23ZERO

MADE BETTER



PANTHER HORIZON

USER MANUAL

www.23zero.com.au

THANK YOU!

Congratulations on your purchase of a 23ZERO Rooftop Tent. We strive to provide you with the ultimate camping experience – the PANTHER HORIZON does just that.

Please carefully read this user manual. Follow all instructions and adhere to all safety and product care guidelines. Use of this product is only permitted to persons that have read and understood this user manual.

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SAFETY CONSIDERATIONS

WARNING

- Keep all flame and heat sources away from the tent materials.
- Under no circumstance should any naked flame sources or heating devices be used inside or near the tent.
- Keep campfires well away from the tent.
- Keep a look out for any airborne embers that may come in contact with the tent.
- Have a fire extinguisher or water bucket nearby in case of fire.
- Do not smoke within the tent.
- Do not operate any device which burns fuel inside the tent.
- Keep exit clear.

WARNING

During set up and first use, some aluminium swarf may be present inside the roof top tent. We make every possible attempt to expel all aluminium swarf, however, with vibrations caused by logistics some residual swarf may dislodge and reappear. It is advised to remove and clean these during first set up.

WARNING

For your safety and protection, ensure correct placement and angle of ladder.
Recommended ladder placement is a 4:1 ratio or approximately 75°
Ladder height may need to be adjusted depending on vehicle height, see “Ladder Adjustment”

DO NOT CLIMB ON LADDER UNTIL CORRECT ANGLE IS ACHIEVED

23ZERO - The wholesaler / manufacturer shall not be liable for special, indirect incidental or consequential damages.

WARNING

Please ensure all 12V electrical connections from your vehicle’s 12V system to the tent’s internal power system are correctly wired and fused. Incorrect wiring and/or lack of fuses may cause short-circuiting of the system and cause a fire. 23ZERO disclaims all responsibility for damage caused by incorrect wiring.

INSTALLATION & INSPECTIONS

Roof top tents have many moving parts, so regular maintenance checks are always advised. During trips regularly check that all nuts and bolts attaching the roof top tent to the vehicle as well as hinges and locks are tight and in good condition.

Alterations and / or inclusions such as roof racks and roof top tents applied to the vehicle roof may affect vehicle handling and characteristics. The manufacturer (23ZERO) disclaims all responsibility in case of accidents and / or damage due to installation of a roof top tent to an underrated roof rack, improper use, improper maintenance or checking the tightness of the brackets regarding the installation of the roof rack system.

IMPORTANT

Before installing your 23ZERO Roof Top Tent please ensure you understand the following:

- **Your vehicle's maximum roof load rating.**
- **Your roof rack's maximum load rating including off-road capacity.**

The maximum amount of weight you can safely add to a vehicle's roof / cargo area differs according to make and type of vehicle including aftermarket additions such as roof racks / bars.

Note: Roof rack off-road limits are immensely different to normal road use load ratings. If in doubt, please contact your vehicle manufacturer and roof rack manufacturer / supplier for specified loading capacity of your vehicle and roof rack.

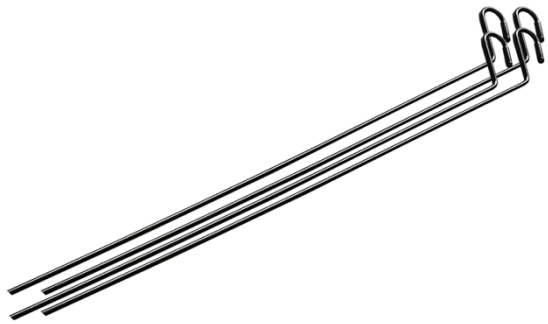
Not all factory roof racks or aftermarket roof bars can safely accommodate roof top tent models. The responsibility of fitting this roof top tent to rated roof racks or roof bars lies with the purchaser.

Improper installation or use of the PANTHER HORIZON may result in serious injury and/or property damage. Follow the installation instructions carefully to ensure proper installation to vehicle and safe use of the roof top tent.

HARDWARE & ACCESSORIES

The PANTHER HORIZON Rooftop Tent includes a mounting kit with everything required to mount the Rooftop Tent to most roof racks and platforms. See included accessories below:

4 x Fly Pole



2 x Handle



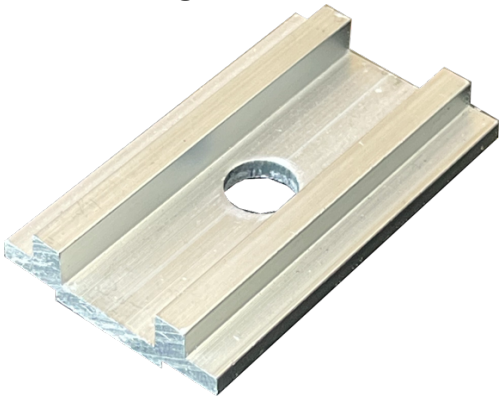
4 x Mounting Plate



8 x M8x65mm Bolt, Nut & Washer



8 x Mounting Channel Slide Plate



1 x LED Light Strip



1 x 2.3m Adjustable Wide-Step Ladder



4 x Mounting Rail End Cap

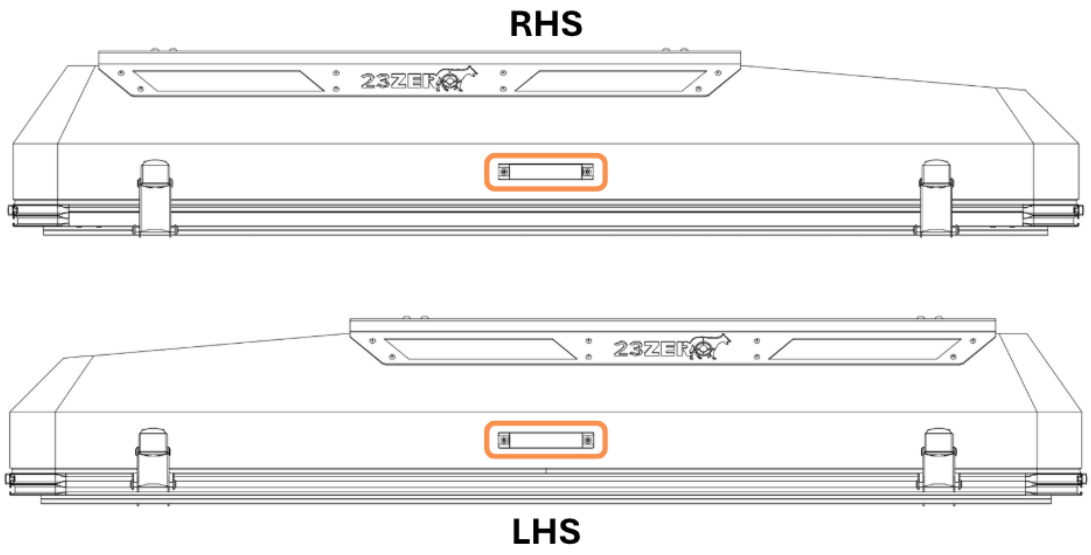


1 x Telescopic Safety Pole	1 x Safety Pole Weather Adaptor
	

ASSEMBLY

Out of the box, the PANTHER HORIZON requires some of its components to be installed prior to mounting to your vehicle.

Handles – Insert 2 x M8 button-head bolts into each handle and then attach to pre-drilled holes on both sides of the PANTHER HORIZON shell. Place rubber washers in between handle and shell. Attach supplied washers and nyloc nuts by hand on inside of shell. Use supplied 5mm Allen key and 13mm spanner to tighten.



Tip: To better access the LHS handle bolts, partially open the shell to take the tension out of the canvas. You can then reach behind the shell to thread the nuts and washers on. It helps to have an extra set of hands to do this!



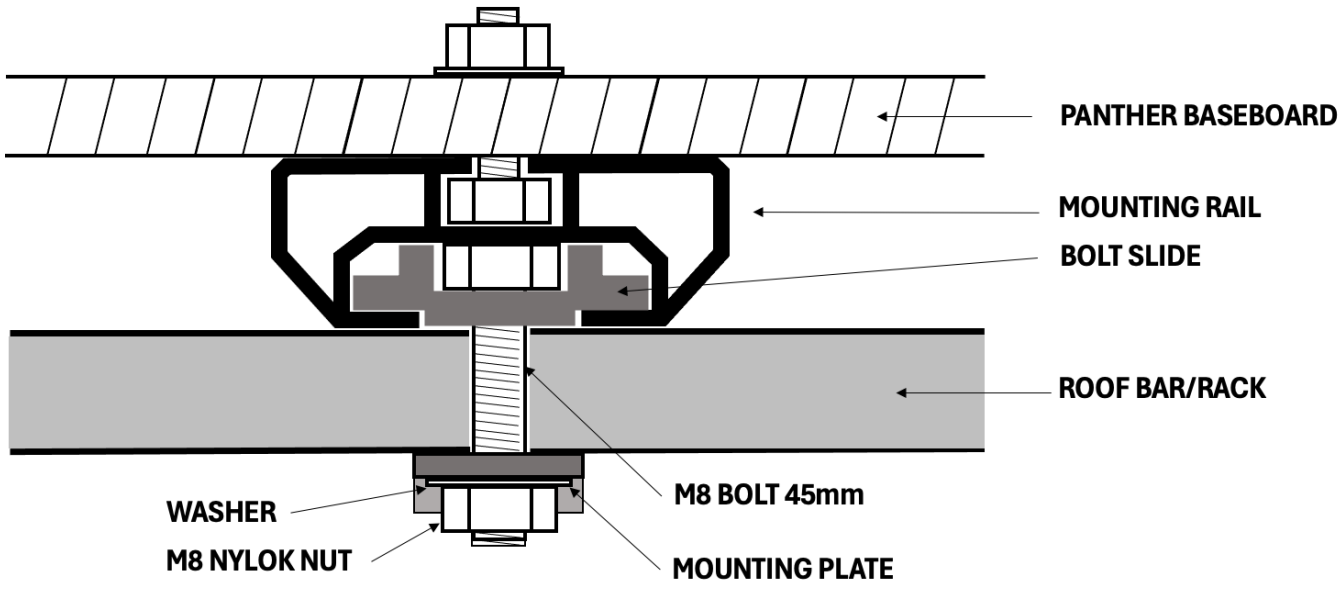
IMPORTANT

The roof bars supplied with the PANTHER HORIZON are not designed to carry significant loads. A maximum of 10kg can be carried on top of the PANTHER HORIZON providing this weight is spread evenly amongst both bars. Load weights greater than 10kg will void any warranty. When adding additional weight to the top of the PANTHER HORIZON, consideration must be given to the overall weight rating capacity of your vehicle's roof and roof rack.

INSTALLATION TO ROOF RACK

The PANTHER HORIZON can be installed to most roof bars or platform racks using the supplied mounting kit. Some platform racks have channels which are wider than the supplied mounting plate. 23ZERO has extended mounting plates available online for this scenario.

The PANTHER HORIZON has 2 pre-fitted mounting channels which have 1 bolt channel facing downward.



1. **Lift the PANTHER HORIZON onto the vehicle's roof rack (minimum 4-person lift).**
    - Ensure all 4 over-centre latches are closed.

2. **Position mounting bolts (M8 x 65mm hex-head) in mounting rails.**
    - Slide 4 65mm M8 T-Bolts into each bottom mounting rail using the provided slide plates.
    - Position two bolts toward the front and two bolts toward the rear of the tent on each rail.
    - Tilt the tent to allow the inner bolts to cross over onto the inside of the roof bars.

