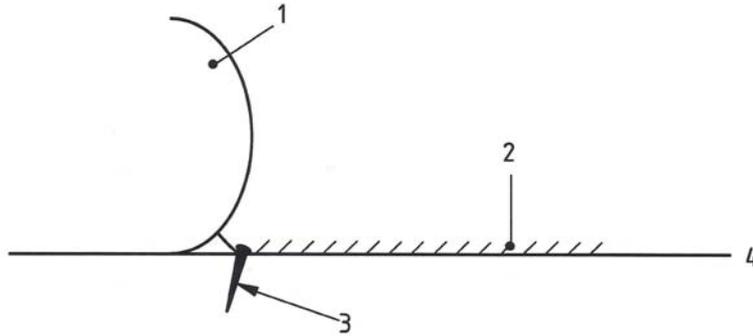


**Key:** 1 Direction of force,

2 Inclined away

3 Ground level

**Driving in anchor stakes**



### Key

- 1 Side of Inflatable
- 2 Impact Area
- 3 Anchorage stake as close as practicable to the side of the inflatable
- 4 Ground level

### Anchorage in an impact area

#### Adjust the position of the blower

The blower needs to be moved as far away from the inflatable as the blow-tube will allow and then moved forward 50mm so as to leave a little free play between blower and inflatable so that the blower is not pulled when people are bouncing.

**Note: The blower must stand at least 1.2m away from the inflatable.**

#### Check the working pressure

All inflatables need sufficient internal air pressure to make them stand up and assume their correct shape and to support the weight of the users. You can check the pressure is sufficient inside the inflatable by standing on the lowest part of the inflated base (usually the step) with your feet together and making sure that your feet do not touch the ground through the inflatable. You must stand at least 50cm from the edge. If you are heavier than the intended user and your feet do not touch the ground, then the pressure will be sufficient. If you are lighter than the intended user, get a heavier person's help. If you are using a petrol-engined blower, regulate the speed of the engine so that the pressure inside the inflatable is not too great. An electric blower does not need regulating.

#### Make sure your blower is safe

If you are using an electric blower, route the cable(s) out of the way of users and onlookers. Use an RCD circuit breaker somewhere in the line. If you are using a petrol engined blower, make sure no-one can burn themselves on the exhaust pipe and that the petrol cap is on. Keep your spare petrol out of sight and stored in a bund container. When you need to re-fill with petrol, stop the session and get everyone away. Switch off the blower and let it cool for a few minutes. Then use a funnel to re-fill the petrol tank so that no petrol is spilled. Return your spare petrol to its hiding place. Re-start the blower and, when the inflatable is fully inflated, start the session again.

#### Do you need mats at the entrance?

If the grass or earth is soft and not abrasive, it may not be necessary to use landing mats all around the entrance/exit, because soft grass and earth have sufficient impact attenuating properties for the maximum allowed fall-off height of inflatables (60cm). However, if the grass or earth are hard and abrasive, you will need to install landing mats over the whole of the impact area.

## **SETTING UP OUTDOORS ON HARD STANDING**

### Anchoring

On hard standing, you will be unable to anchor with stakes driven into the ground. Each anchor-point must be attached to something which will withstand a force of 160kg. This could be weights or sandbags, vehicles, provided they are immobilised and under your control, or fittings already in the ground. If you are near the edge of hard standing, you can sometimes anchor the rear and one side of the inflatable with stakes into the ground beyond the hard standing, leaving only one side to be anchored in the ways suggested above.

### Use landing mats

On hard standing you will definitely need landing mats, covering the whole of the impact area, and you will need to be on your guard against them moving when the session is in progress.

### Protect the base

If the hard standing is abrasive, you must use a groundsheet under the inflatable so as not to wear out the base of the inflatable.

### Keep the blower still and in position

A blower, running on hard standing, tends to move around because of the vibrations. Stand the blower on a rubber mat to avoid this.

## **SETTING UP INDOORS**

### Is the site suitable?

You must check that there is enough floor-space on which the inflatable can stand with its blow-tube fully extended and that there is plenty of space (3.5m) where the users get on and off. The height of the ceiling must be sufficient to allow the inflatable to inflate fully without touching and high enough to prevent users from touching the ceiling or any other fittings such as lights. If there is some doubt about the height, stand by the blower when inflating so that you are ready to switch off quickly if any part of the inflatable is too tall.

