Pro Copter - Rollbar Plus
Owner's manual

Icaro 2000 congratulates you on your purchase of a new **Pro Copter - Rollbar Plus** helmet. This professional helmet was first developed by Icaro 2000 for the Swiss Rega air rescue service, and it was originally named Rega II. Today it has a new name, Pro Copter - Rollbar Plus, but its technical specifications remain the same.
It is used by medical personnel involved in rescuing injured people. In the air, users are either inside the helicopter or suspended below it on the winch. So they never receive a flow of air directly from the front-bottom, but only from above. For this reason, the visor of the Pro Copter - Rollbar Plus has a limited surface that can be not enough to supply optimal protection for pilots flying paragliders, hang gliders, or open microlights. In such crafts, the airflow reaching the pilot, it can cause turbulence between the visor and the eyes.

Pro Copter - Rollbar Plus was designed by Ignazio Bernardi, with technical consultancy from Italy's most important helmet developer. The resulting helmet has a modern, exclusive look. Its principal purpose, safety, has been achieved without sacrificing comfort or performance, by virtue of the innovative technology that we have applied. In fact it is constructed using the same technology as in military applications, including high-modulus full carbon or glass fiber in order to guarantee the highest possible safety standards.

All new Icaro 2000 helmets are tested by CSI (an organization authorized by the Italian Ministry of Transport and recognized by German certification association TÜV), obtaining certification as free flight helmets in compliance with European standard EN 966, or as water sports helmets in compliance with the EN 1385 standard, or as skiing and snowboard helmets in compliance with the EN 1077 standard.

Icaro 2000 recommends the use of certified helmets only.

Our network of distributors worldwide ensures the availability of service and components wherever you are based.

This manual can be also viewed online.
The user manual for the helmet you have purchased can be viewed also at this web address:
https://www.icaro-helmets.com/Products/Helmets/Copter/ProCopterEN1.pdf

Or you can scan the QR on the sheet inserted in the helmet box to access to helmet manual and other important information.

For further information or service, please consult your nearest Icaro 2000 dealer, or contact the company direct at:

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INDEX

GENERAL INFORMATION 4
Choosing and purchasing a helmet 4
How to try on a helmet with headset: 4
The structure of the Pro Copter - Rollbar Plus helmet 5
Outer shell edging finish 5
Vents 6
Sidepieces 7
Micrometric chin strap: 7
Visor 8
Earphones 9
Technical specifications 9
Certification: 10
Using the helmet 10
4 things that you should never forget 10
In case of accident 10

HELMET MAINTENANCE 11
Personalization 11
Removal and reassembly of internal padding 11
Visor installation and removal 11

CLEANING 13
External shell 13
Internal parts 13

IMPORTANT INFORMATION 13

General information

Choosing and purchasing a helmet

When you purchase a helmet, the most important moment is choosing the **right size**. If you have never purchased a helmet, you probably don't know your own size. The size of a helmet is specified by the **inner circumference** of the internal padding. The size number therefore corresponds to the head circumference in centimetres.



Take your time when choosing a helmet. Try several, and follow these criteria:

Put the helmet on and fasten the strap:

- The helmet should not be so loose that it moves around, but neither so tight that you can feel a continuous pressure on your head
- A helmet that is too large may slide down and obstruct your eyes
- Try to pull it off, moving it back and forth: if it tends to slip off or move around, it is too large
- Lean your head forwards, grip the helmet's rear edge, and try to pull the helmet off. If the helmet slides off, it is not suitable for the shape of your head.
- If, while trying on the helmet, it does not perform satisfactorily for just one of these criteria, you should try another size or another model.

When compared with the jet, or open-face, helmet, a full-face helmet also guarantees protection for the chin area. Consider this carefully when you are choosing your helmet.

Never purchase a second-hand helmet, even it the price is good. There is no way of discerning its real conditions (whether it has been involved in an accident, etc.).