3. **Inspect and adjust PANTHER HORIZON to desired position on roof rack.**
    - Ensure that tent will open and close correctly.
    - Check that shell will open and close without contacting any other components on your roof rack.
    - Ensure there is no excessive flex or movement in your vehicle's roof rack.

4. **Attach all 4 supplied mounting plates to the mounting bolts using supplied washers and nyloc nuts.**
    - Thread the nuts on by hand and then use a 13mm spanner to tighten all 8 nyloc nuts.
    - Ensure the bolts are straight when tightening to prevent galling.
    - Do not use a rattle-gun or electric ratchet as these can cause cross-threading.
    - Do not over-tighten. Stop tightening once the mounting plates begin to bend upwards towards the tent.

5. **Insert supplied end caps into the mounting rails.**
    - Use a soft blow hammer if necessary.

6. **Final inspection.**
    - Ensure all 8 nyloc nuts are tight and there is no movement of the PANTHER HORIZON on the vehicle's roof rack.
    - Check all factory-fitted mounting rail nuts underneath the mattress are fastened and in good repair. Lift the mattress to gain access to these.

IMPORTANT

Regularly check that all nuts and bolts attaching the roof top tent to the vehicle as well as hinges and latches are tight and in good condition.

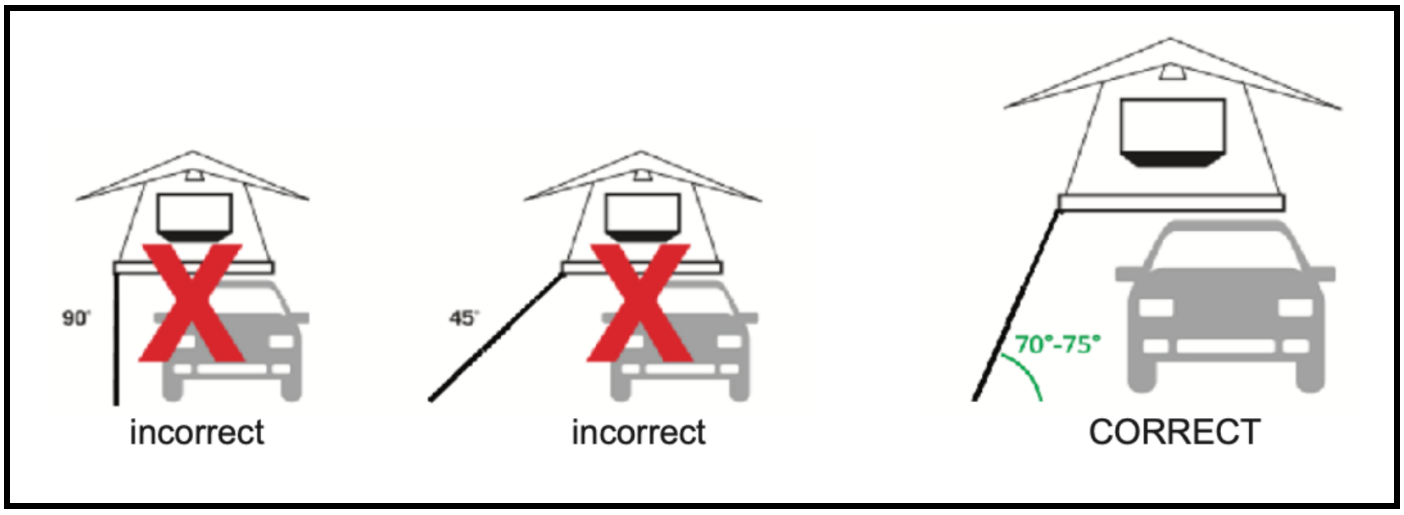
Regularly check your roof rack is securely mounted to your vehicle and that there are no signs of wear or damage.

By following these steps, you are ensuring that your PANTHER HORIZON Rooftop Tent is securely mounted and safe to use.

LADDER ADJUSTMENT

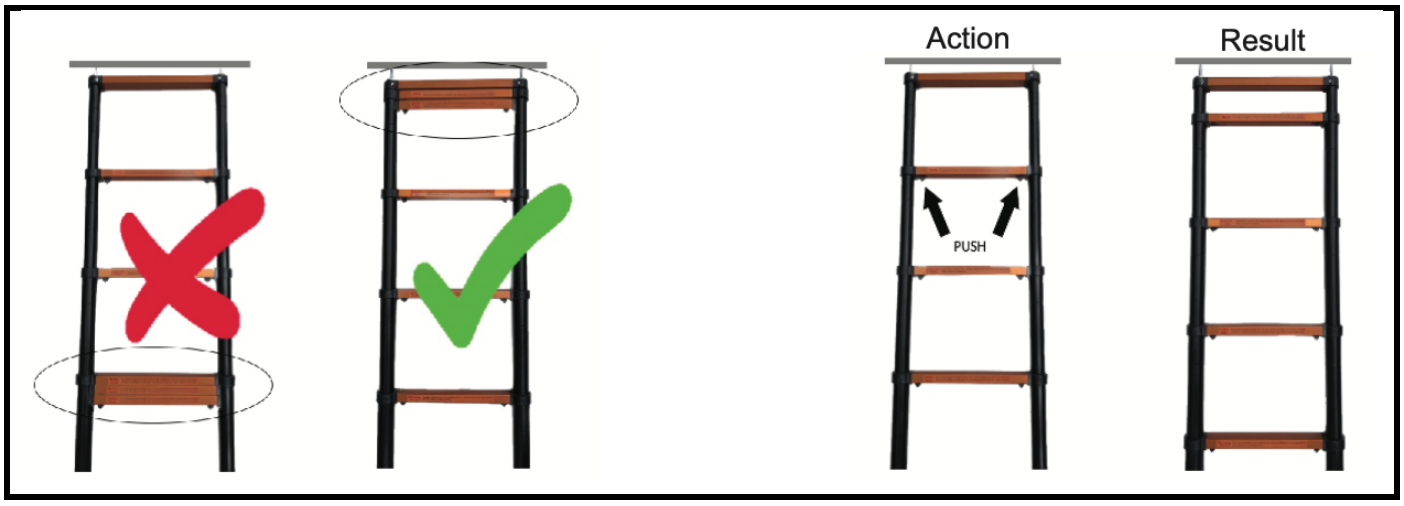
For your safety and protection, ensure correct placement and angle of ladder. See diagrams below. Recommended ladder placement is a 4:1 ratio or approximately 70° to 75°

