

A buyer's guide to choosing a paragliding harness

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This article is about the issues to think about when choosing a new harness. There are a lot of different models available and this article aims to help you identify which features are important to you.

Model

There are a number of types (e.g. general purpose, lightweight mountain, competition harness) available and the first things to think about are:

- Do you have to carry up big hills to fly? (i.e. is weight an issue?)
- Are there issues with weight for you (e.g. bad back/knees)?
- Do you want to enter competitions or might you want to do so in future? (e.g. which might mean you will want to change your harness)
- Do you spend a long time in the air when you fly? (how important is maximum comfort to you?)
- Are there safety considerations which will influence your harness choice? (E.g. a lighter harness might mean less back protection?)
- Do you want a weight-shifty harness or a more damped one?
- What position you want to fly in - laid back (supine) or more upright flying position?

Size

Despite what you may hear to the contrary, size matters! A lot. Harnesses which are too small can be uncomfortable; a harness which is too large will allow the pilot to slide around the harness, meaning they feel less connected to the wing. During a collapse-induced turn the pilot can slide to the collapsed side, exacerbating the turn more. Moving back into the centre of the harness, or indeed to the opposite side, will be all the more difficult. Pulling out of a spiral dive is also made more difficult because the body will be pressed into the turn.

It is also important that it is easy to get into and out of the harness. Some harnesses have a very deep seat or a long seat plate. A 'bucket-seat' such as this can be difficult to get in and out of, making launching and landing more difficult. If the seat plate is made of wood, then this can be shortened to suit a shorter pilot. Very tall pilots will often have the biggest problems finding a suitable harness size and having your legs dangling too far out of the seat can cause strain on the back during long flights.

A correctly fitting and adjusted harness should support the hips and back and have a seat plate (or leg support) fitting the length of your thighs.

Weight

Depending on where you live, the kind of flying you do, your general fitness, etc., harness weight will be more, or less, important. If you only fly top-driveable sites and always top-land you will consider weight less important. A pilot living in an area with long carry-ups may want a light harness. It is important to consider the harness weight with regard to the overall flying weight of the glider. Buying a lightweight harness may mean having to carry ballast as well. Depending on how lightweight a harness you want, this can mean having to compromise on safety, for example, flying without back protection or parachute.

A carbon seat plate can be fitted to many harnesses to reduce weight.

Comfort/Adjustments

Most modern harnesses have several adjustment points. Adjusting the harness to the requirements of the pilot increases comfort when flying, but can also affect the handling of the glider. Each glider manual will specify the optimum chest strap distance between the carabiners for the harness. Tightening the chest strap increases stability, whereas loosening it gives the pilot more feedback but decreases glider stability. However, many harnesses will allow adjustments to improve comfort and back/leg support. Adjustment straps may be fitted to the shoulder, back and waist. Try these adjustment features when testing the harness to try to find the optimum comfort level. Before buying the harness, it is useful to make sure you are aware of what all of the adjustments available are and what each strap does, as uncertainty will decrease overall confidence.

Safety features

Most harnesses have a number of safety features and it is worth considering which of these are essential to you and what your preferences are.

Impact protection

Although many paragliding accidents result in side, not back impact, few harnesses offer side impact protection. Standard impact protection is offered around the back and seat area. This usually comes in two types:

Airbags

Some harnesses are fitted with one or two airbags. The DHV claims that the newest models of airbags get the best impact damping effect (DHV-Info 142, October/November 2006). Airbags have evolved in the last few years as harness

development has improved. Airbags now inflate automatically when taken out of the bag and work straight away. A further advantage is that they are lighter than foam. A disadvantage is that they are less effective during side impact as the air will be displaced sideways, rather than dampening the impact.

Foam

Foam back protectors dampen the impact nearly to the same extent as air bags, and although heavier, are also more effective on side impact. An added advantage is that foam protectors are integrated into the harness (or stored in a zipped container in the harness) and are therefore not liable to damage.

Older harnesses used rigid back plates and these have fallen out of favour in recent years as they are not considered safe, because they can actually transfer the force of an impact to a higher point on the spine.

Many light weight harnesses will have little or no back protection and this may be a consideration when choosing this type of harness.

Some harnesses allow extra protection to be added, for example it is possible to add foam protection to an airbag harness, or it might be possible to add side impact protection as an optional extra.

Miscellaneous safety features

There are a number of other harness features and you should consider how important these are to you. For example, does the harness have cross bracing to add additional stability? What kind of leg loops and buckles does the harness have and what are your preferences with these features? Do you like the system for attaching the speedbar?

Parachute position

There are a number of positions a parachute can be fitted to a harness. All have advantages and disadvantages.

Parachute position	Advantage	Disadvantage
Side mounted parachute	<ul style="list-style-type: none"> • Visible handle • Possible to throw the parachute away forcefully 	<ul style="list-style-type: none"> • Usually mounted on the right (so might be a problem for the left handed) • Weight of the parachute is unequally distributed • Handle may not be

		easily reachable if pilot has fallen into the opposite side of the harness
Front/lap reserve	<ul style="list-style-type: none"> • Visible handle • Parachute can be thrown with either or both hands • Weight of parachute is centrally distributed 	<ul style="list-style-type: none"> • Parachute needs to be fitted to harness before each flight • Can obscure visibility of ground/instruments • Needs an integrated parachute bag/flightdeck • If risers become twisted may be impossible to release the parachute
Under seat reserve compartment (handle behind seat or handle on side; usually on the right)	<ul style="list-style-type: none"> • Weight of parachute is centrally distributed • Possible to throw the parachute away forcefully 	<ul style="list-style-type: none"> • Handle may not be visible if behind seat. • Parachute container may be more easily damaged by dragging, wetness, etc. • More difficult to check during pre-flight check without taking off harness (e.g. after top landing).

Depending on if you are right or left handed and your preference for a light-weight harness, you may want to consider which parachute mounting system you feel is the most appropriate to you.

Adaptions

Another thing to think about when looking at harness models is how adaptable the harness is. For example, the harness may not have a stirrup and you may want to add one later. Is this possible on the model you are considering? Similarly, you may want to add a cocoon if you intend to fly in competitions. Does the harness allow for these adaptations?

Storage Space

Getting all your bits and pieces into the harness is important. The harness should easily be able to carry the glider bag and outer bag, but some have more storage

space than others. How important extra storage space is will depend on whether you want to add extra protection, have to carry ballast, want to carry extra food or clothing, etc. It is also worth noting if the harness has useful pockets in accessible places for cameras, radios, whistles, etc.

You may also want to carry a flight deck. Can this easily be fitted on the harness? Some harnesses have special clips for attaching a flight deck and depending on what parachute position you choose, you may have to buy a special flight deck which integrates the parachute bag with the flight deck.

Trying out the harness

If at all possible you should try out the harness before you buy it. The best way to try it is to actually fly with it. Whilst you can usually hang in the harness in a shop this doesn't give you the same feeling as testing the harness in-flight.

A few things to do when testing the harness:

- check you have selected the right size of harness
- check how much movement you have within it
- how easy is it to weight shift?
- check how easily you can see and reach the parachute handle
- hang in the harness on only one riser and then try to reach the parachute handle
- check how comfortable the harness is
- try out the range of adjustments available
- bring all the kit you want to carry to check the storage space available
- attach your flight deck to the harness

Checklist

There is a checklist available from www.judithmole.net/checklist.doc which you can use to help you when actually looking at harnesses.

Thanks to DHV-info 142, October/November 2006, Tipps zur Gurtzeugwahl for information and inspiration.