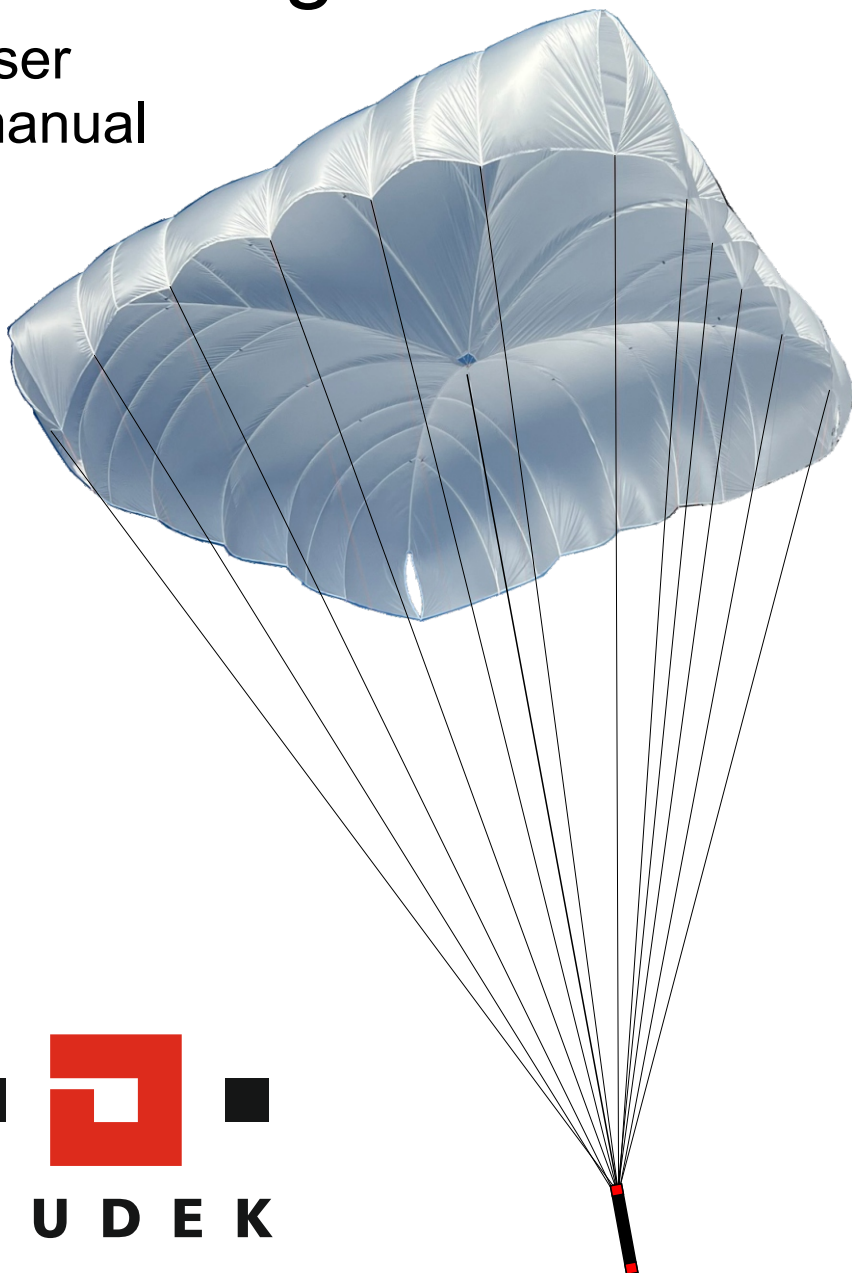


Quad Light 160

user
manual



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DUDEK

Quad light 160 _____

NOTE!
Before using the Quad Light 160, read this manual

Rescue Parachute User Manual

1. Purpose, description

Our Quad Light 160 parachute is designed for solo flying and tandem paraglider pilots. In case of serious paraglider malfunction rendering further flight impossible, our system reduces the sink rate and allows for safe landing.