### Does the inflatable need anchoring?

Much depends upon the size and weight of the inflatable and the size of user. The inflatable will not blow away when indoors, but it could move across the floor and it could overturn. An inflatable with a small base and high side-walls is particularly prone to overturn if there are tall users and they make a concerted effort to run from side to side throwing themselves against the walls. This type of action on any small inflatable will at least cause the inflatable to move sideways thus putting the blower out of position and threatening to pull the blow-tube off of the blower. This tendency can be combated by the use of weights tied to the anchor-points, or by attaching the anchor-points to gym bars or any other secure fittings. Sideways movement can be counteracted by placing rubber mats under the inflatable. Likewise, a rubber mat must be placed under the blower to keep it still.

### Protecting the base

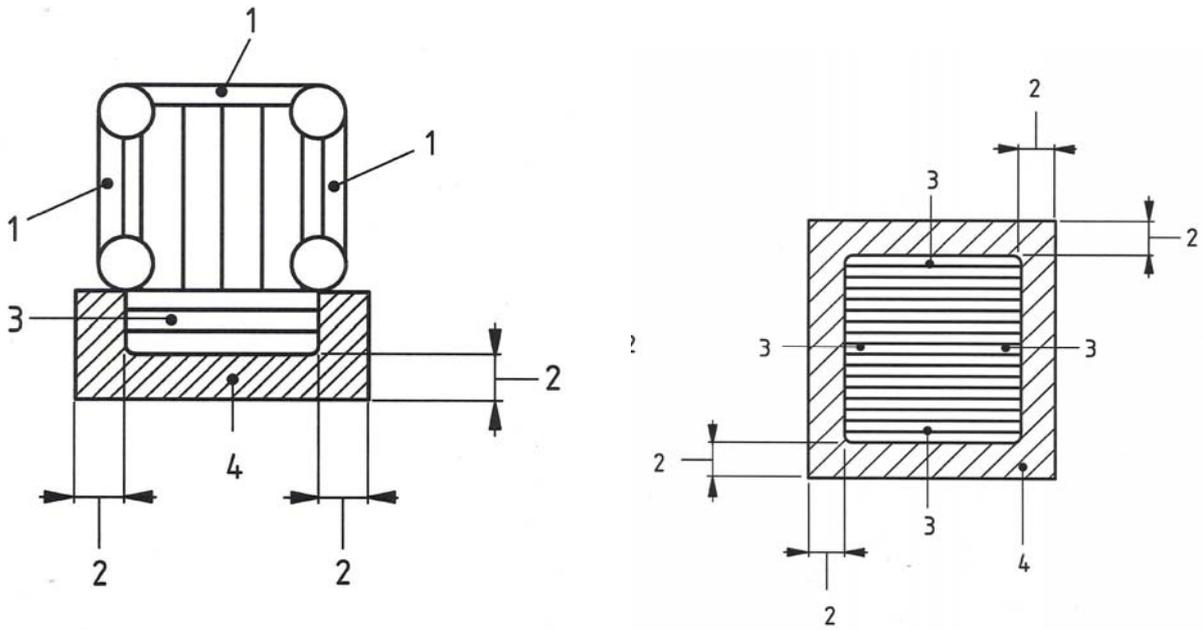
If the floor is not abrasive, there will be no need to use a groundsheet under the inflatable.

### Landing mats

You will definitely need to use landing mats to cover the whole of the impact area and be wary of them moving while the equipment is in use.

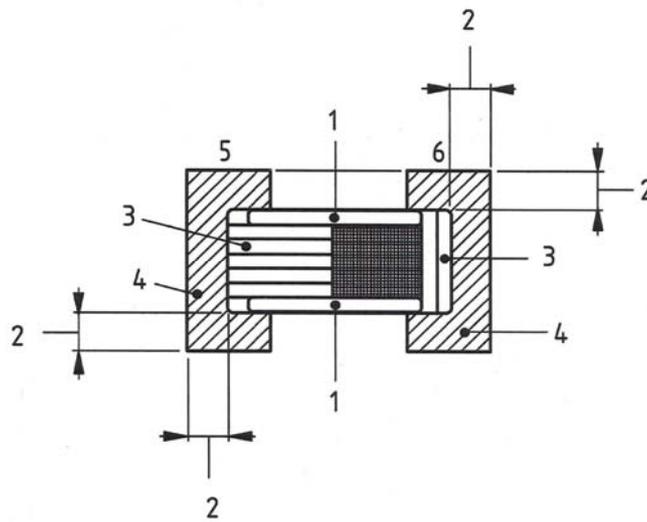
Where is the impact area?