How to try on a helmet with headset:

When you are trying on a helmet whose shell has an opening in correspondence with the ears, because they are designed to be used with headsets (whether for noise reduction or radio communications), it is essential to **fasten the chinstrap correctly** and position the **headphone cups** (swing them down into the closed position) **over the ears**.
In fact, if these helmets are worn without headphones, a large portion of the contact surface, which contributes considerably to the helmet's stability on the head, is missing.
So if you try on the helmet with the headphone cups in the open position, the helmet will feel unstable.

In addition, the **headphones are part of the certification** and so, a helmet of this type worn without headphones cannot be considered as certified.

The structure of the Pro Copter - Rollbar Plus helmet

Outer shell

- The outer shell of the Pro Copter - Rollbar Plus is available in composite glass, or carbon fibre materials. These materials give the external shell **high perforation resistance, strength, elasticity, and lightness.**



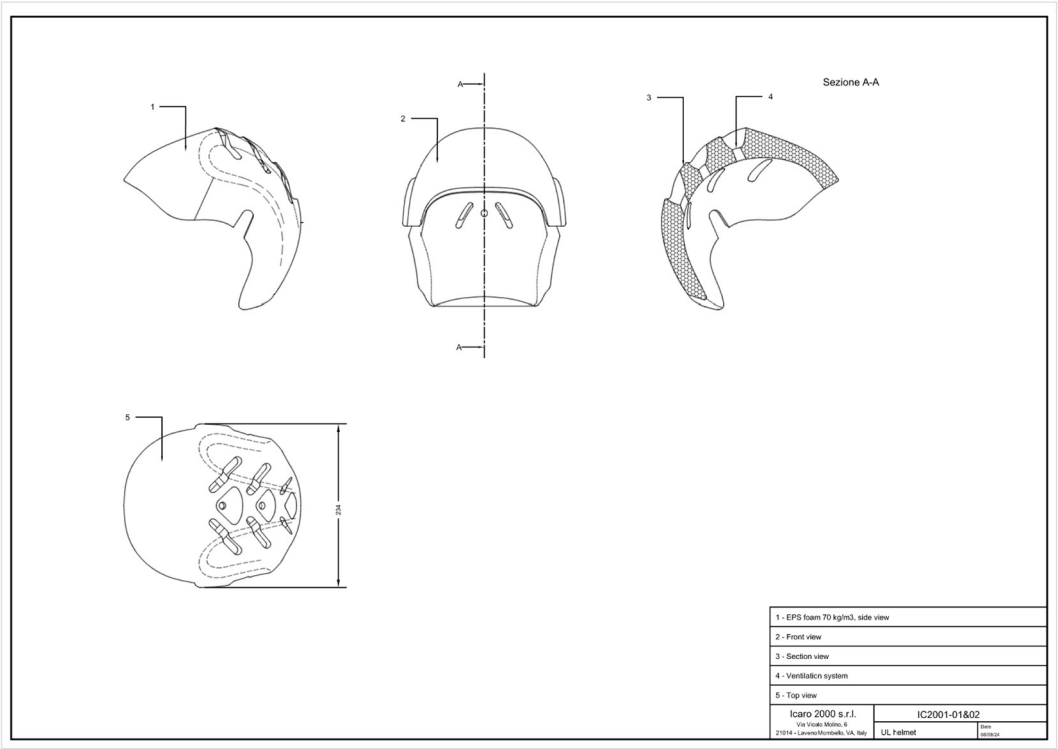
Outer shell edging finish

- A specific shape of the edge of the outer shell, it allows a perfect integration of the rubber edge finishing, creating a flat transition between the rubber and the composite shell.



Crushable foam inner shell:

- The expanded polystyrene, it can be damaged even by a minimal blow, and in this case the helmet should be replaced. In fact, the polystyrene must be is easily deformable, because in this context its function is to **absorb shock** by means of deformation and/or partial destruction. A more rigid material would not have the effect of dissipating impact energy, and so it would transmit all the shock energy to the head.



