

How to pack my D-Bag

The authors of this text remind you that d-bagging is neither regulated by law nor are there any other regulations that allow d-bagging officially. This manual is supposed to increase safety. The authors cannot guarantee that your glider will open properly even if you follow all the instructions listed below and they cannot be held accountable for any injuries or material losses.

What you need:

A d-bag, rubber bands (if possible those that do not stick together if exposed to direct sunlight); some clamps as shown on the picture below could be helpful as well.



Pic. 1 d-bag, on the bigger d-bag cover there are the rubber bands and the mounting clamps.

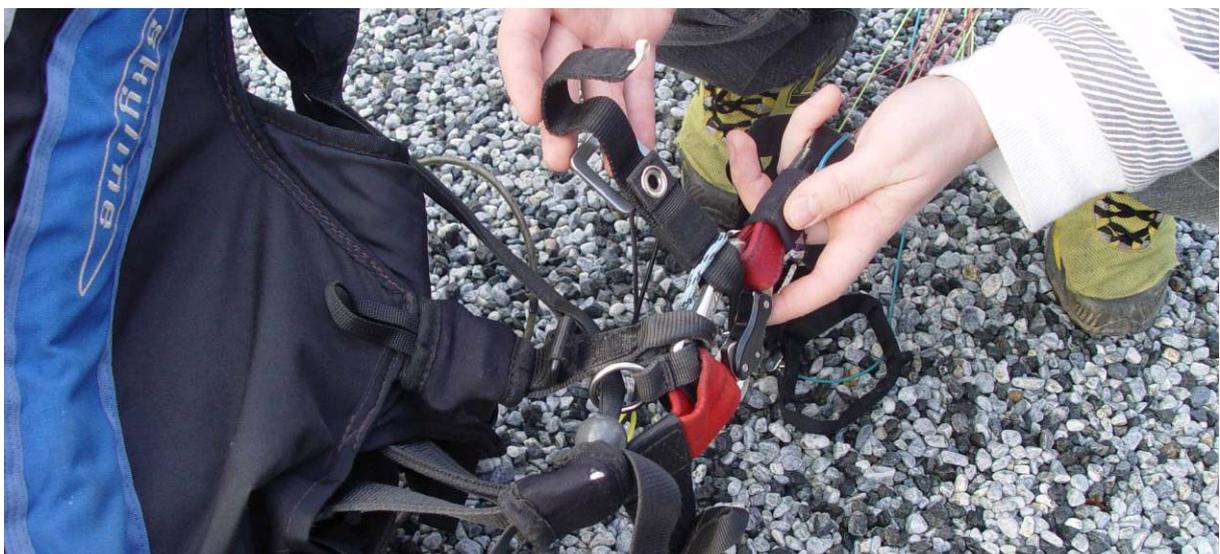
This tutorial refers to a d-bag made by AVAsport (old fashion) meaning that if you have a d-bag made by another manufacturer you may have to deviate your packing tactics!

So here we go:

We hook the release systems right behind the risers in the karabiners.

Mention, the picture below shows the right karabiner. The release system should be hooked in so that you have more than enough space to pull it. It should look like shown in the picture below.

The common-sense pilot should now check if the glider is properly hooked in. It would be a pity to face problems after your release just because you were too lazy when checking your glider.



Pic. 2 release systems first, risers last

One more check: the risers are not twisted, the speed system hangs freely? Good.

The glider now is in the usual forward-start position, the harness deployed right in front of it.



Pic. 3 on the left the harness, in the background the glider with it's lower surface facing up

Now take the harness and carry it to the backside of the glider. While doing that the harness performs a backflip.



Pic. 4 backflip around the horizontal axis



Pic. 6



Pic. 5



Pic. 7



Pic. 8

That's right! The harness is now positioned behind the glider. If you have a few helpers, one of them can now take a seat in the harness. The good thing about this is that he or she can hold the risers as well. This is practical but not necessary. If you don't have helpers you can tie it to your car or put it in the trunk so it can't move. This is necessary to avoid a twist but still be able to tighten the lines.

The person sitting in the harness now turns the risers inside out.