The impact area has been mentioned several times previously. It is the area of ground immediately next to any open side of the inflatable and it extends to 1.2m away. For instance, on an ordinary castle with 3 walled sides and one open side with a full width step, it is the area, shaped like a U, all around the step. Here are a few common examples:



a) Castle type

b) Flat - bed



c) Up and over slide

**Key**

- |                      |               |
|----------------------|---------------|
| 1 Walled side        | 4 Impact area |
| 2 At least 1.2 metre | 5 Exit        |
| 3 Open side          | 6 Entrance    |

**Examples of the impact area**

## **ROUTINE INSPECTION**

When everything is set up and before the users are allowed on, the equipment needs to be inspected to see that all is as it should be. Primarily we are looking for any damage which might have happened last time the equipment was used. This is a final check of all of these points as you will have been mentally checking everything as you set the equipment up. Here are the main items you should now check again:

- 1) The site is level enough? No overhead wires/trees? Plenty of clear space around the inflatable?
- 2) All of the anchorages are in place and secure?
- 3) Landing mats, if needed, are in position?
- 4) No significant rips or holes in the fabric and seams?
- 5) Internal pressure sufficient?
- 6) Correct blower?
- 7) Firmly connected to the blow-tube?
- 8) Blow-tube at its furthest extent?
- 9) No exposed electrical parts or wires?
- 10) No damage to switches, plugs, sockets?
- 11) Cables routed out of harm's way?
- 12) Mesh guards intact on the blower?
- 13) Petrol cap on?
- 14) Petrol can in its bund store and hidden from view?
- 15) All electrical equipment is suitable for outdoor use?
- 16) Electrical reels fully unwound?

If any faults are found during routine inspection, they must be corrected before commencing operation. Repairs must not be carried out while the equipment is being used.

## **OPERATING**

### Who's who?

Operators and attendants need to be identifiable. This is usually achieved by wearing a uniform or part of a uniform which both users and onlookers can recognize. Perhaps a tabard or even a T-shirt with "I'm in charge" emblazoned across it. The operator needs to be able to exercise some authority over the users. He/she needs to carry a whistle. A whistle, hung around the operator's neck, immediately confers authority.

### System of work

First establish the maximum number and maximum height of users. This information should be shown legibly and clearly visible on the front of the inflatable so that everyone can see it. Before the event commences, the controller and/or the operator must have worked out a system whereby the users can be "put through" in a controlled and safe manner. The system needs to be adaptable so that it can work smoothly on all occasions. For example it may be a very busy site with queues of prospective users waiting to go on. It could be an event where the users have to pay for each session or it might be that use of the equipment is free. It is important not to cause discontent amongst both users and onlookers. This can happen if little Johnny only gets 4 minutes bouncing for his pound when little Tracey got 5 minutes for her's. So, a timer is another essential piece of equipment. It needs to be a timer which everyone can see and hear. The system needs to be able to cope with the users' belongings. The 3.5m in front of the entrance/exit has to be kept clear of coats, shoes, bags, money, brooches, spectacles, ice-creams, in fact all of the "stuff" which people carry about with them but which you do not want on or near the equipment.

### Example system of work:

We are operating a 6m x 6m bouncy castle at a well-attended county show. It is a beautiful day and there are crowds so we erected the perimeter fence before erecting the castle. It is an event at which we are charging the users £1 for a 5 minute session. There is one operator and one attendant. The operator has a whistle and a kitchen timer with a bell. The attendant has a cash bag. They are dressed alike so that they are identifiable. There is a piece of rope or webbing attached to one side of the 1m wide gateway which can be used to close it. On the ground inside the fence there is a piece of carpet, canvas, PVC or the like. Attached to one side of the gateway there is a perpendicular pole on which is marked the maximum height of user we have decided to limit ourselves to today and we know from the manual, or the user information written on the castle, that we can have 10 of that size of user on the equipment at once. The castle is up, properly anchored, and we have done our routine inspection. The blower is full of petrol and we have placed our spare can in its bund store and hidden it, so let's start.