Panels of the Quad Light 160 are cut by a CNC cutter to ensure pre-assembly precision and the right shape of panels. The canopy is made of cloth specifically engineered for this application. The cloth is treated with a material that prevents sticking, to facilitate smooth and rapid deployment. The cloth is also engineered to minimise shape distortion. These features, as well as the distinctive canopy design and the low permeability of the cloth results in a low sink rate.

The lines leading from the canopy are selected for their superior strength and resiliency which reduces opening shock, especially at high speeds. The Quad Light 160 canopy has a centre line. This design feature shortens the opening time and aids in stabilisation. The canopy lines are packed in loops and each loop is secured with a rubber fitting. As the system is deployed, the loops are released one by one, thereby preventing tangling and facilitating a smooth and even deployment.

The reserve is packed in an inner container linked to deployment handle. The inner container is designed to open in any direction. The safety pins at the end of the handle secure the system within the outer container or harness, and prevent accidental openings. The handle is also reinforced for an easy grip, even when wearing gloves.

As an option, you can get at Dudek Paragliders the externally mounted container, its release handle and V-risers. It can be attached to the front or side of the harness, depending on your preferences and harness characteristics.

Rescue parachute is activated manually by releasing the handle, pulling the bag out of the container and throwing it out along the direction of the airflow (together with the handle).

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2. Technical Data

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Size:**160**

Surface flat [m2]	40
Min. payload* [kg]	106
Max payload* [kg]	160
Sink rate at max payload [m/s]	5.35
Centre line length [mm]	8750
Volume [l]	5.3
Weight of the rescue [kg]	1.7
Certification	EN 12491: 2015+A12021 and Nfl 2-565-20

* Payload = Total take-off weight without weight of the paraglider

3. Materials

Model	Quad Light 160
Canopy	Nylon 6.6 , 22 eTEX
Lines	Edelrid Dyneema / Lanex Pad
Risers	Liros Dyneema line 5 mm

4. Operating limits

Quad Light 160 has been specially developed for use as a reserve parachute for paragliding and hang gliding only. Usage for other flying sports such as base-jumping, parachuting etc. is therefore prohibited, for it was not designed for such alternative applications.

According to EN 12491:2001 Quad Light 160 reserve parachutes may only be used up to maximum speeds of 32m/s or 115 km/h.

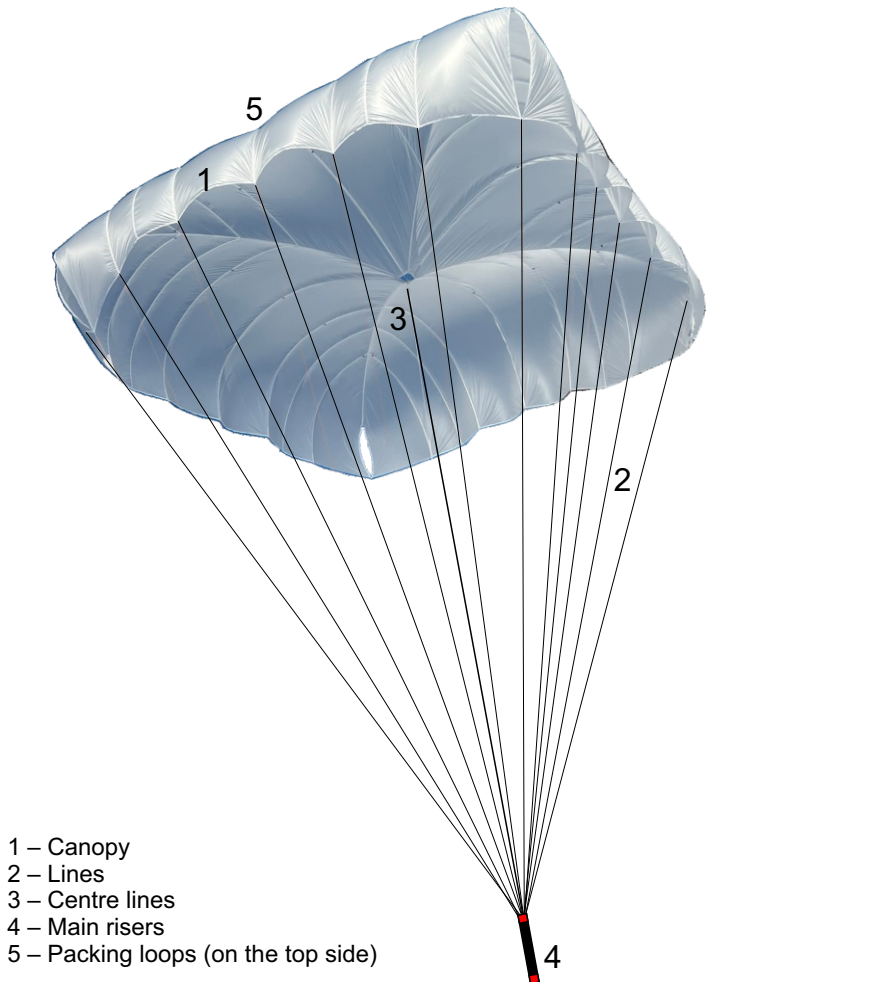
Dudek Paragliders require a mandatory, one-year repacking interval for your parachute reserve. Shorter intervals than the one-year minimum requirement, to more often air out and repack your rescue, helps to keep your rescue in good condition.

