

independence gliders for real pilots

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Owner's manual

12.04.2007

Harness for tandem pilots: Duo

With the Duo you got one of the most comfortable and most functional harnesses, which is available on the market at present. We thank you for the confidence, for buying the Duo harness.
Please read this operating instructions carefully and consider, that Independence can not be made liable for accidents and damage, which result from disregarding of the operating instructions.

Technical description:

- DHV certified back protector (P2)
- Passing-through shoulder-belts for optimal comfort
- maximum pilot weight: 120 kg
- unloaded weight: 5,8 kg
- seat position in flight adjustable

Overview:



- a) Rescue system container
- b) Lateral chest-belt
- c) Safety device lateral chest belt
- d) Safe-T-System
- e) Bridle for connecting the rescuesystem
This bridle must be connected to the T-bar of the tandem, and not only to the pilot's harness.
- f) Main suspension
- g) Leg-loops
- h) Chest-belt
- i) Rescue system release-handle



1. Adjustment possibilities:

Adjustment possibilities exist at the shoulder belts, the chest belt, the lateral chest belts and the leg loops. By the versatile adjusting possibilities of the Duo we recommend in any case that all adjustments are done in a simulator before the first flight to guarantee an optimal seat comfort.

Adjusting of the chest belt:

The chest belt is closed with the Click-Lock-buckles. If the chest belt is closed, also the falling out safety device (Safe-T-System) is closed. The Click-Lock-buckles must be closed audibly! The chest belt should not be tightened too closely. Unintentional opening of this buckle is not possible, because both buttons at it's side must be pressed at the same time to open.

Adjusting of the shoulder belts:

Please note that with correct adjusting the shoulder belts are felt with light pressure on the shoulders. With the shoulder belts you adjust the harness on the pilot's height, but also you adjust the seat position between sitting and lying.

Adjusting of the lateral chest belts:

Adjusting the lateral chest belts takes place as third step and offers on the one hand again the variation of the seat position between sitting and lying, on the other hand you adjust with the lateral chest belts the most comfortable seat position. During adjusting it should be paid attention to the fact that the body load is distributed evenly on shoulder belt and lateral chest belt. Please take care that the lateral chest belt is attached correctly to the main suspension's carabines as shown at point c).

Adjusting of the leg loops:

When you put the harness on, please take care that the Click-Lock-buckles are closed correctly and audibly. The leg loops should be fastened tight but should leave still enough space for the starting and landing phase, in which the legs should have still some space to move.

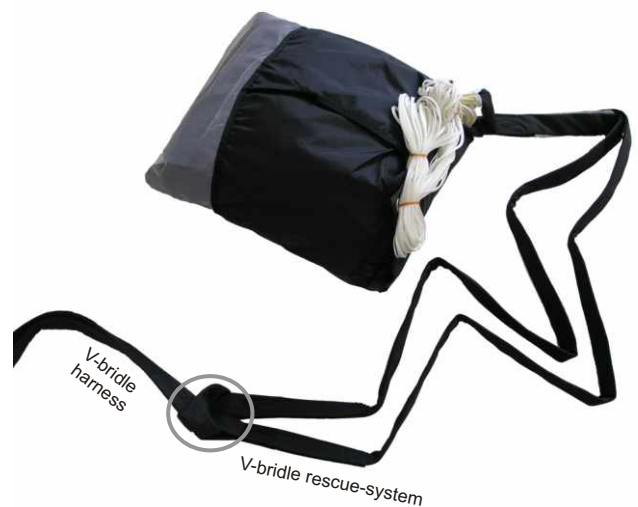
2. Built-in of the rescue-system

The rescue-system have to be built-in into the therefore assigned container under the seatboard of the harness. If already the rescue-system gets a V-shaped bridle which is long enough, this bridle have to be used. Otherwise the V-shaped bridle which is enclosed to the harness Duo have to be connected to the bridle of the rescue-system.

Proceeding:



Open the channel of the bridle and take out this V-shaped bridle of the harness.



The bridle of the rescue-system has to be connected to the single end of the V-bridle of the harness. If also the rescue-system has a V-shaped bridle (as you can see in the picture), you have to take care that both ends of the V-bridle of the rescue-system are connected to the single end of the harness' V-bridle.



Enclosed handle have to be attached as short as possible at the inner container of the rescue-system



The two free ends of the V-bridle are put back in it's channel...



...and brought to the upper side of the harness, where one end each is placed in each shoulder belt of the harness. These ends of the bridle have to be connected to the T-bar of the tandem!



Store the bridle of the rescue-system in a kind of S-shape into the container of the harness.



Put the rescue-system into the container. The connection to the handle must be between the inner-container and the harness, as shown on the picture. So you can be sure that the rescue-system can be pulled out easily.!