Comfort lining

- The Pro Copter - Rollbar Plus as an internal comfort lining made in expanded polyurethane and breathable, non-allergenic textile. Its purpose is to adapt the helmet to different sizes, while also guaranteeing comfort and hygiene. Its shape also guarantees the passage of the airflow through the EPS, for an efficient ventilation. It is removable and washable.



Vents

- Vents on the helmet's exterior guarantee **interior airflow**. Several internal vents on the EPS optimize

air circulation, comfort and temperature in flight.



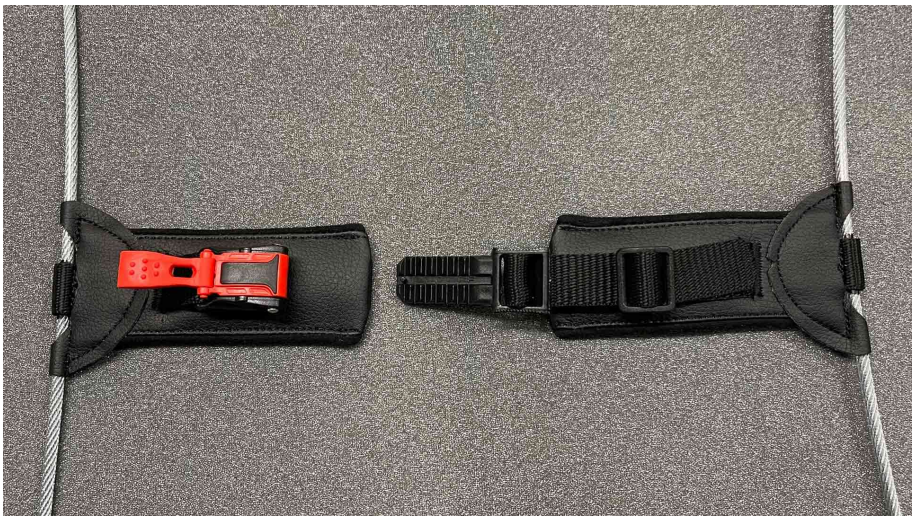
Sidepieces

- Elmo has **sidepieces in stainless steel wire** coated in plastic. This strong, robust arrangement is unique to Icaro2000.



Micrometric chin strap:

- The chin strap has a **rapid fastening system**, with a slider that is inserted into the buckle by lifting the red lever, choosing the preferred position before releasing it. The belt of the chin strap, it can also be **adjusted in length**, by sliding up the padding cover to expose the belt (or opening the Velcro that closes the padding cover) and adjusting its length through the buckle. Then refold the strap loop, thread it into the rubber loop, and slide the padding back over the strap. This type of adjustment can also be used to adjust the angle of the chin strap by regulating the front and back straps on each side. The strap system is designed for controlled breakage in the case of impact.
- The chin strap is padded with soft, comfortable comfort lining.



Visor

- Pro Copter - Rollbar Plus helmet has a visor integrated between the outer shell and the internal impact liner, EPS. This positioning supplies better protection to the visor when not in use.
- For this helmet the visor is an **optional accessory**. It is made in polycarbonate, with anti-scratch and anti-fog treatment. Two colorations are available: transparent and tinted brown..
- The visor should be replaced when vision is impeded by small scratches on the surface. **In a free flight helmet, a visor has been shown by wind tunnel tests to be necessary to obtain the best possible aerodynamic efficiency.**
- **The visor increases** the **active safety,** providing a better wind protection and increasing the width of the field of vision when compared to the use of any type of sunglasses.





Earphones

- Pro Copter - Rollbar Plus is certified with earphones. They can be lifted when needed for direct face to face communications, or to listen environment sounds. But during normal use, earphones must be positioned snugly to supply the best possible protection and to satisfy the certification standard required.