### Attendant's duties

The attendant's first duty is to organise the users into groups of roughly similar height. Standing so as to block the gate, the attendant surveys the queue to see if there are 10 users of approximately the same height, up to the maximum height we are allowing. Siblings are usually ok to go on together, even if they are of differing heights. The attendant looks each user over before taking their money and tells them to take off their shoes, perhaps a necklace or bag, take out gum and anything else we do not want on the castle and leave it all outside the fence. Usually a parent takes charge of all of this "stuff". Then they pay and are instructed to come through the gate and stand still or sit still on the carpet. When this has been done 10 times, the attendant closes the gate and the operator takes charge of the 10 users. The attendant then turns to the queue again, mentally sorting out who is going on in the next session. It is important not to make a particular person or group of persons wait too long out of turn. If there are 5 or 6 of similar size who have waited for the previous group of 10 smaller ones, it is good policy to take only those 5 or 6 on the next session. The attendant is seen to be fair as well as safety-minded. The 5-minute session being now well under way, the attendant opens the gate, gets the next group onto the carpet and closes the gate. Now the attendant can keep the waiting group under control so that the operator can concentrate on the group which is bouncing.

### Operator's duties

The operator does not need to worry about numbers, heights, payment etc. as the attendant is taking care of all of that preparation work. He/she needs to address the 10 users waiting on the carpet, tell them what they can and cannot do whilst on the castle, that they must stop playing and stand still when they hear the whistle and that they must be careful of the other users so that no-one gets hurt. If this little talk is given in a kindly but authoritative manner, users up to about 12 or 13 years take it to heart. So, they've had their little instructional talk. Now to get them on safely. There is space across the front of a 6m castle for 3 users to mount simultaneously. The operator instructs them to line up in threes, stands at the front of the castle and then tells the first three to mount, using and accentuating the word "carefully". Some users may need help getting on. Then the next 3 and so on. This all takes about half a minute. The timer should now be set. The onlookers, especially, like to see the timer set when all the users are on and not before.

The operator now constantly watches the activity on the castle, blowing the whistle at any sign of misbehaviour or excessive boisterousness. If a particular user is spoiling the play of the others by being inconsiderate, the operator should blow the whistle, tell the offender to get off and instruct the attendant to refund their money. After what seems like an hour, the timer bell goes off. The users and onlookers all hear it and are expecting the whistle to blow. The operator turns to the group waiting on the carpet and tells them to sit (or stand) still while the first group is getting off.

Only then does the operator turn to the castle, blow the whistle, shout "stand still" and, pointing at the nearest, instruct them to get off "carefully". The attendant opens the gate, shepherds the group

out and closes it again. And so, on and on.

After a couple of hours, it's policy to close the castle for 5 minutes:

- a) to take a breather
- b) to top up the petrol in the blower
- c) to check that the anchorages are still secure
- d) to empty money out of the cash-bag which is growing heavy
- e) to check that everything else is still good – anchorages, fence, etc. etc..

This system of work can be adapted to suit other conditions and different items of equipment. For instance, if it is an obstacle course we are operating where the users start at one end and finish at the other, we may need an entrance at one end of our compound and an exit at the other plus another attendant to make sure that those who have finished go out. When operating a large slide, the entrance and exit might be opposite each other at one end of our compound with an attendant on each, and the operator might be on the platform at the top of the slide. A system of wristbands is often used when the charge is, say, £1 for 3 slides.

#### Check-list for operators and attendants

- 1) Exercise constant supervision
- 2) Admit users in a controlled and safe manner
- 3) Restrict the maximum height of user
- 4) Restrict the maximum number of users
- 5) Separate users into groups of approximately the same height
- 6) Get users to remove shoes, necklaces, gum, bags, purses and anything hard or sharp
- 7) Ask spectacle wearers if they can manage without - if not, warn the other users
- 8) Keep the surrounding area clear
- 9) Stop users from playing on the step
- 10) Stop users from playing too roughly
- 11) Stop users from trying to somersault
- 12) Stop users from climbing or hanging on containing walls
- 13) Close down the operation when re-fuelling

**At all times remember the golden rule – Do not leave a working inflatable unattended.**

#### Emergencies

In the event of a power failure which causes the blower to stop, or if damage occurs during operation, the operator must take action. The operator blows the whistle and shouts "stand still". The attendant closes the gate. When the users are still and attentive, the operator steps onto the castle and assists each user in turn to get off. The attendant stands by the front of the castle, hands off the users onto the ground and gets them to sit or stand still in a group. If the castle has a superstructure it will slowly descend. The operator supports it so that the users can pass underneath safely. Having evacuated all of the users, the operator goes to investigate the problem while the attendant looks after both groups of users. If there is no immediately apparent solution to the problem, each user is refunded and sent out of the compound. If there is a quick solution such as a re-fill of petrol or reconnecting a plug, the operator deals with it, the castle inflates again and the session can resume.