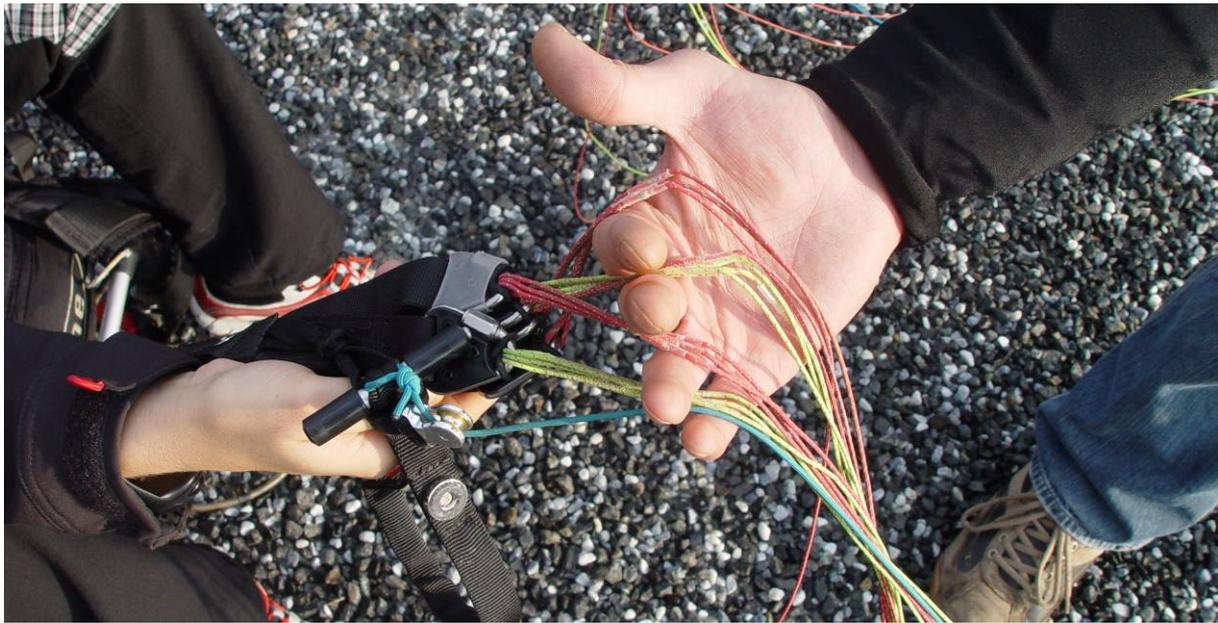


Pic. 9 at first the A-risers are facing upwards or to the outside, the right risers are turned to the right, the left ones vice versa



Pic. 10 after the rotation the d-risers are facing upwards

Now another assistant is required who diversifies the lines (sorted by the line levels) between his fingers.



Pic. 11 diversify the lines like you can see in the picture

Now walk towards the glider pulling the lines tight...



Pic. 12 the fingers still diversify the lines



Pic. 13 the risers are kept parallel

till you reach the stabilos with your hands.



Pic. 14 tightening the lines again



Pic. 15 find the gliders middle and start from there

Somebody else should tighten the lines once again and move through the lines with his fingers once again. Now you take all lines in one hand (still separated between the two sides). It would be practical if you already had the rubber bands with you now.

Start with the middle section of the trailing edge of the glider and pull together the brake loops.



Pic. 16



Pic. 17 the trailing edges should be pulled out neatly

Depending on the type and the design of your glider, you should leave out the last 2-4 break line loops. The reason why, and how you find out how many loops you should leave out, is issued on page 14. In Pic. 20 you can see how to fix the brake lines. The rubber band that is coiled around the little loop should be pretty tight like you can see in Pic. 20.



Pic. 18 leaving out the last loops



Pic. 20 test if it is tight enough



Pic. 19 mount the rubber bands



Pic. 21 and on the other side

Don't fear to make it too tight, it should just not rip before the glider opens. On the other hand it shouldn't be too loose because if the break loops fall apart during the packing you have to start again. Repeat that on the other side of the glider.



Pic. 22 turn clockwise around the vertical axis



Pic. 23 go on till 180°

Now twist the whole package about 180°. It's important that you memorize, in which direction you twist your glider. That's why we advise to hold the lines separate. It's also good to use something like a norm. For example, always twist the glider clockwise and untwist it counterclockwise.



Pic. 24 still separating the lines



Pic. 25 pulling out the glider's middle

Now you have to put together the partition walls of the cells. We advise to leave the middle cells out at the moment. If you use clamps, you should have them handy now.



Pic. 26



Pic. 27



Pic. 28 don't leave out a single cell, except the middle ones



Pic. 30



Pic. 29 attach the mounting clamp



Pic. 31 repeat on both sides

Here we show you the extravagant way to pack the leading edge of the glider, therefore we use mounting clamps. The mounting clamps make it much easier to pack it neatly, but it is not necessary to use them. It can also be done without the clamps; in this case one puts the cells together and gives the whole package to the guy who holds the lines. After the first side, it is time for the second side. When the second side is folded as well, the guy who folded the cells takes them again and turns the glider back 180° around the vertical axis counter clockwise.