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After a deployment, the reserve parachute must be inspected by the manufacturer or authorized maintenance personnel. The reserve parachute must be replaced after 10 years, even in the case where it has never been deployed or used.

Quad Light 160 parachute system has been tested and found compliant using their original manufacturer's inner container. Using any other inner container can produce different results, including failures.

5. Construction.



6. Connect the reserve parachute to the harness

To connect the reserve parachute to the bridle, you must use a shackle with at least 2400 daN ultimate strength. The shackle has to be secured on both sides with rubber bands or O-rings by means of a Larks Head knot, with fixing tape or a neoprene jacket to protect against fraying and abrasion.

Direct connection between the main riser and the harness bridle is not recommended, as a wrongly installed knot or shock opening could significantly weaken the system depending on the configuration!

It is important to ensure that the connection is centred, that is, the two connecting lines leading to the shoulder straps are of the same length. If the harness does not have an integrated/ designated attachment points for the reserve chute on the shoulder straps, then the reserve chute connecting line can, alternatively, be attached to both main carabiners. If using the main carabiners, again ensure that the connection is centred (equidistant connecting lines).

7. Compatibility test

Quad Light 160 rescue system is appropriate for integrated reserve parachute containers or front mounted container. The very first installation of the reserve parachute into the harness should be carried out only by an expert or compatibility-testing authority. Please refer to the harness or the front container user's manual if available. This requirement is necessary to make sure that no unsuitable harnesses with integrated outer containers are used in combination with our reserve.

Please contact your flight school or Dudek Paragliders dealer to prepare for the initial installation. There you can find, in most cases, a certified compatibility tester.

Be careful with back protector manipulation in your harness when the rescue parachute is already installed. Depending on the design of the harness, protector positioning or the rescue parachute container may affect the ability to easily pull the rescue parachute out. After any changes it is absolutely essential to do a simulated deployment under a static swing, ensuring that the parachute release system operates correctly and the parachute comes out easily.

8. Pre-flight check and releasing the system

Before each flight, check all straps securing the rescue and the front container to the harness (where applicable). Ensure that the container is securely closed, and visually inspect that the safety pins are properly seated & secured and that there is no damage.

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TO DEPLOY THE RESCUE CANOPY:

1. Look at the deployment handle.
2. Grasp the deployment handle. Pull it free of the outer container or harness.
3. Using the deployment handle, throw the inner container forcefully into open air (AWAY from the paraglider canopy).
4. The force of the throw will separate the inner container and attached handle from the canopy.
5. The canopy – thanks to the central line – inflates quickly and easily.
6. The pilot should then collapse the main paraglider by pulling the “B” risers to stabilise the descent and prevent the paraglider from interfering with the reserve parachute.

As with all paraglider rescue systems, the deployment throw must be forceful enough to separate the inner container from the canopy.

