

USER MANUAL

WAY

BEYOND REALITY

Ruby

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Welcome

Welcome to Way Gliders! Thank you for trusting us and having chosen a Way glider.

We are sure you will experience unforgettable flights with your Ruby. Our goal is to offer you as much pleasure as possible.

Lightness and performance concentrate, this wing takes you further. Pilots in fond of XC flights, hike & fly or bivouac flights will be seduced by the Ruby.

This user manual carries all the essential information you need to know about your glider. It aims to help you to get familiarized with your new wing's characteristics.

We strongly recommend you to read it carefully before your first flight. Your Way: just fly! Flying is what matters.

Only regulatory authorities of each country's activity are in capacity to judge the pilot's competence. Information carried in this manual is given with the purpose to prevent you about unfavorable flight conditions and potential dangers.

Severe or irreversible injuries could be caused by a misuse of the equipment.

The pilot is the only one to assume the consequences of a misuse of the equipment.

We wish you many hours of safe and unforgettable flight.

The WAY Gliders team



General description of Ruby

The Ruby is designed for pilots who want to go further in XC flights. Light and performing, the communication between the wing and the pilot offers a unique feeling. The Ruby is the ideal companion for a XC, hike & fly and bivouac use. The EN-B+ certification offers to the pilot an enjoyable feeling of safety for a better experience in flight.

Certification

The Ruby meets all the requirements of the European Norm for its category.

All the sizes have successfully passed in-load, shock and in-flight tests.

- During the in-load test, the glider successfully met the resistance requirements to the 8G traction strength.
- During the shock test, it has been shown that the glider can resist 1000 daN on an instant loading.
- In-flight tests led to an EN/LFT-B+ certification.

The in-flight tests report carries essential information about the glider's reactions on each maneuvers tested according the EN-B+ certification.

Components

The Ruby's delivery includes accessories allowing a good use, transport and storage of your wing.

- A **zippered compression bag** to protect the wing during storage and transport. Our compression system allows the wing to be retracted into the smallest reversible harnesses.
- A **compression strap** that will compress the inner bag to reduce its volume and save space.
- A **repair kit** that includes a sheet of Ripstop sticker in the same colour as the wing.
- A **backpack** to carry your wing and your harness from home to take off place.



Before your first flight

Unpacking the wing

We recommend you to unpack and connect your glider to the harness on a windless flat ground or a training slope without any obstacle.

Take your glider out of the backpack, open it and lay it out with the lines on the undersurface. Place your wing the same way as when you want to inflate it. First of all, it is important to control that there isn't any anomaly on the glider. Untangle the lines, the brakes and the correspondent risers. Be sure there is no knot left.

Untangling

Lines check is essential before every takeoff. Do not take off if you notice something wrong.

However, if it occurs you have taken off with a tangled line, pay even more attention to avoid any incident. Shift your weight to the opposite side of the knot and briefly pull the brake at the same side than the knot to untangle it. Do not be brutal on the brakes in order to avoid glider's unwanted movements and quickly release the brake.

Connecting the harness

The Ruby connects to the harness as every wing does.

Connect the risers to the harness's carabineers, the front risers on the upper side. Be sure carabineers are perfectly attached and locked.

This glider can be used with all the types of harness.

Be meticulous during the ventral strap adjustment: the stability and the behavior of your wing depend on it.

Inspection and ground handling

Once you have verified everything and when the weather conditions are adapted to an inflate practice, inflate the Ruby as many times as necessary to get used to its behavior.

The Ruby inflation is very dynamic: the wing rises above your head and stabilizes quickly.

Brake adjustment

Brakes are factory adjusted according certification. Depending on your piloting style, you can adjust the brake length.

We recommend you to fly several times with the basic settings to get used to the wing's behavior first.

If you want to change the brakes length, untied the knot, slide the line trough the knot to the wanted length and then, tie the knot tight. The two brakes must be symmetrical.

The adjustment must be done by an experienced person. Above all, the adjustment should not continuously brake the wing. Figure 8 and bowline knots are the most common.

Arms up, be sure that brakes do not distort the trailing edge. If it does, brakes are too short.

In accelerated flight, you need to keep in mind that applying a strong action on the brakes could lead to asymmetrical collapses.

Speed system

The speedbar allows temporarily accelerating your wing by reducing the angle of incidence. The speed system is factory set up on the risers, it cannot be adjusted. As a light wing, Ruby doesn't have sister clips. You have to tie it with a lark's head knot.