NOTE: Under no circumstances should anyone be inside the roof top tent if the ladder is not locked and secured at correct angle.

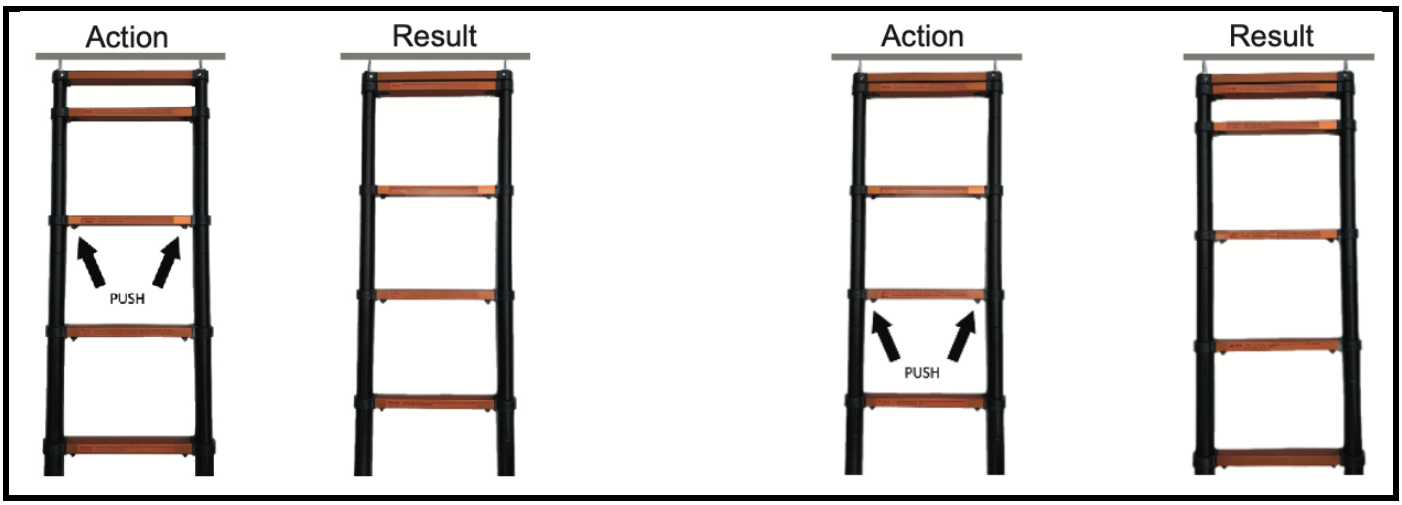


The ladder may need to be adjusted to achieve the correct angle depending on the height of your vehicle.

- If shortening is required, the adjustment must be done from the top rungs (second rung from the top) and allow the ladder to compress until a gap of approximately 85mm is achieved between rung 1 & 2.
- Note: The ladder will only lock in the downward position.
- Swing in the bottom of the ladder until it supports the weight of the roof top tent. If the angle of the ladder is between 70° and 75°, the adjustment is complete:



If further shortening is required, press the second set of locking buttons (third rung from the top). This will close the 85mm gap until rung 1 & 2 are touching. Swing in the bottom of the ladder until it supports the weight of the roof top tent. If the angle of the ladder is between 70° and 75°, this adjustment is complete:

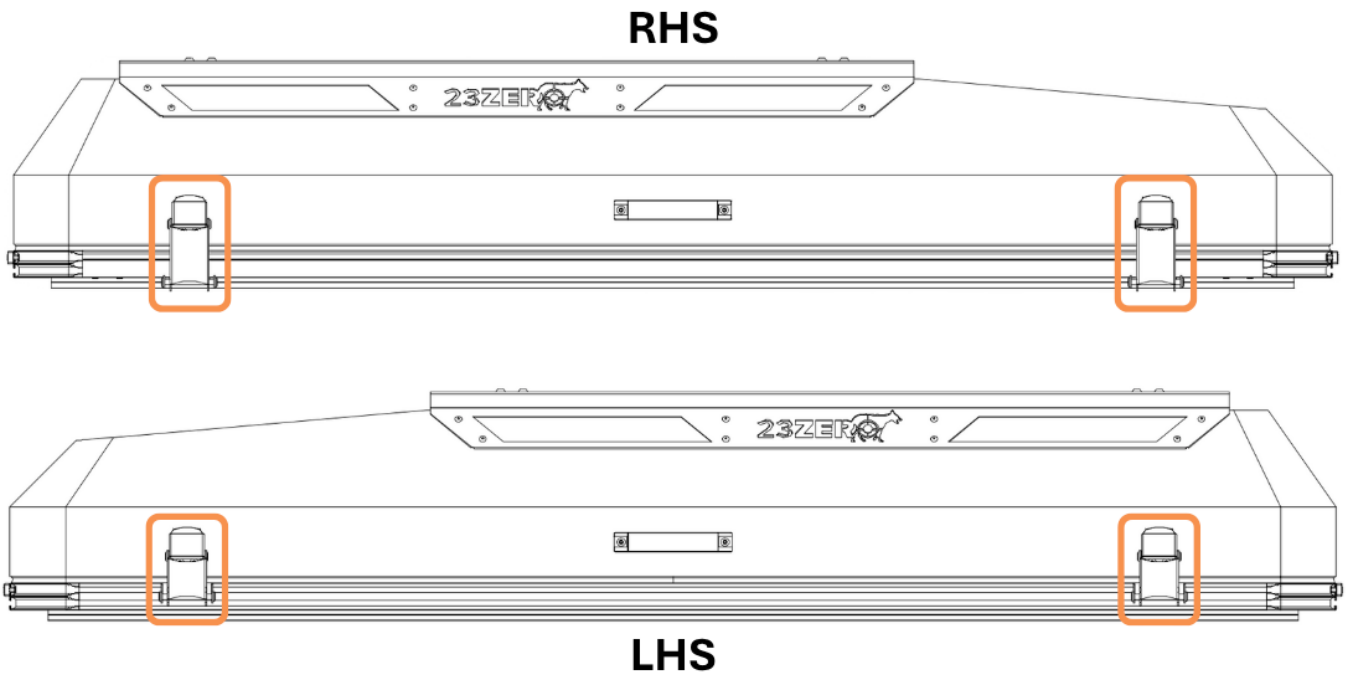


NOTE: When height adjusted, the ladder will only lock in the downward position.

If further adjustment is required, repeat the above steps by continuing the sequence depressing the next set of locking buttons.

OPENING AND SETUP

1. **Release locking mechanism.**
    - Locate and release all 4 over-centre latches (2 on each side).



2. **Raise shell.**
    - Using the top handle on the RHS of tent, lift the shell upwards.
    - Once the gas struts take over, the shell will open under its own power.



3. **Pull down elastic shock cord.**
    - Locate the external elastic shock cord and pull downwards and out of the way.

4. **Fully extend ladder and pull down to fold the tent outwards.**
    - Release the buckle on the ladder (this prevents the ladder moving when in transit) and use as a lever to fold the baseboard out.
    - Ensure you support the weight of the baseboard as it folds downwards.

5. **Adjust the ladder to the correct position (see 'LADDER ADJUSTMENT' for reference)**

6. **Extend front canopy hoop.**
   - Climb the ladder to unlock the 2 trigger locks (one on each side) and push canopy hoop upwards.

7. **Climb in and locate all 4 fly poles.**
   - Insert the fly pole into the fly pole bracket in the shell first and then bend upwards until the hook end reaches the eyelet on the fly (2 on each side).

8. **Extend safety pole and weather adaptor.**
   - If camping in wet weather and/or high winds, clip the safety pole onto the internal canopy hoop above the entrance to the tent and thread through the webbing loop at the top of the shell at rear.
   - Attach the weather adaptor to the safety pole and push upwards to create a high-point on the PANTHER HORIZON fly.

9. **Initial setup complete.**
   - Adjust internal windows to suit the climate you are in.
   - Plug in LED light to 12V power system located at rear of tent.

WARNING

Please ensure all 12V electrical connections from your vehicle's 12V system to the tent's internal power system are correctly wired and fused. Incorrect wiring and/or lack of fuses may cause short-circuiting of the system and cause a fire. 23ZERO disclaims all responsibility for damage caused by incorrect wiring.

CLOSING & PACKDOWN

1. **Ensure all 12V accessories are switched off and unplugged from 12V power system. <u>Ensure both air valves on the self-inflating mattress are fully open, so that air can escape when the tent is closed and the mattress is compressed.</u>**

2. **Remove all 4 fly poles.**
   - Depending on how the PANTHER HORIZON is mounted, it may be easier to remove the fly poles by reaching out from inside the tent or by standing on the vehicle and removing them externally.
   - Place all 4 fly poles in the supplied protective sleeve to prevent them moving around the tent when closed. These must be positioned at the rear of the tent across the mattress.

3. **Detach safety pole and weather adaptor (if used)**
   - Store inside supplied protective sleeve. These must be positioned at the rear of the tent across the mattress.

4. **Lower front canopy hoop.**
   - Standing on the ladder, release the 2 clips on each side of the canopy hoop and gently push down. Lock the 2 clips once lowered.

5. **Use the ladder to fold the tent away.**
   - With the ladder fully extended, lift and push inwards towards the tent to allow the baseboard to fold away.
   - Once the baseboard has folded flat on the mattress, unlock the ladder rungs and fold the ladder into the tent.
   - Ensure you fasten the ladder buckle to prevent the ladder moving inside the tent during transit.

6. **Raise external shock cord.**
   - Position the shock cord approximately halfway up the tent to assist in tucking the canvas in when lowering the shell.
   - Tighten the shock cord using the adjuster.

7. **Pull down on strap to close the shell.**
   - Once the top handle is in reach, use it to gently lower the shell while tucking in any canvas that is protruding.

- **Tip: It is significantly easier to close the tent when the windows are open at least 50% - this allows the air to expel quickly.**

8. **Lock all 4 over-centre latches.**
    - Ensure that no canvas is protruding through the rubber seal of the tent.

9. **Packdown complete.**
    - Do a final walkaround of the tent before moving your vehicle.

PACK-DOWN & PERIMETER SEAL CHECK

A quick inspection before latching helps keep the tent properly sealed during travel and storage.

IMPORTANT PACK-DOWN TIP

When packing down your tent, make sure no canvas, window material, straps or other fabric is caught between the **rubber seal and aluminium profile**. Material trapped in this area can prevent the tent from closing and sealing correctly.

BEFORE SECURING THE LATCHES

1. Check the full perimeter. Walk around the tent and inspect the rubber seal on all sides.

2. Check behind frames and at the rear. On Triple X models, pay particular attention behind the X-frames and across the rear of the tent.