Once again detailed: The connection from the innercontainer of the rescue-system to the handle runs between the rescue-system and the harness and is not hindered in any way by the bridle.



Close the container with packing cords. First the rear flaps have to be closed in the right order (1,2,3,4). The connection of the handle runs between the flaps 2) und 4). You have to take care that the connection of the handle is not hindered in any way!



Now close the frontal flap of the container with a second packing cord as you can see in the picture...



...and fix it immediately with one of the pins. Then remove the frontal packing cord!!



Now close the last flap...



...remove the packing cord and close the container with the second pin. Please check again that the connection of the handle is not hindered in any way and is still long enough, so that you can be sure that the pull is coming first on the closing-pins and not on the connection to the inner container.



Put in the flaps a) and b). Therefore fold flap a) down. Attach the release-handle to the small velcro and put it into the therefore assigned openings. Finally secure the handle with a special thread at the white loops of the handle. (see next point!)



How to secure the pin

To avoid an unintentional opening the DHV prescribe to use a special thread to secure the handle. This defines a minimum opening force. This special thread must be put through the loop at the harness and the loop at the handle, and have to be fixed by a knot.

To secure the pin it is only allowed to use certified material because if the strength of this material is too high the safe operation of the rescue system is not guaranteed.

This thread is supplied by Fly market GmbH & Co. KG! **Do not use other threads which may look the same!**

Attention:

After the built-in of the rescue-system you have to take care that all maybe used packing-cords and so on have been removed again!

After every installation of a rescue-system in a harness there must be a test if the opening force is between 2 and 5 daN. If harness and rescue parachute are combined the first time a compatibility check have to be done by a authorized person!

Built-in of the back-protector:

It's just allowed to use the therefore assigned back-protector P2. To build it in and take it out you have to open the zippers inside of the rescue-system container and the storage-pocket at the back-part of the Duo harness. You have to take care that the P2 is fixed against sliding around in it's bag.

Therefore you have to put the P2 into the Nylon-cover which is between the two zippers. Furthermore you have to put the protector under the belts in the upper back-part of the harness. After you build in the P2 or taking it out, you have to close the zippers at the rescue-container and inside the storage-pocket at the back-part again!

Towing:

Mounting the towing-device: If you fly tandem at the winch, the towing-device is generally mounted to the passenger's harness. So please pay attention to the manual of the passenger's harness.

Note: The used connecting links must stand at least 150kp per side! If you are not sure about the mounting, an authorized person or the manufacturer should be consulted.

Life span, replacing time of construction units, repair hints:

The harness Duo was built for high loads and strong use. Accordingly, for the choice of the materials particularly high criteria were set. However the life span depends also on the treatment of the harness by the pilot, so we recommend to check the harness from time to time, if there are faulty or damaged parts, which should be replaced or repaired then.

Especially take care of defective seams, which should be immediately repaired by an authorized workshop. Further you have the possibility to send us the harness for checking.

In order to prevent problems with the harness we recommend:

- avoid handling with fire and sharp edged articles near your harness.
- avoid unnecessarily long sun effect, because ultraviolet radiation destroys the molecular structure of the material
- avoid the contact with seawater or acid liquids.

Maintenance and control:

The harness Duo is more or less maintenance-free. But regular control in short periods gives you the guarantee of an unrestricted function of your belt system. Take particularly care that the Click-Lock-buckles stay free of dirt. If needed you can oil the Click- Locks a little bit.

DHV-Certification:

Deutscher Hängegleiterverband e.V. im DAeC

DHV/OeAeC-Technikreferat

LBA-anerkannte Prüfstelle für Hängegleiter und Gleitsegel
Beauftragter der österreichischen Luftfahrtbehörde

Luftsportgeräte-Kennblatt Gleitsegel-Gurtzeug



Geräte-Kennblatt Nr.: *DHV GS-03-0355-07* Ausgabe: 0 Datum: 08.06.2007

I. Musterprüfung

1. Gerätemuster: *Independence Duo*
2. Hersteller: *Fly market Flugsport-Zubehör GmbH & Co. KG*
3. Datum der Musterprüfbescheinigung: *08.06.2007*

II. Merkmale und Betriebsgrenzen

1. Gurtzeuggruppe: *GH*
2. Gerätegewicht (ohne Packsack kg): *5,8*
3. Maximal zulässige Anhängelast (kg): *120*
4. Integrierter Rettungsgeräte-Außencontainer: *Ja*
5. Gurtzeugprotektor-Muster: *Fly market Flugsport-Zubehör GmbH & Co. KG - P2*
6. Sonstige Besonderheiten:

III. Betriebsanweisungen

Betriebsanweisung in der genehmigten Fassung vom 12.04.2007

Deutscher Hängegleiterverband e.V.
Miesbacher Straße 2, 83703 Gmund