



# SQUARE<sup>115</sup>

## MANUAL

### Verification of Checks and repairs

<p><b>SQUARE 115</b></p> <p>Serial number: .....</p> <p>First check by ICARO / date: .....</p>	<p>.....</p> <p><b>Name/ Stamp</b></p>
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Check (C) Repair (R)	Which repair/ Check? Check valid until?	Performed by/ date

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Congratulations on buying your  
SQUARE 115 rescue system  
and welcome to the family  
of ICARO - pilots!

Before you get to know your system please read the manual which includes important information.

This manual gives you information on the entire specific and general characteristics of the SQUARE 115.

All technical data and instructions in this manual were drawn up with great care. ICARO Paragliders cannot be made responsible for any possible errors in this manual.

Should you decide to sell this rescue system at a later date, please pass on this manual to the new owner.

No guarantee of any kind can be made against accidents, injury, equipment failure, and/or death. It is assumed that the pilot is in possession of the necessary qualifications and provisions of any relevant laws are observed.

The use of this rescue system is entirely at your own risk.

Every pilot bears the responsibility of his/her own safety. The manufacturer or distributor assumes no responsibility for accidents occurring while using it.

Do not fly unless you are personally willing to assume all risks inherent in the sport of paragliding and all responsibility for any property damage, injury, or death, which may result from use of this paraglider.

***It is strictly prohibited to use the SQUARE 115***

- ***beyond the maximum recommended weight***
- ***for skydiving***
- ***with damaged canopy, lines, connection belt or seams or***
- ***without regular check (check interval).***

**WARNING:**

**The rescue system is not suitable for speeds in excess of 32 m/s (115 km/h).**

All technical data and instructions were drawn up with great care. ICARO paragliders cannot be made responsible for any possible errors in this manual.

Important information in this manual is written in ***fat cursive writing***.

Any important changes to this manual will be published in our homepage ([www.icaro-paragliders.de](http://www.icaro-paragliders.de)).

Should you decide to sell this rescue system at a later date, please pass on this manual to the new owner.

Each alteration (lines, canopy) is dangerous and reactions are not predictable. Your glider will lose its pattern test result and guarantee.

The manufacturer or distributor assumes no responsibility for accidents occurring while using it.

Every pilot must ensure that the rescue system is properly checked at regular intervals.

## **Environmental aspects**

The materials of which a paraglider is made require a special waste disposal. So please send disused gliders back to us. We will care about a professional waste disposal without costing for you.

Please do our nature-near sport in a way which does not stress nature and environment!

Please do not walk beside the marked ways, do not leave your litter, do not make unnecessary loud noises and respect the sensitive balance in the mountains.

**Especially at the launch site consideration is needed!**

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ICARO paragliders, all other rights are reserved.

## To get to know your **SQUARE 115**

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<b>Technical data</b>	
Certification:	EN 12491 i.g.F. und LTF NfL II 91/09
Area (m <sup>2</sup> )	36,2
Number of cells	20
Middle line	1
Weight including container (kg)	1,3
Container Volume (cm <sup>3</sup> )	4260
Maximum payload (kg)	115
Sinking rate (max. payload):	5,46 m/sec-.

The SQUARE 115 is a manually deployable rescue system suitable for paragliding pilots in an emergency situation and is made by high quality light materials and has a quadratic canopy with two middle lines which pull down apex.

Rescue systems from ICARO are characterized by a high level of reliability and maximum material strength. Fastest inflation while maintaining moderate sink rates are features of these systems.

The material is air permeable, strong nylon. There are bands sewn into the main seams to strengthen the canopy. The base and side edges are reinforced with bands. The apex is pulled. The lines are grouped into a strap. This strap generates the connection between rescue system and harness.

The rescue system is sewn to NATO standards which means that all rescue systems are sewn by professionals and delivered only after inspection and approvals..

The specially designed inner container prevents the lines from getting caught up in the cap and the opening speed is accelerated with this inner container.

***When using a different inner container is important to ensure that the rescue system can be thrown without deceleration.***

## What to do when it happens?

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If you find yourself in an uncontrollable situation in the air pull hard on the deployment handle. This will open the outer reserve container and release the reserve parachute. Then throw the reserve package forcefully away from you. As the suspension lines become tight, the container will fall away and the reserve will open. If your glider is rotating it pays to throw the reserve against the rotation as this will speed up the inflating process. If you have had a collision and find yourself entangled with someone else's glider try to make sure you don't throw the canopy into the entanglement, as this will delay the opening.