In the event of a storm or squall blowing up where the wind feels too strong, stop the session there and then and refund payments. Get the castle deflated as quickly as possible. Resume when the bad weather has passed. Use of the castle in light rain or drizzle is possible if the castle is fitted with a shower-cover which keeps the bouncing surface dry. However, if the bouncing surface gets wet, stop the session as slipping and sliding users can injure themselves and others.

In the event of an injury to a user on the castle, the operator blows the whistle and shouts "stand still". The attendant closes the gate and takes charge of the waiting users. The operator gets onto

the castle and investigates the injury. It is usually a minor injury such as a bruise and the user just needs a little sympathy and reassurance after which the session can continue. It could be that the injured user wants to get off and recuperate in which case he/she can join the next suitable session free of charge.

If the injury is more serious, the operator stays with the injured user while the attendant evacuates the other users "**quietly and carefully**", finds the injured user's relative/parent/friend in the crowd and sends someone off to get the relevant emergency service. After the injured user has been treated/removed, the operator makes written notes of the time of the accident, what happened, the size and number of users on the castle at the time, the type of injury and any other relevant information. This is important as the information may be needed if the injury is serious enough to warrant the Controller reporting the accident to the authorities (Go to [www.hse.gov.uk/riddor](http://www.hse.gov.uk/riddor) ).

#### Checklist in the event of a serious accident

- 1) Evacuate users from the inflatable
- 2) Make the injured person comfortable
- 3) Find the injured person's relative/parent/friend
- 4) Send for St. John's Ambulance, Red Cross, doctor or competent person to give first aid
- 5) Write down the circumstances of the accident. Note the date, time, number of users
- 6) Take names and addresses of witnesses
- 7) Note the names of the operator and attendants on duty at the time
- 8) Notify the Controller that an accident has occurred

## **PUTTING THE EQUIPMENT AWAY**

Before deflating the castle all users and onlookers must be out of the way. If you have been operating behind a perimeter fence, make taking the fence down your last job. Now is the time you can take a rag and some cleaning fluid and rub off any marks the fabric has sustained. If the castle is wet, dry it off now if possible. If drying is not possible, blow the castle up to dry at the first opportunity so that mildew doesn't start to form. When blowing the castle up to dry, not for use, leave a zip or deflation tube half open so that there is a good through-put of air. Provided it is a dry day, or if you are indoors, this will dry the inside, too.

Follow the instructions on the following 2 pages for deflating the castle and rolling it up into a manageable shape.

Leave the anchorages connected until the castle is flat but when you disconnect them do not leave stakes in the ground because a) you will lose them and b) you will trip over them. Take the stakes out and put them somewhere safe before starting to fold and roll the castle.

While the castle is deflating, you can be putting the blower away, rolling up cables, taking up mats and carpet etc.. If you have been using a petrol blower, make sure the petrol tap is turned off and the exhaust has cooled down before storing it.

If you have noticed any defects in the equipment during the day, make a note of them and give it to the controller.

## **THINGS TO CARRY WITH YOU**

Whistle  
Timer  
Cash-bag  
Cleaning cloths  
Cleaning fluid  
Wide, strong sticky-tape  
Scissors  
Wind Speed indicator

First aid box  
Pliers  
Screwdriver  
Hammer  
Pen  
Paper  
Accident Book

### Instructions for putting away a 5-panel bouncy castle

Disconnect the blower and undo all of the tubes and/or zips. As the inflatable falls down, push in the side and rear walls.



Pull the rear wall and towers onto the inflatable so that they lie over the side walls. Make sure everything is lying flat. It should now look like the photograph below.



Fold over the right hand side by 2 panels, followed by the left hand side by 1 panel and finally fold it in half from the right hand side. Tread out as much air as possible.



2 panels folded over



1 panel folded over



Folded in half



Between all of these folds, walk down the inflatable from front to back, squeezing out the air.



With one person treading down any lumps in the inflatable, 2 others roll it up. Apply some downwards pressure as you roll to keep it tight.



When you reach the end, insert the rope/strap underneath, fold in the tubes and anchor-points and make the final turn. Keep the weight on the end to stop it unfolding as you tie the rope.

