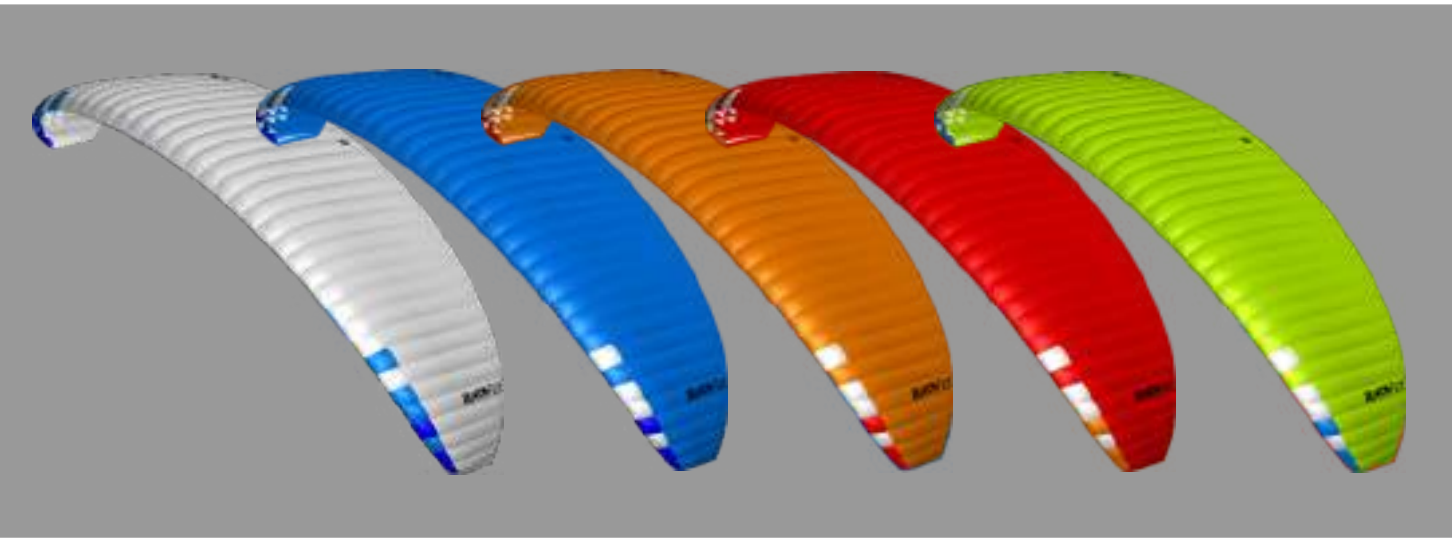
V 08.2019

RUN&FLY



DUDEK

user manual

INDEX page:

Congratulations!

We are pleased to welcome you among the growing number of DUDEK PARAGLIDERS pilots. You've become a proud owner of a sport paraglider, designed according to recent trends.

Intensive development, application of the modern production methods and thorough testing resulted in a friendly behaving paraglider, offering the pilot a lot of fun combined with great performance.

We wish you many enjoyable and safe flying hours.

Please read this manual carefully and note following details:

- The purpose of this manual is to offer guidelines to the pilot using the paraglider. By no means it is intended to be used as a training manual for this or any other paraglider.
- You may only fly a paraglider when qualified to do so or when undergoing training at an accredited school.
- Pilots are personally responsible for their own safety and their paraglider's airworthiness.
- The use of this paraglider is solely at the user's own risk! Neither the manufacturer nor dealer do acceptany liabilities involved.
- This paraglider on delivery meets all the requirements of the EN 926-1 and 926-2 regulations or has an airworthiness certificate issued by the manufacturer. Any alterations to the paraglider will render its certification invalid.
- Other documents concerning this paraglider can be found on attached pendrive or on our website: **www.dudek.eu**.

! **NOTE:** Dudek Paragliders warns that due to the constant process of development the actual paraglider may differ slightly from the one described in the manual.
However, those differences must not affect the basic design parameters: technical data, flight characteristics or strength.
In case of any doubts contact us please.

For whom the Run&Fly?

We've designed the first ever wing under 1 kg (986g), meaning it's the lightest and most compact aircraft of the world. It is much more intuitive than a normal paraglider, at an affordable price at that.

The Run and Fly is not a typical paragliding canopy: it has a single skin. Therefore it's lighter while displaying much stronger tendency to stay over head and recover from any surges than a regular paraglider. In this way, the Run&Fly offers safe take-offs, great maneuverability in flight and smooth landings. It is exceptionally light, so that you can carry the wing on your back during trail running or climbing sessions almost without noticing the load. It is so compact, that it fits in a 4-litre bag. The Run and Fly is perfect for trail running, hike & fly and necessary travelling, or just as a second wing you will always have with you (you can easily place it in your hand luggage while travelling by plane).