***When you are flying recurrently grab the position of the handle so you can find it in an emergency!!***

***If you have enough height, first try to resolve the problem and stabilize the glider as far as possible (danger of screwing of the bailout).***

***If you have not enough height don't hesitate for pulling the rescue.***

***Do not forget to unhand the rescue handle!***

## Packing Instructions

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### Packing preparations

Before you pack the rescue system it is important that the canopy is spread out on the ground for about six hours.

If possible, it would be even better to air it one night long by hanging it up by the top lines. Before the rescue system gets packed, a release control must be carried out. The release force should be between 50 and 80 N.

### Pulling the packing line trough the fixing loops

To help you pack the rescue system, use a short piece of old paraglider line and thread it through all the apex fixing loops. The fixing loops are sewn on the canopy.



Attach the line to a stable fixed point.  
Sort out the suspension lines.

Take line 1 and the last one (20) stretch the lines so they are running parallel to the main strap and make sure that the middle lines are in the middle and the other lines to the side.



***There must not be any tangles or knots in the lines. All lines must have a straight course and may not have any twists.***

## Sorting the panels

Take the lines in your hand as shown on the photo and fold over each panel from the left side onto right side like turning the pages in a book and pull the top of the opening outward..

Start with panel 1, the last one is panel 20.



Now you can see the opening of panel 1. Fold the opening like a triangle.

Sort the next panels to the left side until you see the opening of panel 16. Fold it like panel 1.

Do the same up to panel 11.



Now fold all panels from the right side to the left. Put the first five panels to the right side until you can see the opening of panel 6. Fold the opening like a triangle.

Afterwards fold the following panels to panel 10 on the right side. When you see panel 11 fold the last of 4 triangles.

Afterwards check both sides.

***On each side there must be 10 panels.***



Check the lines. You can divide the lines to lines on the left, the right and the middle lines.

***All lines must have a straight course and may not have any twists.***

***Remove the line from the fixing loops!***



### **Folding the canopy into thirds**

The left third is folded onto the middle and then the right third is folded under the middle. Do the same on top of the canopy.

***Fold the protruded triangles and pay attention to the size of the container !***



## ***Now is the last time to remove the helping line from the fixing loops!***

### **S-folding canopy to fit into inner container**

Fold the canopy in folds like an “piano accordion” from the top right down to the base, so that it fits into the inner container.

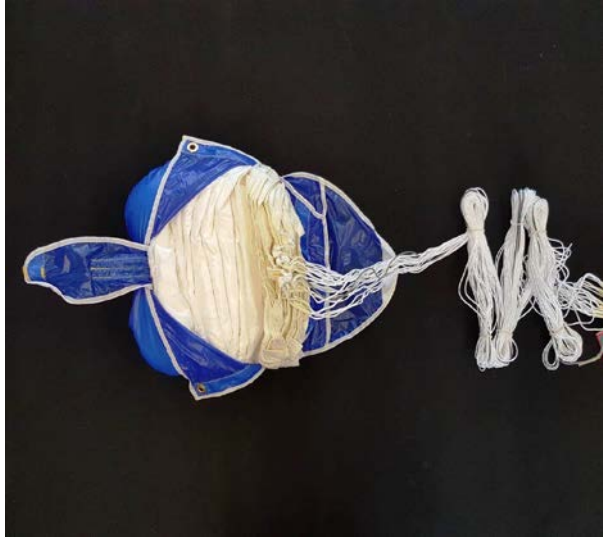


Now put the canopy into the inner container. Close both sides of the inner container with the white rubber band and pull the suspension lines through the rubber band for closing.

Fold the suspension lines using two fingers in “S” bundles and fix with special rubber bands.

**These are special rubber bands which you can buy from the manufacturer and you must novate it after each time you repack.**

Use the last 50 cm of the suspension lines for the final closing of the inner container.



Place the folded suspension lines into the pocket as shown.  
With the rest of the suspension lines you finalize the closing of the inner container by pulling the suspension lines through the black rubber loop. Now the packing is finished.



***Make a note of the date of packing in the pack control booklet.***

### **Installing your rescue handle**

Most harnesses have a handle for the harness containers. This handle must be connected to the inner container.

The inner container of ICARO rescue systems has two loops, in which the handle of the harness can be attached (center, side).

Handles for front and back containers are generally suspended in the central loop, container on side or under the seat, the side strap used.