3. Tuck all material clear. Move any canvas, window material, webbing or loose fabric fully inside and away from the seal.

4. Check the seal sits evenly. The rubber seal should meet the aluminium profile continuously without fabric wedged between them.

5. Close and secure the latches. Once the perimeter is clear, close and secure all latches as normal.

QUICK CHECK

CLEAR No fabric visible across the seal.

EVEN Seal contacts the aluminium profile evenly.

LATCHED All latches are correctly secured.

DRY No obvious trapped moisture before storage.

IF A FULL CHECK IS NOT POSSIBLE AT PACK-DOWN

Re-check the tent as soon as convenient, ideally within a few days. Open or release the tent enough to inspect the perimeter, remove any trapped material and confirm the seal is sitting correctly.

WHY THIS IS IMPORTANT

1 POOR SEAL

Fabric wedged between the rubber seal and aluminium profile can leave a gap around the closed tent.

2 WATER INGRESS

A compromised perimeter seal may allow rainwater or road spray to enter the tent while closed.

3 TRAPPED MOISTURE

If moisture remains inside for an extended period, mould, mildew, odour or staining can develop.

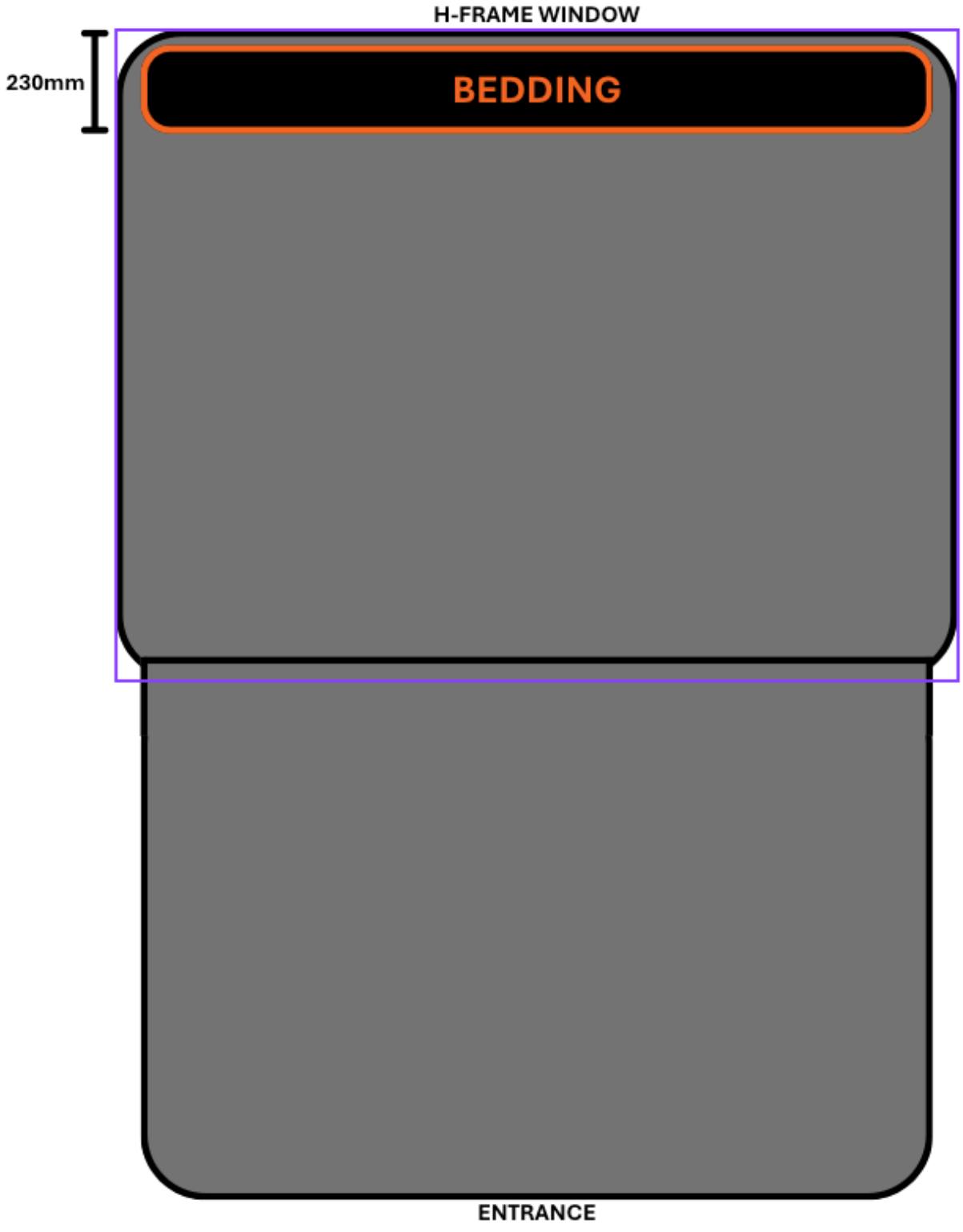
TRIPLE X - EXTRA ATTENTION

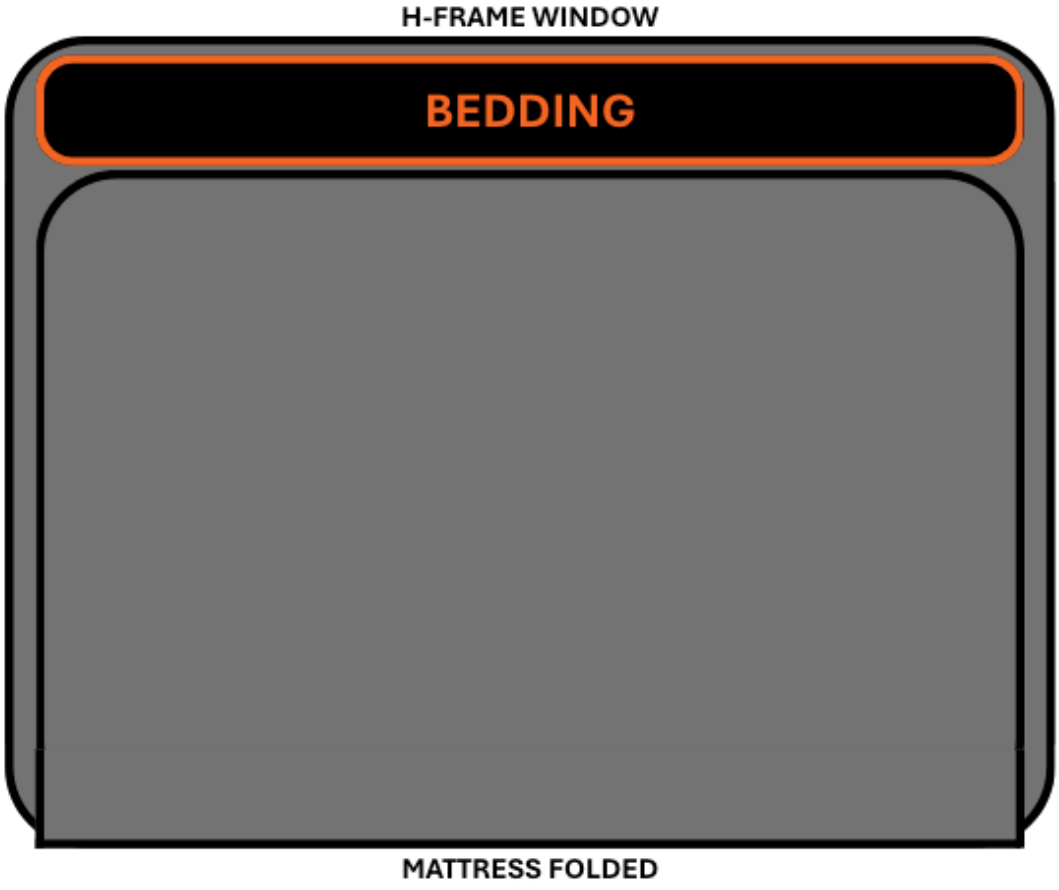
Because of the X-frame layout, fabric can be less visible during pack-down. Always look behind both X-frames and across the rear seal before final latching. A few seconds spent checking this area can prevent water entering a closed tent.

STORAGE OF BEDDING

The PANTHER HORIZON allows limited bedding to be stored within the tent when packed up. It is very important that bedding is stored correctly to prevent premature wear and/or damage to the tent.

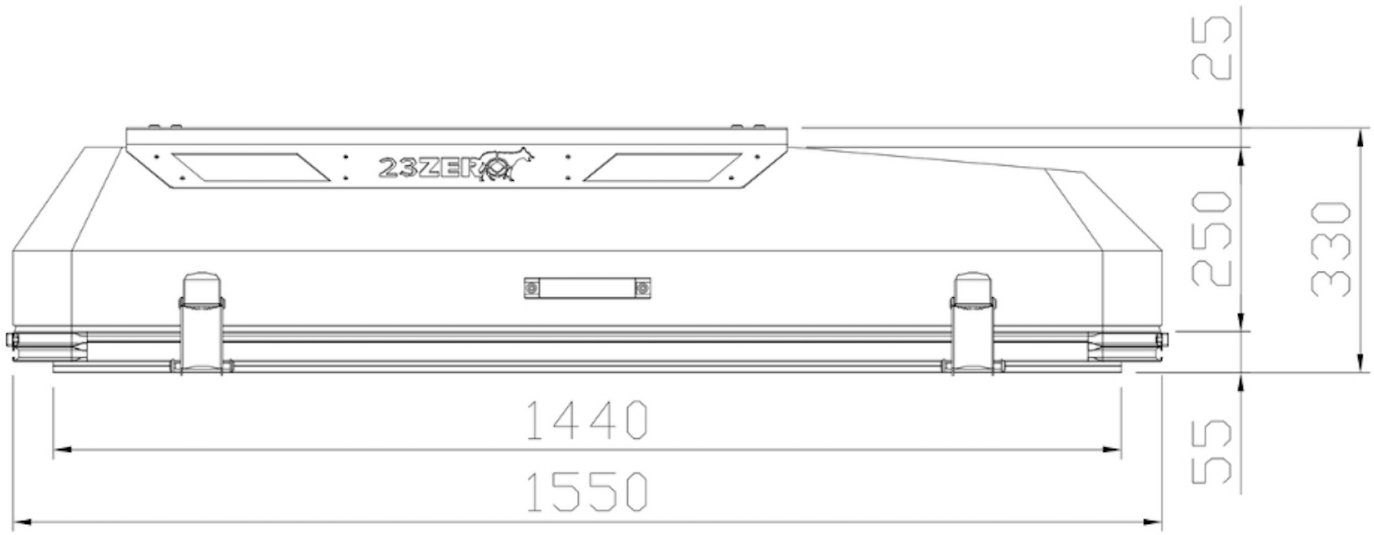
Bedding must be positioned at the rear of the tent against the H-Frame window. There is approximately 230mm of space (see below):