DESIGN

Designed by JB Chandelier, Team Dudek and Jacques Peugeot (airframe sizing engineer), in close collaboration with Porcher Sport, the Run&Fly project had been a real challenge for us. We decided to set ourselves very aggressive goals in order to propose a really different, outstanding product. The main specifications were a total weight below 1 kg (the internal project name was 999gr), with speed and flare comparable to standard wings. The wing also had to be affordable, in order to give access to the sky to a wider public. With such an ambitious target, we knew we couldn't simply "make another single skin wing": we had to think out of the box. As a result, the Run&Fly needed hours and hours of engineering discussions, debates, analyses, comparisons and numerical simulations, then obviously completed with a lot of flight & load tests.

Ultimately, the wing turned out to exceed our expectations. The biggest mono skin problems have been resolved; Run&Fly has good speed, nice landing and offers a lot of fun. Besides reaching our goals we also achieved a good glide ratio - above 6. Although we usually avoid publishing the glide ratio of our paragliders, because this parameter is sometimes subject to manipulation, we made an exception with Run & Fly. We want to give potential pilots at least a rough understanding of what they can expect from the fact that such an innovative wing exists.

! IMPORTANT: Run&Fly belongs to the single-surface canopy class. There is fundamental difference between classic double skin and modern single skin canopies. All the launch, landing and steering techniques look a bit different. If you are an established paraglider pilot, you shouldn't have any problems with adapting to the wealth of new possibilities brought to you by the Run&Fly. However, this doesn't work both ways: if you started your paragliding experience with the single-skin gliders, be aware that you are not qualified to safely fly standard double-surface canopies.

paraglider design

DBS
D Brake System

B3D
Ballooning 3D

3-1
3 to 1 Pannel

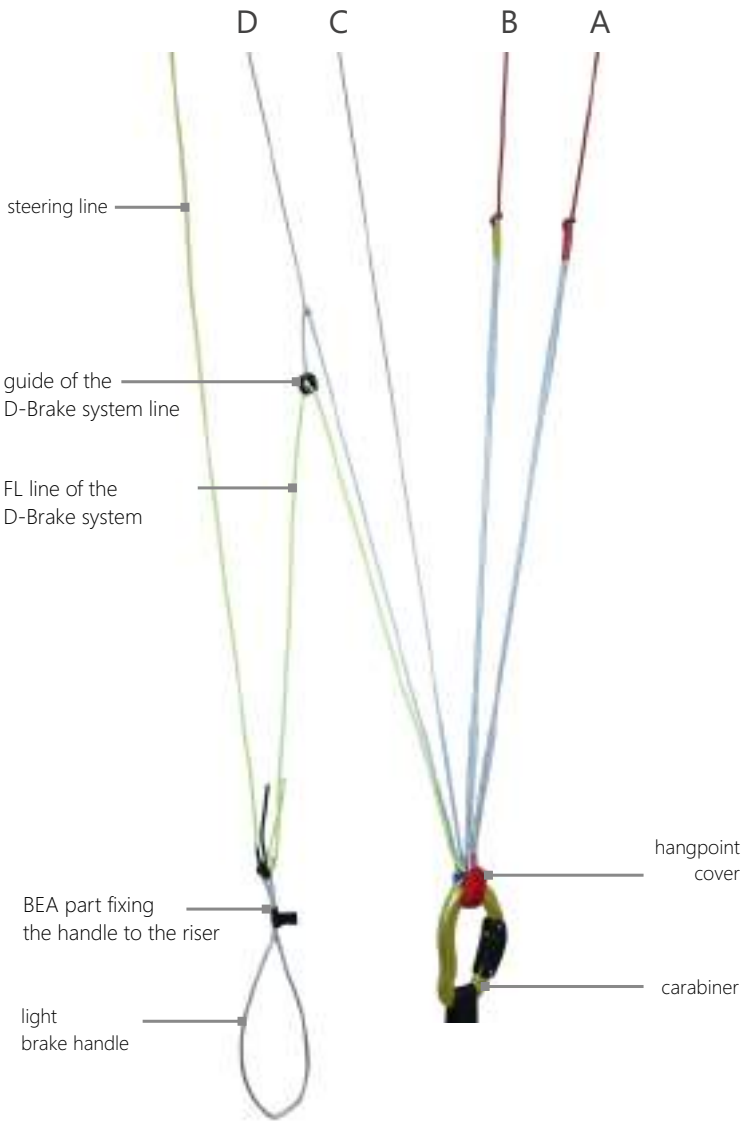
LR
Laser Technology

BEA
Brake Elastic Attachment

FET
FlexiEdge Technology

Run&Fly is produced in new technology, utilizing capabilities of precise laser cutter. All stages of the production process take place as our Polish plant under close supervision of the designer himself, thus ensuring highest European quality.