***Note the instructions for the rescue unit in the operating instructions of your harness.***

***If there is no handle of the harness or it does not fit with your inner container, please ask the dealer of your harness or your paragliding school.***

***The handle must be firmly connected to the loop on the inner container (opening strength < 70 N).***

### **Attachment of the connection belt with the harness**

For connecting the two belts use a fixable 24 kN- snap hook with a diameter of 8 mm. It is very important that the snap hook cannot twist to prevent rotation stress of the snap hook.

Therefore use cable fixer, adhesive tape or strong rubber bands and pull it **above and below the snap hook** around the belts.

Another fixing method is to put the belt of the rescue system through the connection belt of the harness and then the rescue system through the harness belt. It is just as very important that the knot is very tightly fastened.

Therefore use cable fixer, adhesive tape or strong rubber bands and pull it **above and below the knot** around the belts.

***Pay attention to the symmetry of both lines. Neither side of the loop must be longer than the other.***

In order to avoid an unwanted release of the rescue system, the closing splint must be held with a special thread (50 N) which is made with certified material. This special thread can be purchased from ICARO.



***A higher breaking force could otherwise endanger the release of the rescue system!***

## **Compatibility- check**

A control of every new combination of rescue system and harness/outer container has to be carried out by either the producer of the harness or the rescue system or an authorized person (dealer or flight instructor). The activation of the rescue system in flight position has to be correct and in conformity to the construction guidelines.

***The check has to be recorded in the documentation of the rescue system. The throwing movement should be practiced every time the rescue system is repacked.***

## **IMPORTANT POINTS TO LOOK OUT FOR:**

### **➤ Check (regularly)**

- connection of the rescue system to your harness
- connection of the harness and deployment handle
- the closing splint must be held with a special thread
  - **helping line from the fixing loops is removed (after each packing)**

### **➤ Check compatibility of rescue system and harness**

### **➤ Before each start with your glider you have to check the container is closed!!**

## **Care, maintenance and repair**

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### **Care Instructions**

- Please do not store your rescue system in the vicinity of acids, grease, oils or paint. To ensure safe operation, the system needs proper maintenance and care.
- Do not store your rescue system in extreme temperatures or humidity (more than 30° C Or 55-65% humidity).
- A humid or wet canopy needs repacking.
- Exposure to UV-rays causes deterioration the fabric.
- Please only use clean and fresh water to clean your rescue system or container.
- Wet cloth stored in warm conditions will begin to mould and significantly lose structural strength. Rescue systems in this condition must be brought to the manufacturer to be checked out.

***It may take several days your second chance to dry out completely especially the lines of the rescue system, which take longer than the fabric.***

***Do not fold and store your rescue system prematurely if it not completely dry. Mildew may damage your harness and your rescue system.***

## **Repairs**

***The seal of approval can only be preserved if original parts are used. If you discover any damaged parts to the rescue system which might impede deployment, please send it back to the manufacturer to be repaired.***

***Repairs can only be carried out by the manufacturer or from the manufacturer authorized persons.***

## ***Use limitations, packing- and check intervals***

### **Packing interval**

**12 month;** the rescue system also must be aired recurrent

### **Check interval**

**2 years;** when the rescue system was opened after a flight accident the rescue system is to be checked.

***Without regular certified inspections, your glider will lose its pattern test result and guarantee.***

### **Use limitation**

**10 years;** The rescue system is allowed to be used for a time span of 10 Years by observance of the regulations for packing and checking. Certification is no longer valid thereafter.

The certified life span can be extended by a further three years, if the rescue system is checked by the manufacturer every year.

**Important: *Packing and checks of the rescue system must be documented otherwise guarantee is cancelled.***

## **Terms of the guarantee**

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ICARO paragliders guarantees the proper processing, an operation within the allowable limits of proper operation and the fulfillment of the eligibility criteria of rescue equipment for **24** month at the time of first delivery by ICARO paragliders.

***Guarantee is only valid for ICARO products with LTF/ EN certification <sup>1</sup>.***

### **What is covered by the guarantee?**

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<sup>1</sup> - EN 926-1 und EN 926-2 for gliders, EN 1651 for rescue systems , EN 12491 for harnesses, all at the time guilty version, LTF/ NfL II 91/09 und NfL 2-60-14

Provided that ICARO paragliders accept the fault the guarantee contains all necessary spare parts related to the replacement or repair of defective parts and working time.

ICARO paragliders accept no freight costs (outbound and return transportation).