The maximum speed depends on the wing. Trigger the speed system by pushing the speed bar.

The speed system operates according the action-reaction principle. When you push the speed bar, the Ruby speeds up. The speed depends on the pressure applied on the speed bar. Once the pressure released, the wing goes back to its initial speed, in a neutral position. You can speed up whenever you want all along the flight.

In neutral position with arms up, the wing flies at its maximum speed. Using the speed bar allows a gain between 5 and 10 kph more than its maximum speed.



First takeoff

Checking your equipment is obligatory before every takeoff, even for short flies. For your first fly with the Ruby, we recommend you to go on a site you know well.

Before taking off, do a visual check of your whole equipment with the wing widely opened and lines untangled. Be sure that weather conditions are adapted to your competences.

Shortly after landing, fold your wing this way: Fold it like an accordion, with the rods flat, stacked on top of each other.

The wing should not be folded too tight not to damage fabric and to extend your glider's lifespan.



In-flight

First of all, it is essential to note that the behavior of the wing changes depending on the size and the wing loading. We recommend you to learn and reproduce these maneuvers under professional supervision.

In-flight turbulences

The Ruby is pretty stable. Nevertheless, it communicates the movements of the air mass to the pilot and can be subjected to turbulence.

You will always have to pilot your wing and take the appropriate measures to avoid collapses.

You always have to adapt your speed and your incidence angle to the air mass. We recommend you to be surrounded by professionals to practice piloting.

As told before, remember that the behavior of your wing and the way it reacts can change depending on the wing load. Anyways, you have to adapt your action on the brakes to every situation in order not to over-pilot.

In the following pages, you can find all the practical information about the Ruby's reaction to these maneuvers.

- Even if the Ruby is stable, turbulences still can **asymmetrically collapse** your wing. It occurs when the pilot doesn't anticipate an asymmetrical under-incidence. You will feel a diminution of tension in the brakes. To avoid the closure, increase the angle of incidence by applying tension on the brake on the side that is going to close. If the wing still closes, put weight shift on the open side to reopen it. If it is not enough to reopen, apply a deep but brief pull on the closed side brake, hand back the brake immediately. Repeat this move several times if necessary. In order to keep your course, give priority to weight shift rather than brake.
- In a turbulent air mass, a variation of the angle of incidence could lead to a **symmetrical collapse** of the Ruby. After a closure of this type, the wing re-inflates again quite easily on its own. However, you can apply a brief and deep symmetrical pull on the brakes if necessary. Release immediately to let the wing fly at its optimum speed.
- A **spin** could be the consequence of piloting mistakes. Flying at low speeds while engaging a turn by pulling the interior brake (instead of releasing the exterior one) could lead to a flat spin. The expected reaction is a surge with an incipient turn of less than 360° before the return to normal flight. The pilot is expected to anticipate and react in the right way.

Accelerated flight

The speed bar can be used in strong wind or to speed up (as example, during transition).

Speeded up, the wing goes through turbulences faster but is more sensible to it. Closures are more massive when the glider is accelerated.

In accelerated flight, give priority to piloting with rear risers.



➤ The **stall** situation happens when you fly at very low speeds. In a turbulent air mass, the Ruby can stall because of an over-incidence. To provoke a complete stall, you have to symmetrically brake the wing until the loss of lift. The profile is broken and you will feel a diminution of relative wind. By keeping your hands low, you will reach the stall point. To get out of this situation, you have to progressively release the brakes (always in a symmetrical way) to rebuild the profile. The wing will take a dive. This diving must be controlled by a strong and efficient action on the brakes. In this phase, it is essential not to over-pilot the wing in order to let it flies back to its optimum speed.

➤ **Ties** can occur with the Ruby after an asymmetrical collapse by wingtip getting stuck into the lines. This could quickly engage an unwanted turn. To untangle the wing, the maneuvers to be used are the same as for an asymmetrical closure. Shift your weight to the open side of the glider. If the weight shift is not enough to stay the course, you can add a light action on the brake. Then, pull the stabilo lines (marked by a different color at the outer side of B risers) to undo the cravat. If this is not sufficient, we recommend you to fly at the nearest landing while controlling your trajectory thanks to weight shift and brake.

➤ You need to keep in mind that most of the flight incidents occur after a piloting mistake. **Over-piloting** leads to dangerous situations.

We recommend you to learn how to manage those incidents with the Ruby with professional in an adapted environment.

Rapid descents

Big ears: This maneuver - by reducing the wing surface in flight - allows reaching a sink rate between -3 to -4 m/s.