Careful selection of modern fabrics and design solutions brings about great strength and durability of the canopy. All materials used come from marked production batches, and each production step can be verified down to identification of individual worker and controller.


D
C
B
A
steering line
guide of the
D-Brake system line
FL line of the
D-Brake system
hangpoint
cover
BEA part fixing
the handle to the riser
carabiner
light
brake handle

The Run&Fly features four-way, extremely light risers, equipped with:

- DBS (D Brake System) – additional steering lines, led through guides attached to D risers. The system is there to help obtain better flare and soft landing.

DBS
D Brake System

- BEA (Brake Elastic Attachment) – elastic parts fixing the brake handles to respective risers (instead of magnets).

BEA
Brake Elastic Attachment

Brake handles are attached to the steering lines at an optimal point, guaranteeing safe and effective action.This point is marked on the line with a black dot and this setting should not be altered. Attaching the handles above factory markings will cause constant braking of the paraglider, possibly cause of an accident. Overly loose setting of the brake lines is not advised too, since the much lower load on the trailing edge lines can sometimes be dangerous too.

For quick and easy recognition in emergency, some of the risers are distinguished with coloured covers as follows:

A - red (used for launching if necessary)
B - yellow (used for B-stall).

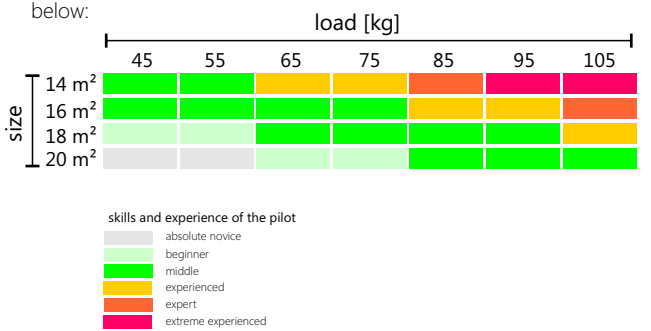
Operation

It's pilot responsibility to choose a canopy matching his skills.

Dudek Paragliders cannot take responsibility for a wrong choice, but we are always ready to advise you – just contact us.

Weight range

Each size of the Run&Fly paraglider is dedicated for a corresponding pilot skill level. In this case a calculation of real take-off weight is necessary before using the size selection table, shown below:



For the Run&Fly, the generale rule of selection says: the better pilot skills, the bigger wing load is acceptable. With the wing load, the speed and agility (response to steering inputs) grow accordingly. The structural strength certificate of the Run&Fly is valid up to 105 kg take-off weight. This mass cannot be exceeded.

CAUTION: Check your real take-off weight! Some pilots calculate their take-off weight by just summing up catalogue numbers, e.g.: harness 5 kg + canopy 6 kg + pilot 89 kg = ca. 100 kg. In reality your actual take-off weight can be umpteen kilograms more. Most often we forget the clothing, electronics, backpacks, sometimes even such basic things like fuel or rescue chute weight are omitted!

What harness?

You can use any certified harness which has its hangpoints at 40-45 centimeters from the seatplate.The width between carabiners should be somewhere between 40 cm and 45 cm. For the Run&Fly we suggest using a light harness with separate leg placing, as this increases stability and somewhat limits the amount of kinesthetic sensations affecting pilot's body.

CAUTION: Please note that any modification of seat/hang point distance changes the position of the brakes as related to pilot's body. You must remember that in each harness your steering range will be different.

Other systems

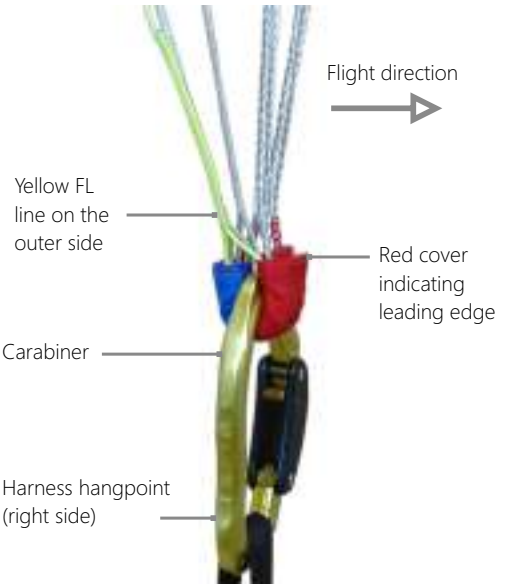
This paraglider has no other systems which can be adjusted, exchanged or removed.

Pre-flight check

Having chosen a place to launch accordingly to the terrain as well as wind speed and direction clear it of any obstacles that could damage your canopy or tangle in the lines.