Technical specifications

Weight

- Pro Copter - Rollbar Plus, Fiberglass outer shell: 1250 grams
- Pro Copter - Rollbar Plus, Carbon fibre outer shell: 1150 grams
- Inner visor: 100 grams
- Outer visor (with lock system): 170 grams
- Rollbar: 50 grams
- Chin cover: 150 grams
- Earphones: 330 grams

Sizes

- On the Pro Copter - Rollbar Plus different sizes are achieved by using comfort lining of different thickness. **Six (6) different sizes of the internal cap**, ensuring a perfect fit for the head. The cap is quick and easy to change. If the helmet is not a perfect fit, we can send you a new cap free of charge, independently from where you bought the helmet. An important benefit of this internal padding system is that you can easily remove it and replace it with a new cap, or simply wash it.
- Sizes are identified as follow:
    - XS = 53 – 54 cm
    - S = 55 – 56 cm

- M = 57 – 58 cm
- L = 59 – 60 cm
- XL = 61 – 62 cm
- XXL = 63 cm

Certification:

Pro Copter - Rollbar Plus was certified by the Italian notified body, "CSI".
The Pro Copter - Rollbar Plus helmet is designed specifically for **microlight** pilots. It is designed and built to be as light as possible, while optimizing safety. It is certified accordingly with the **EN 966 certification**.

Using the helmet

Once you have **chosen** the most suitable helmet, make sure that you **wear it correctly.** For safety, it should always fit snugly, and the strap should be tightly fastened.
A helmet will never be able to guarantee total protection for the head when subject to the forces produced by whatever type of impact. However this is no excuse to forego wearing a helmet. You should **always wear your helmet,** in order to exploit the protection that it provides, whatever impact may occur.

4 things that you should never forget

1. **Before using the helmet,** read all the instructions, and follow the suggestions carefully to ensure a correct fit.
2. **Do not use the helmet without fastening the strap.** An unfastened helmet will fall off during the first impact, leaving the head defenceless for successive impacts. There is also the risk of it falling off while using it.
3. **Do not** fasten the helmet **using just the velcro.** The velcro that may be present on the strap serves purely to stop it flapping in the wind.
4. **To ensure maximum performance, never modify your helmet, whatever the circumstances.**

In case of accident

- If the accident happens to you:
  - The inner shell will be deformed – though the deformation may not be visible to the naked eye – because it has absorbed the impact.
  - **After an accident, even if the impact was minor, the helmet should be replaced, regardless of whether there is visible damage or not.**

- If you witness an accident:
  - Keep calm.
  - Report the accident immediately, if possible by phoning for an ambulance (dial 118 in Italy). Only medically-qualified personnel know exactly how to deal with injuries.
  - Never move an injured person, unless this is absolutely essential because of a situation of greater danger.
    If the spinal column is damaged, moving the injured person could damage the spinal cord, causing permanent paralysis.
  - If the victim is wearing a helmet, do not remove it, but open the visor to facilitate respiration.
  - Keep the victim calm, and, if possible, cover him. Shock provokes shivering and a sensation of cold.
  - Do not give the victim alcoholic drinks.
  - Stem the flow of blood from wounds, protecting your hands with gloves or similar, throwing them away later if they have been dirtied with blood. Do not apply tourniquets: if you place a tourniquet in the wrong position, you could worsen the situation.
  - Never put the victim into a private car. Wait for the ambulance. If the victim is conscious, talk to him or her and try to calm him or her down.

Helmet maintenance

The helmet protects your head, and so it should be **treated with care.**
The **visor** should be **changed** when it has **scratches** preventing satisfactory vision.
To prevent damages and wrong assemblies, ask your dealer or directly Icaro 2000 to change your visor or contact us for further information. (See contact details at the beginning of this manual).