9. Packing instruction

The following manual is aimed at pilots who are competent in folding modern square reserve parachutes. The manual itself cannot serve as a substitute of proper training in folding a parachute. The manufacturer can ensure the safety and reliability of the system only in cases where it was packed by a trained professional who followed a proper packing process.

Before the packing it is necessary thoroughly inspect it:

1. Before repacking, the reserve chute must be aired out, ideally for 12 hours in a cool, dry room.
2. The packing area must be large enough, clean, level and dry.
3. The reserve chute must be subjected to visual inspection and checked for damage to the canopy, the lines, the suspension points, the main riser and the screw shackle.
4. Make sure that the parachute lines are completely disentangled and that both the lower line and the upper of the reef knot run freely from the risers to the canopy.

If you encounter any damage or contamination that may lead to system failure, it is necessary to get the system to the manufacturer. If you are at all uncertain, send the system to the manufacturer for inspection.

Proper packing of the canopy is essential for the reliability and safety of the system. Therefore, it is strongly recommended to have the system re-packed only by an authorised and trained specialist or by the manufacturer.

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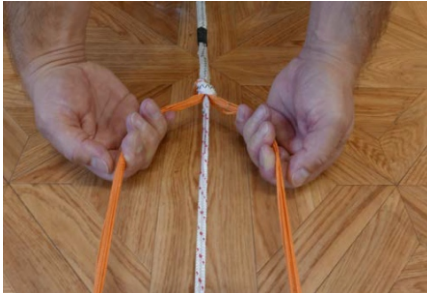
1) String the packing loops on a line (20 packing loops).



2) When you put the main rescue lines under tension, the 4 corner lines are loose.



3) Separate the lines of the two halves of the canopy on each side of the centre thicker white lines.



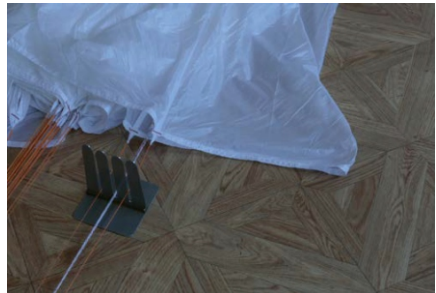
4) Separate the right panels apart from the left panels.



5) The bottom panel should be sorted out to the right.



6) It is the 1st panel on the right.

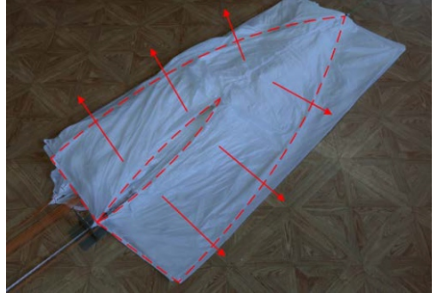


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7) 1st & 2nd can be laid in perfect rectangles.



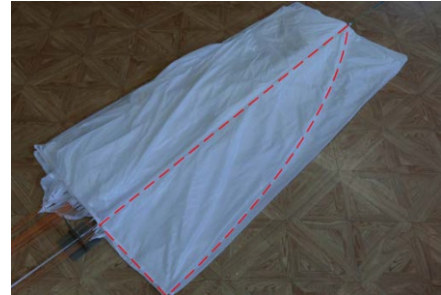
8) 3rd & 4th panels are corner panels; stretch out those two panels to the right and to the left perfectly balanced.



9) Pull the upper edge of the corner slot towards the top of the canopy to stretch the corner line.



10) Bring the 4th panel to the right; 3rd and 4th panels do have a peculiar shape (see dashed line).



11) 5th, 6th, 7th & 8th panels can be laid in perfect rectangles.



12) 9th & 10th panels are corner panels again; stretch out those two panels to the right and to the left perfectly balanced (see picture 8 for details).



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13) Pull the upper edge of the corner slot towards the top of the canopy to stretch the corner line (see picture 9 for details).



14) Bring the 10th panel to the right; 9th and 10th panels do have a peculiar shape (see the dashed line and the symmetry on picture 10).



15) 11th & 12th can be laid in perfect rectangles; they are the last panels on the right side.