Pic. 32 turn the glider counter clockwise



Pic. 33 in the picture the bigger cover sheet faces up

If you don't use clamps, the guy holding the lines takes the front cells between his knees. Now it is time to put the d-bag underneath the glider. Place it under the Glider, so that the bigger cover side, with the rubber bands mounted, faces away from the glider and the harness. The rubber band side and the script on it face down when it is opened, during you put the glider on it.



Pic. 34 put the d-bag under the glider



Pic. 36



Pic. 35 Put the glider onto the d-bag



Pic. 37 squeeze the glider down

Now compress the glider symmetrically.



Pic. 38 closing it slowly to avoid a mess



Pic. 40



Pic. 39

After you compress your glider you have to close the d-bag. Now you can let go of the lines, but it is important that the lines don't knot again.



Pic. 41



Pic. 43



Pic. 42 Frontflip about the lateral axis



Pic. 44

If the d-bag is closed, the assistant who was sitting in the harness can stand up. Now you take the harness and go past the d-bag to the other side. In the meantime the harness does a frontflip (360° turn about the lateral axis). In Pic.43 you can see, how to hold the harness further on.



Pic. 45



Pic. 46

Now open the d-bag and put the lines into the bag. At the same time you should pull the lines a little bit to the trailing edge of the glider.



Pic. 47 place the lines between the gliders drapery



Pic. 48 accent the middle cell

The lines have to keep apart and reach out left and right of the cover. If you want, you can form a canal with the glider like in Pic. 47. In Pic. 48 you can conspicuously mention the middle cell. It is meaningful to bulk out the middle cell to allow a symmetrical opening of the glider starting from its center. Now you have to actuate the outstanding parts of the glider into the d-bag.



Pic. 49 close the cover



Pic. 50 remove the clamps

In the picture Pic. 50 you see, that it's time to remove the clamps. If you don't use clamps, you have to make sure that the cells are well assorted.



Pic. 51 stuff



Pic. 52 closing the D-Bag

Push it all in a bit again and then close the D-Bag. In general you should make sure that the lines are strained at all times.



Pic. 53 put the lines under the top cover



Pic. 54 fix the lines on the cover

The lines coming out of the d-bag on both sides of the d-bag run to the closing rubber ring that has to be put under the cover. After that, the lines have to be fixed with the earlier attached rubber bands on the upper cover side.



Pic. 55



Pic. 56

During this process somebody should carry the harness towards the d-bag. You should have an eye on the lines, so that they cannot get entangled again. It also helps to hold the A-risers parallel to each other.



Pic. 57 the lines should be fixed neatly



Pic. 58 the last verves of each side are fixed differently



Pic. 59 attaching the release systems

Finally it should look like in Pic. 59. The lines have to be attached to the rubber bands in a way, that both sides of the lines have the same distance to the d-bag.

If you plan to do a normal d-bag take off (Tandem, balloon, Flike or whatever), then the following pictures are relevant for you.

But if you are lucky and you can do a heli-drop, you have to disconnect the release systems and the connection lines. Generally a heli-drop is done without release systems. The reason therefore is that in case of problems,(you get stuck at the skid, your rescue opens accidentally, ect.) you could cause a crash. For such a case you have to be prepared. A rescue that opens accidentally would rip you out off the helicopter instantly. That's not nice but it is better then if the rescue and you stay at the helicopter the tail rotor would catch the lines and this would cause a crash. To avoid situations like this, there has to be a jumpmaster, who throws you and all of our equipment out of the helicopter if something goes wrong to save the others lives. Normally this shouldn't be a problem for you because you should have another rescue.

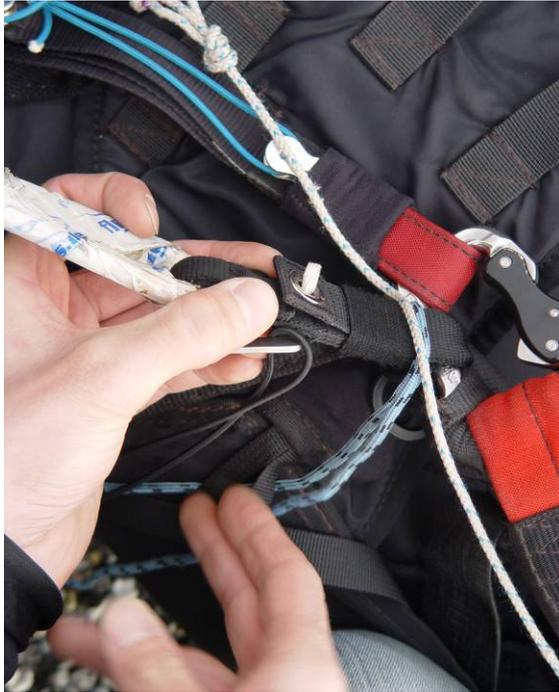
The lines that come out of the d-bag should be a bit longer than the connection lines. When all the lines are attached the d-bag has to be connected to the release systems. The connection lines have to have free way to the release systems.