The helmet can be **seriously damaged by:**
- Paints and varnish
- Petrol
- All types of chemical solvent
- Excessive heat (do not leave your helmet exposed to the sun)
- Inappropriate modifications

Scrupulously follow the instructions provided by the manufacturer.
If you think that the helmet that you have chosen is not right for the shape of your head, replace it… and this time choose more carefully!
A helmet does not have a fixed lifespan. However, it is a good rule to replace it after five years of correct use.

Personalization

Removal and reassembly of internal padding

Important: do not use sharp or pointed tools such as screwdrivers, etc., in order to not to scratch or damage the helmet and its structural components
The Pro Copter - Rollbar Plus has a **comfort lining** that can be removed and re-installed in order to personalize the helmet's fit, or to wash the lining.



Removal
The comfort lining of Pro Copter - Rollbar Plus, comprising a cap in **Shalimar**, is fixed to the polystyrene inner shell by means of a series of Velcro strips. It is easy to remove. Just ensure that you **detach the Velcro strips by holding and pulling the strips themselves. Don't just pull the inner cap out from the helmet**.

Reassembly
To reassemble the lining, reverse the removal sequence, ensuring that the cap is positioned centrally and symmetrically.
When you are sure that the cap is in the correct position inside the helmet, press firmly over the Velcro fastening strips in order to fasten the lining.

Visor installation and removal

The visor can be removed if it has to be cleaned thoroughly or replaced, or if you have purchased a new visor for your helmet.

Important: when fitting and removing the visor, be careful not to scratch the surface of the helmet or visor with a screwdriver or other sharp or abrasive objects.
Don't touch a mirror-finish visor with your hands, because it may be opacified by the acid contained in perspiration. Don't touch the inner surface of a visor with anti-fog coating (see below for more details).

Removal of the inner visor
- Place the helmet onto a table, ensuring that it is entirely stable

- Remove the inner cap of the comfort lining
- On the inside of polystyrene there is a sticker that indicated a specific hole of the polystyrene.



- Looking through this hole, lower the visor until the screw securing it appears in the hole (in this position the visor is almost completely lowered).
- Unscrew this screw, paying attention to not loose it between the EPS and the outer shell.
- Remove the visor
- If the flight conditions allow, the helmet is perfectly usable also without the visor

Fixing the inner visor to the helmet

- Place the helmet onto a table, ensuring that it is entirely stable
- Reverse the above procedure, making sure the pin that control the position of the visor, it is in the same position it was while removing the visor.
- Place the visor between EPS and outer shell and insert it until its hole for the screw, it corresponds with the hole in the slider, where the visor will be fixed.
- Insert the screw through the hole in the EPS and tighten it.
- Reposition the comfort lining, ensuring it with the Velcro's

Removal of the outer visor

- Place the helmet onto a table, ensuring that it is entirely stable, and lower the visor into its position of normal use.
- Unscrew and remove the two pinlock screws that determine the visor's travel between the open and closed positions.
- Unscrew the two lateral fixing screws. When the first screw has almost been completely unscrewed, be careful not to lose the rubber O-ring, positioned inside the aluminium, and the Mylar washers between the visor and the outer shell.
- If you decide to fly without a visor, remove all the elements that are not part of the outer shell, and cover the threaded bushes in the shell using the stickers provided.
- It may be necessary to periodically replace the rubber O-rings in order to guarantee the correct damping of visor closure

Fixing the outer visor to the helmet

On each side of the outer shell, there are two holes with threaded bush, one in front for the pinlock screw, and one behind for the visor pivot.

- Place the rubber O-ring into the circular housing on the aluminium washer.
- Then place the aluminium washer with the O-ring into one of the holes on the side of the visor.

- Insert the screw into the aluminium washer and then position the Mylar washer on the inside of the visor.
- Holding the washers and the screw in their correct position in the hole in the visor, position the screw into the threaded bush on the helmet, and screw it in using the appropriate hex key.
- Screw in the pinlock screw with its plastic washer.
- Follow the same procedure for the other side of the helmet.