After laying out your paraglider in a horseshoe directed against the wind following checks must be made:

- canopy, lines and risers condition. Do not launch if the slightest damage is noticed,
- the paraglider should be arranged so that the centre section A-lines will strain earlier that the outer ones. This ensures easy and symmetrical launch,
- the leading edge should stay taut and even,
- all lines and risers should be separated. Make sure they are not tangled, and checked against catching anything. It is equally important to check the brake lines. They must be firmly attached to the brake handles and run freely through the pulleys to the trailing edge,
- Make sure the risers are not twisted. Coloured hangpoint covers will help you clip the risers to the carabiners correctly, as shown beside:



- it is very important to check that no lines are looped around the canopy. The so-called "line-over" may have disastrous consequences during take off.
- always put on and fasten your helmet before clipping in to the harness,
- check main carabiners. They must be properly mounted, closed and locked,
- the risers and the brake handles cannot be twisted. For the correct grip of the handles, take the yellow FL line as it is fixed to the carabiner. Move your hand along over the guide, until you grab the handle. While moving along the line you should not encounter any other line or riser, otherwise it would probably be twisted.

Classic (forward) launch

Should be used with little or no wind. Facing the wind place the risers over your shoulders (A riser must lay on top).

Clip it into carabiners and lock them. Grip the brake handles. Due to its outstanding design, the Run&Fly rises so fast and easy that pulling the A risers is not suggested. It can easily lead to a frontal collapse! The best way is to spread your hands a bit down and back, with slightly bent elbows. All risers are to be placed near the elbows.

With a soft pull check whether the A risers are the topmost and all the lines are cleared. For easier orientation the A risers have a red cover.

Then in fluid movement lean forward and run, until the canopy rises. Look up and try to keep it directly over your head. Side drift is corrected best by moving yourself always under center of the canopy. In order to keep wing in the air the suspension lines must stay taut all the time, so in light winds you will have to run forward. With stronger winds you can control the wing while standing still.

When leaving the ground apply some brakes, then release it after gaining some distance from the ground. Keep your hands relaxed.

Reverse launch

May be used once the pilot feels confident enough, after groundhandling the canopy for a couple of hours.

After clipping the risers into carabiners as for the forward launch, turn back to face the wing, moving one riser group over your head. As a consequence, you will have the risers crossed.

Unclip the brake handles from rear risers and grip it outside of the risers without crossing neither arms nor lines. In this way you steer the left side with you left hand and vice versa. Make sure that the wing inflates symmetrically and the lines are not tangled.

By taking a few steps back you will strain the risers and consequently get the canopy up. Dedicated pulling the A risers is not necessary. When rising, the canopy should stop over your head on itself without your intervention. To make sure you have full control, you can keep the brakes slightly strained.

When turning into wind, remember to turn the right way (hint: always do it the same direction) and to keep the lines strained at all times. The turn itself should be quick and smooth. While turning you have to release the brake handles and grip them again facing forward, so that again the left one is in the left hand etc. Last check of the wing & free space to launch and off you go, running into wind with eventual light braking when taking off.

! **Caution:** To get the canopy down in strong wind, pull the brakes down abruptly & forcefully to disrupt creating lift. You may also use the D risers by pulling them at least 25 cm down.

Turns

Turns on the Run&Fly are dynamic, but exceptionally stable. The wing eagerly reacts to even smallest steering inputs. Handling is pleasant, and the steering forces grow linear with the pull. Adding some weight shift will make the paraglider turn really quick and tight.

The combined technique (weight shifting and brake input) is by far the most efficient method of turning. Turn radius is then determined by the amount of inside brake used and weight shift. Additional application a little outside brake after initiating the turn with maximum weight shift increases turn efficiency and the outboard wing's resistance to collapse (in turbulence, the edge of a thermal etc).

In case of necessary turning in confined area at slow speed (e.g. slope soaring), it is recommended to steer the decelerated canopy by loosening the brake at the outside of the turn while applying just a little more brake on the inside.

! **Caution:** when entering a turbulent area you should brake a little to put up the tension. It will allow you to react instantly in case of a problem. Too hard or too quick pulling of one brake can cause the wing to enter a spin.

Thermalling and soaring

Although the Run&Fly was not designed with this in mind, thermal flying is well possible. During thermalling the wing will be intensively communicating to the pilot everything what's going on around. Still, perfect autostabilization will instantly bring the canopy back to its place over your head when necessary.

When flying minimum sink is reached with brake pressure applied (about 10 cm).

In turbulent conditions the canopy should be flown with a small amount of brake applied. This improves overall stability by increasing the angle of attack of the canopy. The canopy should neither rock back nor surge forwards, but stay above the pilot. In order to achieve it, the pilot should accelerate the canopy by letting off the brakes when entering a thermal (according to its strength) and brake it on exiting. This is part of basic active flying that can spare you many potential collapses.

Hang flying is pure fun on the Run&Fly. You will stay afloat even at relatively low windspeed. Remember that in order to minimize the canopy weight we've resigned on the speed system, so you don't have the usual margin of increased penetration in case of gusts in turbulent winds.