Pic. 60 the belt has to run through the karabiner and then through the release system...



Pic. 61 then again back through the karabiner



Pic. 62 put the strap through the eye



Pic. 63 and finally insert the releaser

The pictures above show how to connect the release systems.

Pic. 64 shows my own release system. In the picture there is a blue line visible, these lines are supposed to act like safety installations to avoid unwanted releases in tandem takeoffs or other situations when you're still on the ground. The authors advise to use safety installations like these. If you don't have the possibility to build this you can also use tape. After a successful takeoff it should be possible to remove the protections safely, without having to fear an unwanted release.

Further more in Pic. 64 you can see a black rubber band, which is supposed to avoid the loss of the releasers.



Pic. 64 installing the protecting line

Now we go on with the wingtips. Therefore we have to reopen the D-Bag.



Pic. 65 open carefully

In Pic. 65 you can see that we hold the lines tight. The point is, to avoid knots and not to pull out the lines sideways off the d-bag.



Pic. 66

Normally it looks like this. Here you can see that the wingtip lays beyond the cover page.



Pic. 67 pulling out the wing tip

The Stabilo is pulled out sideways.

This is the reason why the last few break line connections should not be tightened with the rubber bands. The wingtip should tightly lay on the side of the d-bag. It is necessary to avoid pulling out the trailing edge too far. Clearly this has to be done on both sides.



Pic. 68 turning the gliders lower side to the outside

Now the Stabilo is turned inside out.



Pic. 69 closing the d-bag

During the closing of the d-bag it is necessary to avoid any mistakes. Take care that there are no lines behind the wingtips and that the glider package is symmetrically placed in the d-bag.



Pic. 70 pushing the lines into the d-bag

By pressing and pushing the bag should be formed nicely. The cover with the lines should be put into the d-bag.



Pic. 71 final test

Finally we recommend you to do this test.

The test should make sure that the connections from the d-bag and the releasers are shorter than the lines that hang out of the d-bag. There should be enough space to move with the hands beside the harness, to open the releaser protection without pulling out the lines from the rubber bands. If you want, you can take out the break lines separately, to have more space.

A few more tips for the drop:

- When you hang below the tandem, the balloon or whatever, and you have enough height, open the protections slowly.
- Make sure that all the lines are free.
- Pull the releasers fast and symmetrically.
- Release the breaks after you pulled the releasers.
Do not pull the breaks, the glider has to gain speed first.

- During the short free fall time, until the glider comes out of the d-bag, look up and check the glider. If you fall down a bit leaning, or you start to turn around the vertical axis, prepare yourselves for a quick intervention. If you are twisted just for half a twist, let the glider gain speed first and start to react later. If one side of the glider is imposed, don't be too quick. Don't break the glider too early or too hard so that it starts to turn negative! Let it gain a bit speed and avoid that it starts to turn too fast.
- If you do Heli Drops, you are responsible for a safe jump, so take care that everybody knows what to do!
 - The Jumpmaster should be a base jumper if possible.... In case of emergency he can jump out with you and eventually help you somehow. The Jumpmaster has to know, that in the worst case he has to kick you out!
 - When you jump, he has to hold the d-bag so that the lower side of the bag, where the glider comes out, ends under the heliskid.
 - Make sure that he is responsible for the safe stowage of the bag, after you jumped out. (Seatbelt!?)
 - Talk to the helicopter pilot and ask him about the weight balance of the helicopter and how it tolerates it when there are two people on one side, leaning out of the door. For the case that the helicopter cannot handle the imbalance, the jumpmaster has to stay seated.
 - Tell the Pilot that he has to fly at a speed of 30-35km/h and at a descent rate of 1m/s! Repeat KM/H because those guys normally count in knots! Attention! Eventually the Jumpmaster can have an eye on this to!
- The absolute important flight skills, anybody must have are: experienced fullstall, control of collapses, absolute discipline during packing and releasing.

Finally we wish you much fun with the opening! Acrobatics should get legal once. Therefore it is important, that everything is done in a very safe and controlled way, so please:

Do what you can do to achieve a maximum of safety!

If anybody finds mistakes or knows how to improve this guidance send an email to skogaman@hotmail.com.

Many thanks and greetings to all!

skoki & Charly



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