Cleaning

External shell

Use only a damp microfibre cloth for cleaning. If the external shell is soiled with mud, insects etc., soak a microfibre cloth with warm water, wring out excess water, place on the helmet and leave for a few minutes. This will loosen the grime. Use damp microfibre cloths to gently clean the outer surface of the helmet. Dry with a dry microfibre cloth. **Do not use solvents, chemicals or petroleum-based products** which may cause damage to the helmet's structure.

Internal parts

Interior polystyrene

- Use **only a damp cloth**.
- Leave to **dry** at room temperature, protected from direct sunlight.

Comfort lining

- Hand-wash carefully, using just water at maximum 30° C and **neutral soap.**
- Rinse in cold water.
- Leave to **dry** at room temperature, protected from direct sunlight.

Important information

Pilots who are used to flying with just sunglasses or even with no eye protection at all **may take a few flights to get accustomed to the visor.** If you don't feel comfortable with the visor to start with, just lower and raise the visor during your first flights with the helmet until you get used to it.
In conditions of high humidity and/or large temperature excursions, the visor may fog. On such occasions you will immediately appreciate the difference between flying with sunglasses and with a visor: in the latter case, you just have to open the visor slightly to obtain the complete clearance of any fogging.
A helmet with a visor produces a different air sound, and it makes it easier to hear your flight instrument.
If you rotate your head into a lateral position, the detachment of the airflow from the visor could give rise to anomalous sounds (the jet effect), which disappear immediately after the normal flight position has been resumed.

- Never fly without a helmet
  - Your life is too precious to risk losing it just because you have forgotten something.

- Use only certified helmets
  - The IC2001 - 01&02 helmet is constructed in accordance with the regulations contained in the (UE) 2016/425 and it is certified in accordance with the EU standards EN 966:2012+A1:2012
  - Never trust a helmet that has no label guaranteeing these standards.

- We recommend the use of a full-face helmet
  - A full-face helmet offers improved protection in every situation.

- Never modify your helmet for whatever reason
  - Modifications could reduce the level of protection, and could annul the helmet's certification.
  - The external shell of the helmet should never be altered in any way.
  - Internal polystyrene parts should never be modified or removed.
  - Never apply petrol, diluents, toluene or other solvents or chemical substances to any part of the helmet.

- Never use headphones under the helmet
  - Any rigid components placed inside the helmet, between polystyrene lining and the head, could become percussive and damaging elements.

- Always ensure that the chin strap is tightly fastened.
  - An unfastened helmet will fall off during the first impact, leaving the head defenceless for successive impacts. There is also the risk of it falling off while using it.

- Transportation
  - During transportation keep your helmet into the supplied protection bag
  - If you keep your helmet in the backpack, don't sit on it.
  - Ensure that the helmet never falls to the ground or the floor.
  - Handle the helmet and visor (if present) with great care at all times.

- In case of accident
  - After an accident, even when the impact is minimal, the helmet should be replaced, regardless of whether there is any visible damage or not.

Helmets and action cameras

Many pilots mount an action camera onto their helmets in order to record their adventures. It is important to remember that **any object projecting for more than 5 mm above the level of the outer shell annuls the helmet's certification**, just as for any other modification that is not specified in the user manual. The reason for this is that an object mounted onto the external shell could become a percussive element that concentrates a percussive force onto a small area. Therefore, it is potentially dangerous and reduces the level of protection that the helmet can provide. Considering that even the most compact action camera projects at least 30/40 mm from the helmet's outer shell, there is no doubt that a helmet equipped with this sort of device can no longer be considered as compliant with its respective certification. For this reason, because we at **Icaro2000** wish to offer the highest possible level of protection for our customers, we recommend **not fitting action cameras** or other devices onto the outer shell of a helmet.

Icaro 2000 wishes you happy and safe flying.

Icaro 2000 is committed to the ongoing development of its technology, and therefore it reserves the right to modify the characteristics of its products at any time and in any way, without prior notice.