When soaring the slope, minimum height of 50 m above the ground is recommended for safety reasons. It is important to comply with air traffic rules, especially when many pilots share airspace close to the hill.

The avoidance manoeuvres often happen to be impossible in such conditions.

Landing

Just make sure that last turn into the wind is done with sufficient altitude. It is of highest importance to gain as much speed as possible on approach (by releasing the brakes to the max), so that you will have proper energy to flare and land softly.

At about 1 meter over ground flare out by gently braking both sides. The glider may climb again for a while gaining some height, if too much brake is used.

! **Caution:** Too early braking will impair or completely negate potential for correct flaring and adversely affect its dynamic.

The final glide of the landing approach should be straight and smooth. Steep or alternating turns can result in a dangerous pendulum effect near the ground.

DBS
D Brake System

In order to optimalise parameters of the Run&Fly canopy on landing approach we've created a dedicated D-Brake system. It is activated somewhere in half of the braking range, gradually pulling down the D-risers. Because of this, the wing airfoil is flattened in the rear area, generating additional lift needed for good flare and soft landing.

Risers' lenght:

A - 496
A' - 496
B - 1852
C - 2195

WINCHING

Run&Fly has been successfully tested for foot launching by winch.

First phase of the winch take-off is analogous to classic launch. After rising the canopy you will be taken off the ground, as the winch line gets loaded. Avoid large heading corrections in first stage of flight up to altitude of 50 meters.

During this stage do not sit deep in the harness in order to be ready for emergency landing in case of e.g. winch line break. Make sure that your brakes are fully released, so that angle of attack does not increase above safe level.

During all winch it is recommended to control the direction by weightshifting only. Steering lines should be used only for considerable heading corrections, but even then do not pull them too much in order to avoid danger of stalling your wing.

Adjust your heading regularly when winched, so no large corrections are necessary. Remember there are several conditions to be met when winching:

- pilot should be properly trained for winching,
- the winch with all gear should be in good condition and specialized for paraglider winching,
- the winch operator must be properly trained in winching and servicing the gear,
- The wing must not be winched with forces exceeding 90 daN, and under any circumstances must not be towed by any vehicle not equipped properly or controlled by unskilled operator.

! Important: While winching, the wing load is even greater than usual and the airsped is increased relatively to standard flight. Be aware that in this circumstances the wing is much more agile and sensitive, so be cautious on the brakes!

MOTOPARAGLIDING

The Run&Fly paraglider was not designed with paramotoring in mind. Theoretically this should be possible, but you can find it very hard to stay within maximal allowed take-off weight limit.

TANDEM FLYING

Run&Fly is not certified for tandem flying.

Quick descent methods

Big Ears

The big ears can be induced by simultaneous pulling the outer A lines (red cover on the risers) by ca. 20-50 cm. While inducing big ears you should never let the brakes out of your hands. After tucking the tips in, the wing will continue to fly straight with increased sink rate (up to 5 m/s). You can steer the wing pretty efficiently by weight-shifting.

After releasing lines, the paraglider will usually open up on its own or you can assist it with a long stroke of the brakes, until the tips unfold.

B-stall

To enter a B-stall, simultaneously pull down both B-risers (yellow cover) by ca. 10-15 cm. The canopy will collapse across the entire span along its B-row, the airflow over top surface will break and projected canopy surface will be decreased. Forward movement will be almost completely stopped.

Further pulling B-risers is not advised, as testes have shown it to increase wing instability. If the canopy forms a horseshoe, gently pull both brakes to recover.

To exit a B-stall, the risers should be released in a smooth and decisive manner.

On quick and symmetrical releasing B-lines the airflow will be reinstated and the wing will surge forward, returning to normal flight. The initial surge forward can be dynamic, but due to its inherent auto-stabilizing ability the wing does not require braking. The canopy will stop over your head.

Spiral dive

Run&Fly is an agile paraglider, so entering spiral dive happens very quickly. Because of its stability the paraglider returns to normal flight as soon as the inner brake is released.

A spiral is characterised by reaching the highest sink rates possible.

Significant G-forces, however, make it difficult to sustain a spiral dive for a long time, as it can place high loads on both pilot and glider, to degree of losing consciousness by the pilot. Never do this manoeuvre in turbulence or at too high bank angles.

Control the dive and do not exceed 16 m/s sink. In case of the classic double-skin surface paragliders releasing the inner brake is sometimes not enough to exit the spiral; is recommended then to aid this process by pulling the outer brake. On the contrary, strong auto-stabilizing tendency of the single-skin means that it is highly improbable to encounter such situation.

! **Caution:** Never do spirals with big ears pulled. That's another example of concentrating whole load on reduced wing area, which - combined with high G manoeuvres - shifts the peak loads unnecesarily close to their maximum values.