- Grab and pull simultaneously the lines matching the ears (located on the outer side of the risers). Spot it before your first flight.
- Keep the big ears until you reach the desired altitude. Then, release the lines to reopen the glider.
- If an ear doesn't reopen, shortly pull the brake of the same side.

Caution: Do not brake the wing while doing big ears to avoid stalling.

B line stall: this maneuver takes you in parachuting phase. It's comfortable as long as there is no centrifuge strength but you cannot pilot your wing anymore. It reaches a sink rate between -4 and -8 m/s.

- Grab the risers corresponding to the B lines and pull it down. This maneuver requires strength.
- To get out of it, release simultaneously the two sides.

Caution: in turbulent conditions, the glider won't be stable. It could lead to closures.

360: One of the most efficient methods but also one of the most demanding in terms of piloting because of the high centrifuge strength.

- Shift your weight to the side you want to start the 360. Then, add brake. You can line up the turn by actions on the exterior brake.
- Strongly engaged, 360 can reach a sink rate of -20m/s.
- To get out of 360, progressively release the interior brake while shifting your weight outside of the turn. Add a little pull on the exterior brake. It is essential to dose the maneuver to avoid a too strong pendulum effect or an asymmetrical closure.

Slow descent: it's about exploiting descending zones. This is the safest method if you don't need to hurry.

Special uses

Winching use is not a problem for the Ruby. Winching equipment has to be used by experienced pilots. Inflate the glider in the same way than for a normal flight. At the start of the winch, don't forget to work on a short control travel if you need to correct your trajectory. The action on the brakes has to be gentle as long as the glider is near its stall point.



About acrobatic flight, the Ruby is comfortable to perform SAT or wingovers. However, we do not recommend this type of use neither any uses out of flight domain.

Maintenance

A rigorous maintenance is essential for a good performance.

A check is obligatory before every flight. Being meticulous regarding your equipment is essential.

Impacting the leading edge on a hard surface can damage fabric and wing structure. The leading edge must be subject of meticulous and accurate controls. In case of soiling, clean up fabric and lines with a wet rag. Only use water. Don't let it dry in the sunlight: it could lead to a premature aging of the wing. Store your wing in a dry place, out of sunlight. If there is an accumulation of sand in the glider, take all the sand out before folding it and putting it into the bag.

It is also essential for the wing to be correctly storage. Store the sail in a fresh and dry place, far away from chemicals substances, oils or rodents. Do not let it in a car trunk: your wing could heat up quickly.

About folding: it's essential for the wing to be correctly folded and packed after every flight. When you do not use your glider for a while, give priority to a loosely folding and avoid direct contact with the ground.

As all the wings, your Ruby must be regularly inspected in a workshop every 100 hours of use or every 2 years. Any minor repairs or modifications to your sail should be checked by professionals.

Warranty

This equipment and all its components are guaranteed for 2 years for any manufacturing defect. The warranty does not cover damage caused by misuse or abnormal use of the equipment.

Technical specifications

			21	23	25	27
	<i>Envergure</i>	m	10,94	11,45	11,82	12,29
	<i>Allongement</i>		5,7	5,7	5,7	5,7
Projetée	<i>Surface</i>	m ²	17,83	19,53	20,75	22,44
	<i>Envergure</i>	m	8,72	9,13	9,42	9,8
	<i>Allongement</i>		4,26	4,26	4,26	4,26
Aplatissement		%	15	15	15	15
Corde	<i>Maximum</i>	m	2,33	2,44	2,52	2,62
	<i>Minimum</i>	m	0,54	0,56	0,58	0,61
	<i>Moyenne</i>	m	1,92	2,01	2,07	2,16
Suspentes	<i>Metres tot.</i>	m	220	230	238	247
	<i>Hauteur</i>	m	6,67	6,98	7,21	7,49
	<i>Nombre</i>		165	165	165	165
	<i>Principales</i>		2/1+1/3	2/1+1/3	2/1+1/3	2/1+1/3
Élévateurs	<i>Nombre</i>	3	A/B'+B/C	A/B'+B/C	A/B'+B/C	A/B'+B/C
	<i>Afficheurs</i>		NO	NO	NO	NO
	<i>Accelérateur</i>	mm	120	120	120	120
Poids tot. en vol	<i>Minimum</i>	kg	55	65	80	95
	<i>Maximum</i>	kg	75	85	100	115
Poids de l'aile		kg	3,3	3,5	3,7	3,9
Homologation		EN/LTF	B+	B+	B+	B+



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