### **What are the conditions of the guarantee?**

Provided that ICARO paragliders accept the fault the guarantee contains all necessary spare parts related to the replacement or repair of defective parts and working time.

- ICARO paragliders needs to be informed immediately after the discovery of a defect and the defective product must be sent to us for testing.
- All flights must be accounted for within the flight book.
- There were only original spare parts used and checks, exchange and / or repairs were conducted by an authorized dealer or by ICARO paragliders company / person and properly documented.
- A fully and correctly completed guarantee card must be sent at least 6 weeks after buying the glider to ICARO paragliders commercial. Alternatively can this be sent via the appropriate online form on [www.icaro-paragliders.com](http://www.icaro-paragliders.com).

### **What is excluded from guarantee?**

- Rescue equipment,
  - which has been thrown for a emergency,
  - which have been changed by yourself,
  - that were not purchased from an authorized dealer / flight school,
  - where the required inspection intervals were not met and the verification of the rescue system was not conducted by a ICARO paragliders authorized operation / person
- Damage
  - which has occurred due to improper treatment (i.e. storage in humidity, heat or direct sunlight)
  - caused by solvents, salt water, insects, sun, sand or humidity
  - caused by force majeure.
  - caused by the paramotor (Oil, fuel, damage in cause of the prop)
- Discoloration of the cloth material used.

In case of a concluded claim the period of guarantee carries on. The period of guarantee and the connected claim are not prolonged and are only valid until the original date of expiry. The freight costs (transport to and from) are not paid by ICARO paragliders.

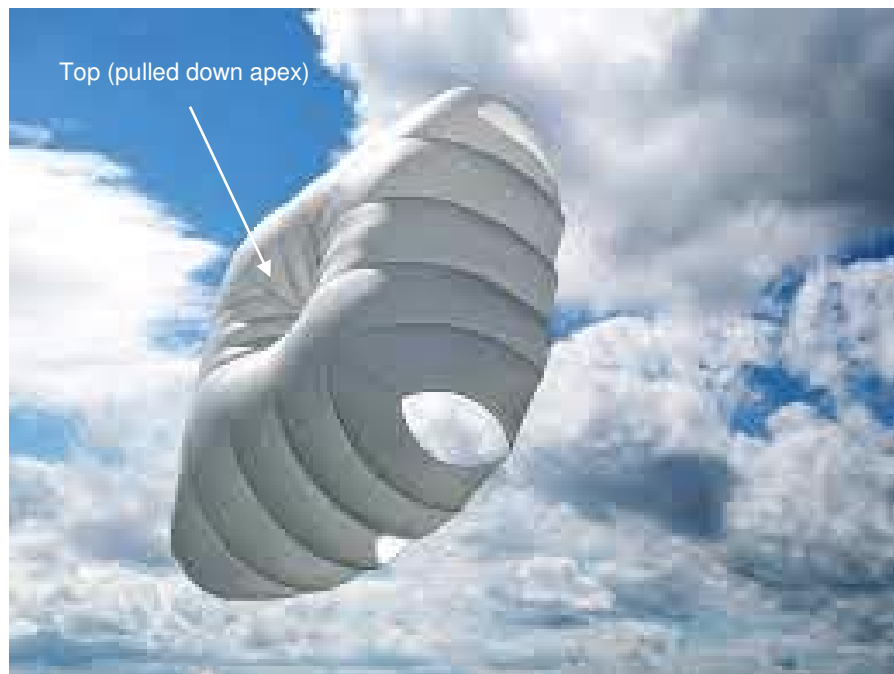
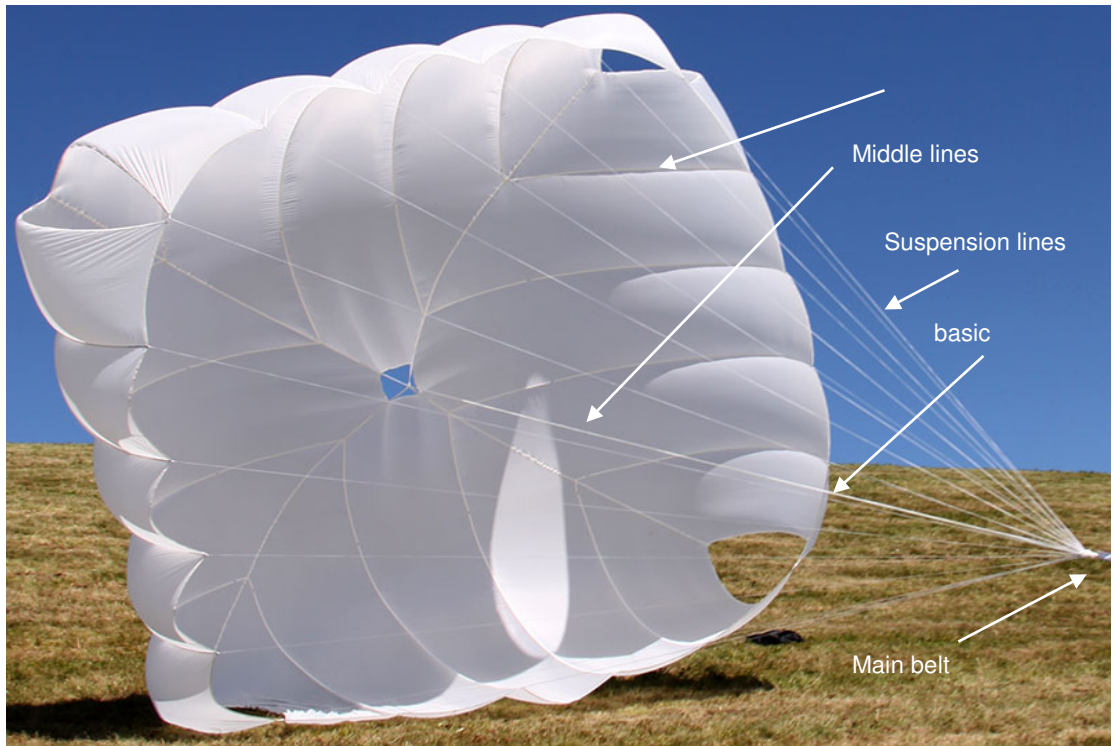
## Annex