Wing over

You make a standard wingover by performing a series of consecutive, alternating turns with increasing bank angle. Due to aforementioned autostabilizing of the Run&Fly, executing classic wingovers is practically impossible.

! **Important:** Forcing the wingovers by too strong, alternating brake inputs may end with an asymmetric stall!

Aerobatics

Run&Fly was not designed to do any aerobatics.

! **Caution:** All rapid descent techniques should be practiced in smooth air and only with sufficient altitude margin! Full stalls and spins are to be avoided as they are not recommended techniques of clearing dangerous situations. Irrespective of paraglider type they may lead to dangerous consequences!

BY FAR THE BEST TECHNIQUE IS SAFE AND CORRECT FLYING, SO THAT YOU WILL NEVER NEED TO DESCEND RAPIDLY!

Extreme manoeuvres

! EXTREME FLYING MANOEUVRES SHOULD ONLY BE CARRIED OUT DURING SAFETY TRAINING COURSES (INSTABILITY TRAINING) UNDER PROPER GUIDANCE!

Behaviour of the Run&Fly is more dynamic than that of the classic double-skin paragliders. Still, exceptional traits of its design result in good auto-stabilization. Therefore the best way to fly it is to allow the wing find its own path, with minimal pilot inputs.

One sided collapse

Can happen in strong turbulence.

With collapses up to 50% pilot has a couple of seconds to react before the wing will enter rotation. Standard counter-steering is enough to keep the paraglider on course.

Under normal conditions the canopy will reinflate instantly and spontaneously..

Frontal collapse

Can happen in strong turbulence. Active piloting will usually prevent its occurrence.

Run&Fly is a modern paraglider with significantly stiffened leading edge. Performed tests demonstrated an automatic refilling of the air tank on the leading edge as well as full reopening of the canopy; nevertheless, in some specific turbulence it can happen that the air stream will keep the collapsed part in. That's why an instant pilot's reaction is advised – a measured braking at the right moment will greatly speed up the recovery.

Full stall and negative spin

Practically do not occur, may happen only as a result of serious neglect or intentional action of the pilot. You have to be careful when flying at very low speeds until fully familiar with brake operation.

The canopy recovers spontaneously in initial phase of stall, otherwise use standard procedures.

Deep stall

Under normal conditions does not occur. Due to its unique design traits, the Run&Fly tends to instant restabilizing of the flight parameters in case of any disturbance. To get out of deep stall you have to fully release the brakes. The wing can dynamically return over head of the pilot, yet without diving in front of him - so do not try to brake it in this phase.

Line over and cravatte

It is a modern wing which, in order to decrease drag has stiff leading edge. That's why it's always possible that after a tuck one of the stabilisers may tangle in the lines. Usually a couple of strong pulls on the brake is enough to solve the problem. If it doesn't work, try to clear the canopy by pulling the big ears or the stabilo line.

In case of any doubts you should seriously consider throwing the rescue chute.

Emergency steering

In case of any malfunction rendering normal steering impossible, you can safely steer and land the paraglider using the D-risers or stabilo lines.

Cleaning and storage

Specific design of the Run&Fly may require a bit different packing than the classic double-skin canopies. It should be packed like that and properly stored specifically to retain its special traits.

Basic rules to be followed when folding the canopy:

- Fold it accordion-wise rib to rib. Do not fold it by halves, placing the stabilizers at the centerline.
- After creating the package we fold it twice on the longest chord, folding both the leading and trailing edge towards the middle.
- Neatly roll both ends of the package so that they will meet in the middle, already rolled.
- Optionally pack the wing into a dedicated transport bag.

Never pack or store the glider when wet, as it significantly shortens life of the fabric. Remember that wing gets wet even when laying on a green grass in full sun, as the grass transpires.

! **Caution: Locking a wet paraglider in a car exposed to sun is absolutely unacceptable! Hot car interior acts like an oven and as tests have shown that color bleeding/transfer can happen even at 50 Celsius grade. The warranty does not cover such damages!**

While drying, never expose your paraglider to direct sunlight operation. Store the paraglider in a dry place, away from chemicals and UV exposure. Ideal storage temperature for the paragliders is 5 to 25 Celsius.

Cleaning

Clean the paraglider with water and a soft sponge. Do not use any chemicals or alcohol, as these can permanently damage the fabric.

Deterioration - a few tips

The paraglider is made mainly of Nylon - a fabric which, like any other synthetic material, deteriorates through excessive exposure to UV rays that come with the sunlight.

Hence it is recommended to reduce UV exposure to a minimum by keeping the paraglider packed away when not in use. Even when packed in a bag, it should not remain in the sun for long.

Suspension lines in this paraglider consist of Technora inner core. Submitting them to excessive bending and loading in flight should be avoided, as it can cause irreversible damage.