16) Bring all the remaining left panels to the right over the right panels. **Left panels are sorted out exactly like the right panels; visually speaking, the look of the panels is symmetrical to the (centre) lines.**



17) 1st & 2nd panels can be laid in perfect rectangles.



18) 3rd & 4th panels are corner panels; stretch out those two panels to the right and to the left perfectly balanced (see picture 8 for more details).



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19) Pull the upper edge of the corner slot towards the top of the canopy to stretch the corner line (see picture 9 for more details).



20) Pull the upper edge of the corner slot towards the top of the canopy to stretch the corner line (see picture 9 for more details).



21) 5th, 6th, 7th & 8th panels can be laid in perfect rectangles.



22) 9th & 10th panels are corner panels again; stretch out those two panels to the right and to the left perfectly balanced (see picture 8 for more details).



23) Pull the upper edge of the corner slot towards the top of the canopy to stretch the corner line (see picture 9 for more details).



24) Bring the 10th panel to the right; 9th and 10th panels do have a peculiar shape (see the dashed line and the symmetry on picture 10).



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25) 11th & 12th can be laid in perfect rectangles; they are the last panels on the left side.



26) Z-coil the left panels under the middle of the canopy.



27) Front view of the Z-folding of the left panels.



28) Z-fold the right panels over the middle of the canopy.



29) Canopy is now narrower and its width matches the width of the inner container.



30) Position the inner container with the elastic towards the top of the canopy.



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31) Slide the inner container under the bottom of the canopy.



32) Z-fold the canopy lengthwise over the inner container.



33) Close the flap of the inner container with the elastic and the two side flaps.



34) S-coil the lines; the loops of the coiled lines are secured in two groups with rubber bands.



35) Approx. 1,5 m of the lines should remain uncoiled.



36) Stow the S-coiled lines in the front of the inner container.



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37) Close the 4th flap of the inner container and secure it with loop of the lines; the length of this loop must be 4 cm.



38) S-coil the remaining length of the lines on top of the inner container.



39) Check that you have all the hardware that has been used for packing and that none remained in the packed rescue.



10. Maintenance

The canopy is to be stored in a clean and dry area. Avoid prolonged exposure to direct sunlight. If it gets wet, dry the canopy and lines thoroughly and immediately to prevent damage caused by mould. Contamination by oils, or any other chemicals could significantly reduce the load stability of the lifesaving system. The manufacturer must inspect contaminated canopies. The container can be cleaned (WITHOUT the canopy inside!) using water and a mild detergent followed by a thorough rinse and drying. Use only clean water without soap to clean the canopy and lines.

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11. Repair

All repairs must be carried by the manufacturer. Any unqualified repair might lead to a system failure.

12. Spare parts

Your Quad Light 160 reserve parachute consists of many high-quality, long-life components. When replacing parts (lines, risers, fabric panels, etc.), only original parts should be used.

In addition to the continued airworthiness of your reserve parachute, this is important for your safety as well.

13. Guarantee

The reserves are guaranteed for 2 years against any production fault since the date of purchase.

THE GUARANTEE DOES NOT COVER:

Damage that was caused by misuse, by neglecting the regular maintenance, or in case of overloading the reserve chute.

14. Disposal

Even the best products have a limited service life, and once your reserve parachute reaches this point, it must be disposed of properly. Please make sure your reserve parachute is disposed of in the correct environmental manner, or send it back to Dudek for correct disposal.

If you have any questions regarding the information in this manual, contact your Dudek dealer.

15. Recycling of used gear

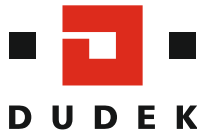
A product is made out of synthetic materials, which need to be properly disposed of when worn out.

If you are not able to dispose of the product properly, DUDEK Paragliders will do that for you. Just send your product to the address given at the end of the manual, accompanied by a short note.

16. Environmental care

We believe that our clients share our environmental awareness. You can easily contribute to environment preservation by following some simple rules. Make sure you are not harming nature in places where we can fly. Keep to marked paths, do not make excessive noise, do not leave any garbage and respect fragile balance of the nature.

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