### Guarantee Card


Please fill in the guarantee card which you find on our homepage [www.icaro-paragliders.com](http://www.icaro-paragliders.com) and send it .

<b>Checksheet for rescue systems</b>			
Client (Name, Address):			
Type / size / year of construction :		Serial number:	
Certification number:		Date of last inspection:	
		Memos	yes no
Was an emergency tripping necessary?			
Where did you land after this emergency tripping?			
Necessary repairs?			
Was there a splashdown?			
Canopy	Visible damages?		
	Any dirt on the canopy ?		
	Holes in the canopy?		
	Seams ok?		
	Notations on the panels ok?		
	Certification stamp readably?		
	Apex fixing loops ok?		
Lines	Visible damages?		
	Seams ok?		
	Middle lines frayed?		
	Connection middle line to suspension lines on the top ok?		
	Suspension lines frayed?		
Inner container	Visible damages?		
	Loops for the deployment handle ok?		
	Rubber loop ok?		
	Eyelets ok?		
	Deployment handle correct fixed?		
Container correct closed?			
Compatibility check effected?		Additional repairs carried out? Which?	
Pack control booklet noted?			
Inspection stamp affixed?			
<b>Overall result of the rescue system</b>		<b>Next inspection:</b>	
As new			
Very good			
Used			
Much used			
certification only for one year			
not airworthy			

**Description of the rescue system**







# SQUARE

## MATERIAL LIST

AREA  
**38**  
m<sup>2</sup>

MAX LOAD  
**115**  
Kg

COMPONENTS	MATERIAL	MEASUREMENT	MANUFACTURER
Sail material	USUT201	22g	UTT GmbH & Co KG
Line	Liros	1,3 mm / 100 m	Liros GmbH
Center Line	Liros	2,7 mm / 5 m	Liros GmbH
Main Line	Liros	2,7 mm / 190 m	Liros GmbH
Edge binding	57806	2,5 cm / 40 m	Güth & Wolf
Sewing thread	Magafil	1180 m	Centro Accessori
Elastic	Condor	20 mm	Fa. Mitteneauer
<b>CONTAINER</b>			
Sail material	UTT	30 g / 0,5 m <sup>2</sup>	UTT GmbH & Co KG
Edge binding	57806		Güth & Wolf

ICARO Paragliders ist eine Marke von Fly & More / Hochriesstraße 1 / 83126 Flintsbach / Datum 21.07.2016 / Unterschrift: W. Kaiser

**Dispatch protocol/ Delivery content**

- Piece check complete
- Inner bag
- Manual
- Sticker

.....  
Date

.....  
Signature