Please note that with frequent kiting on a field or a small hill your paraglider will deteriorate more quickly due to its repeated rising, falling and being dragged around.

Uncontrolled strong wind takeoffs or landings can result in the leading edge of the canopy hitting the ground hard, which may seriously damage the ribs, sewing and surface cloth (including coating damage).

Keep the paraglider clean, since getting dust in the lines and fabric will reduce their durability.

Be careful to keep snow, sand or stones from entering the cell openings: their weight can slow or even stall the glider, while sharp edges can damage the cloth.

Prevent lines from catching anything, as they can overstretch or tear. Never step on the lines.

Knots can chafe suspension and/or brake lines.

Check the length of your lines after tree or water landing, as they can stretch or shrink. The lines can be measured at the manufacturer or an authorised workshop.

After landing in water you should check the wing fabric as well, since waves can cause the fabric to distort in some areas.

When taking the wing out of the water, always do this by trailing edge.After a sea landing, rinse the paraglider with fresh water.

Since salt crystals can weaken the suspension lines even after rinsing in fresh water,you should replace the lines with new ones immediately after contact with salt water.

Frequent flying near oceans and seas accelerates deterioration of the paraglider, as salt present in the sea breeze can make the lines stiffen and even break.

Repairs

Repairs should only be carried out by the manufacturer, authorised distributor or an authorised workshop. It is acceptable to fix minor cloth damage with self-adhesive patches included in the package.

Inspections

Full Inspection is recommended **every 12 months or every 100 hours** whatever comes first, if not advised otherwise by the inspecting person due to paraglider's condition.

A paraglider can be officially inspected only by the manufacturer or a dealer (authorised to do so).

We are aware that purchase of a new paraglider is a big expense for every pilot. That's why we guarantee quality of our products.

Warranty:
Dudek Paragliders guarantees free of charge repairs in case of damages caused by the material or production flaws:

For the free-flying paragliders warranty covers 36 months (3 years) or 300 flight hours, whatever comes first. If the free-flying paraglider is used for powered flights, every hour flown is counted double (not concerning PPG paragliders).
For the paramotor canopies (PPG) warranty covers 24 months (2 years) or 200 flight hours (whatever comes first).
For the mountain wings (MPG), hike&fly, speedflying, schools or professional users warranty covers 18 months 1,5 year) or 150 flight hours (whatever comes first).

Warranty does not cover any of the following:

- canopy colour fading as well as bleeding caused by improper storage/transport
- damage caused by chemicals or salt water
- damage caused by improper use
- damage caused in emergency situations
- damage resulting from accidents (airborne or otherwise)

Warranty is only valid if:

- flight hours can be identified basing on properly kept logbook of the owner (and his possible predecessors) with marked PPG hours.
- the paraglider is used in accordance with the operating manual
- the owner did not make any repairs by him/herself (excl. minor repairs with self-adhesive patches)
- the owner did not make any modifications
- the paraglider can be unmistakably identified by data sheet/sticker
- the paraglider has been properly inspected at all times.

Note: In case of damages caused by the material or production flaws please contact the dealer that sold you the gear. The dealer will determine further actions.

JIf you have bought the paraglider second-hand, ask previous owner for a copy of his logbook (covering entire entire use of ther paraglider from the day of original purchase).

Environmental care

Paragliding is an outdoor sport.
We believe that our clients share our environmental awareness. Exercising paragliding 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.

Recycling of used gear

A paraglider 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 paraglider properly, DUDEK Paragliders will do that for you.Just send your paraglider to the address given at the end of the manual, accompanied by a short note.

The Dudek paraglider you bought should include following items:

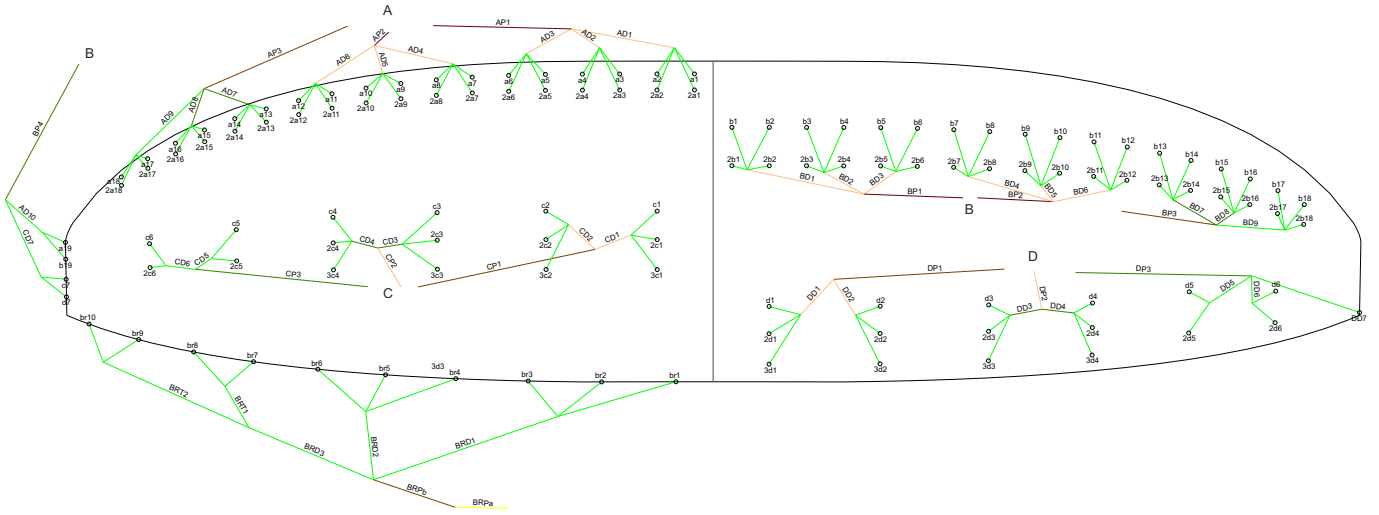
- transport bag (with your canopy inside)
- the paraglider itself (canopy, lines and risers)
- compression strap to keep the canopy together
- pocket with paper work and repair wallet including:
  - piece of self-adhesive fabric (10 cm x 37.5 cm) for small repairs. Note that even small tears located in the vicinity of stitches are to be repaired by an authorised service only.
  - looped and stitched suspension line (the longest of all lines in the paraglider) to be used as a temporary replacement. Do not cut it if you have to temporarily replace a shorter one, just tie it at the length needed.
  - paraglider passport with entered date of purchase and valid technical inspection (please check the serial number with the sticker on wing tip).
  - USB drive with this manual
- small gifts

Run&Fly	14	16	18	20
Load certification EN:926-1	yes	yes	yes	yes
Number of cells	41	41	41	41
Surface area (flat) [m²]	14,00	15,99	18,00	20,00
Surface area (projected) [m ²]	11,96	13,66	15,37	17,08
Span (flat) [m]	8,20	8,76	9,28	9,80
Span (projected) [m]	6,52	6,97	7,39	7,75
Aspect Ratio (flat)	4,80			
Aspect Ratio (projected)	3,56			
Speed [km/h]	42 km/h for size 16 and 85 kg of the take-off weight			
Max. cord [mm]	2087,00	2229,00	2365,00	2493,00
Min. cord [mm]	611,00	653,00	693,00	731,00
Distance pilot to wing [m]	4,76	5,08	5,39	5,68
Total line lenght [m]	261,94	282,16	301,30	319,34
Total take-off weight [kg]	45 - 105	45 - 105	50 -105	60-105
Weight [kg]	0,89	0,98	1,08	1,16
Lines	Edelrid A-8000U: 050; 070; 090, 130; 190 / Liros: TSL-0190			
Fabric	Porcher Classic 26 g/m²			
	Porcher Sport Hard 26 g/m2			
Risers	Liros D-Pro: 3mm; Cousin: Dyneema 16650			

The rigging scheme itself is published on the next page, while tables of line lengths you will find in attachments to this manual.

Lengths are measured with a specialised, computer-operated device. All the lines before measurement are stretched with a steady 5 kg load. Thanks to abovementioned device and proper procedures, final tolerance of line lengths does not exceed +/- 10mm.

! **Note:** Distances given below are to be understood as distances between connection points. When cutting a line for repair, **20 cm extra must be added**, as at each end a 10 cm stitch is required to fix the loop. The only exception is the main steering line (BRP), which is looped only at the upper end, with at least 150 mm margin for fastening brake handle (this means for this line extra 25 cm than in the table is needed).


A
B
C
D
AP1
AP2
AP3
AD1
AD2
AD3
AD4
AD5
AD6
AD7
AD8
AD9
AD10
BP1
BP2
BP3
BD1
BD2
BD3
BD4
BD5
BD6
BD7
BD8
BD9
CP1
CP2
CP3
CD1
CD2
CD3
CD4
CD5
CD6
CD7
DP1
DP2
DP3
DD1
DD2
DD3
DD4
DD5
DD6
DD7
BRP1
BRP2
BRD1
BRD2
BRD3
BRPa
BRPb

If you respect the rules of safe flying and proper glider care, you will enjoy many years of pleasant airtime on your wing.
Still, you must be aware of possible dangers and face them wisely. You must accept the fact that all air sports are potentially dangerous and your actual safety depends solely on you. We insist that you fly safely,
and this concerns both the weather choicesafety margin during all manoeuvres.

Caution: FLYING THE PARAGLIDER IS ALWAYS YOUR OWN RESPONSIBILITY!

SEE YOU IN THE AIR!

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