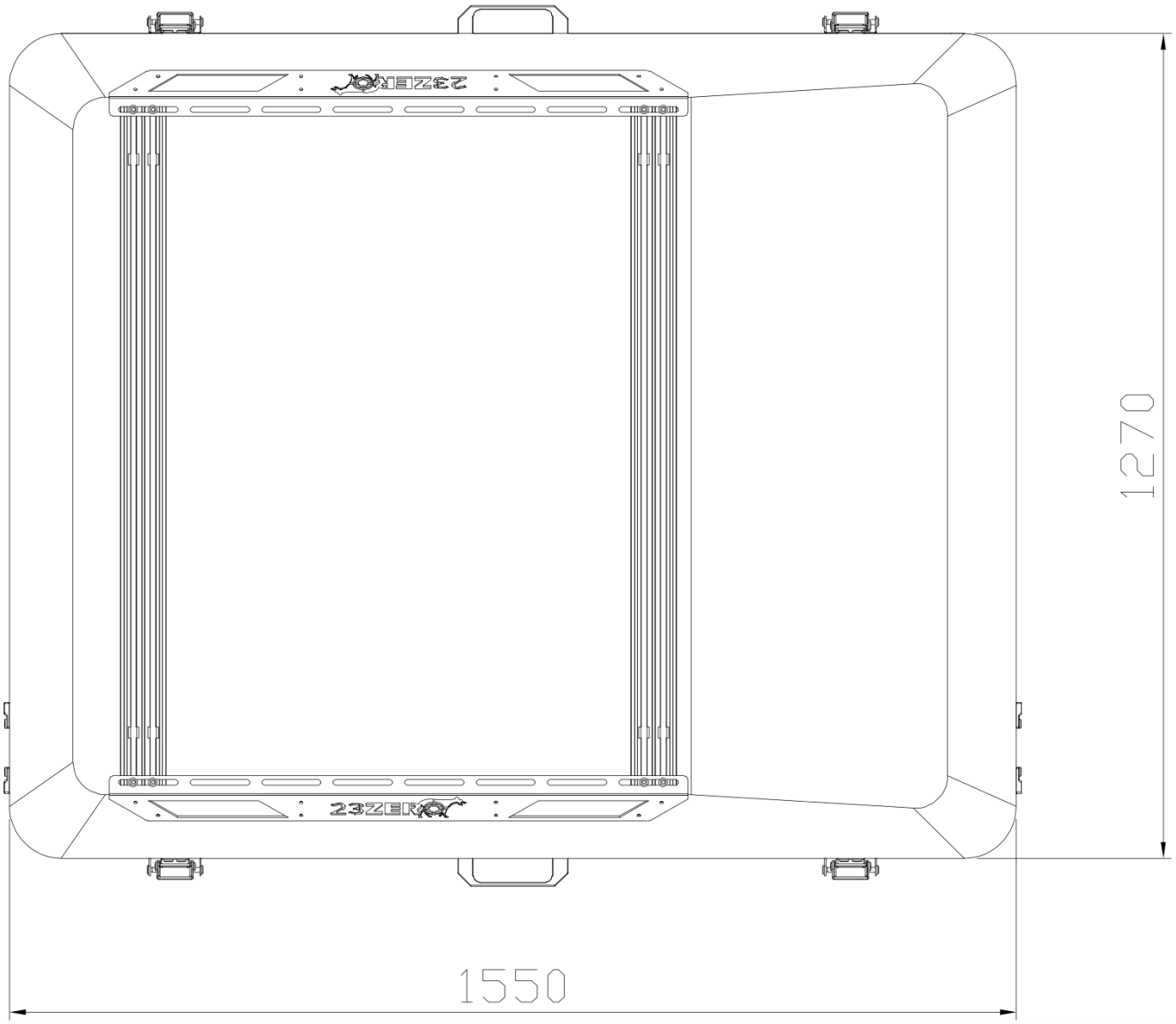



H-FRAME WINDOW
BEDDING
MATTRESS FOLDED

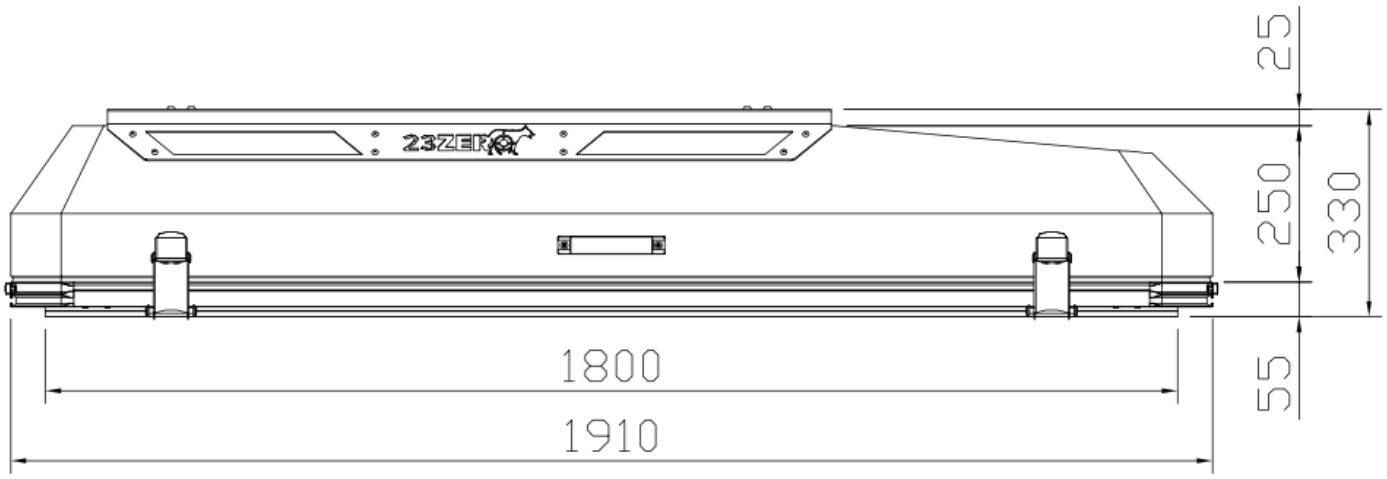

23ZERO CANVAS TRAIL BLANKET
USED FOR REFERENCE
TIP: LINE BEDDING UP WITH EDGE OF
INTERNAL POCKET HERE

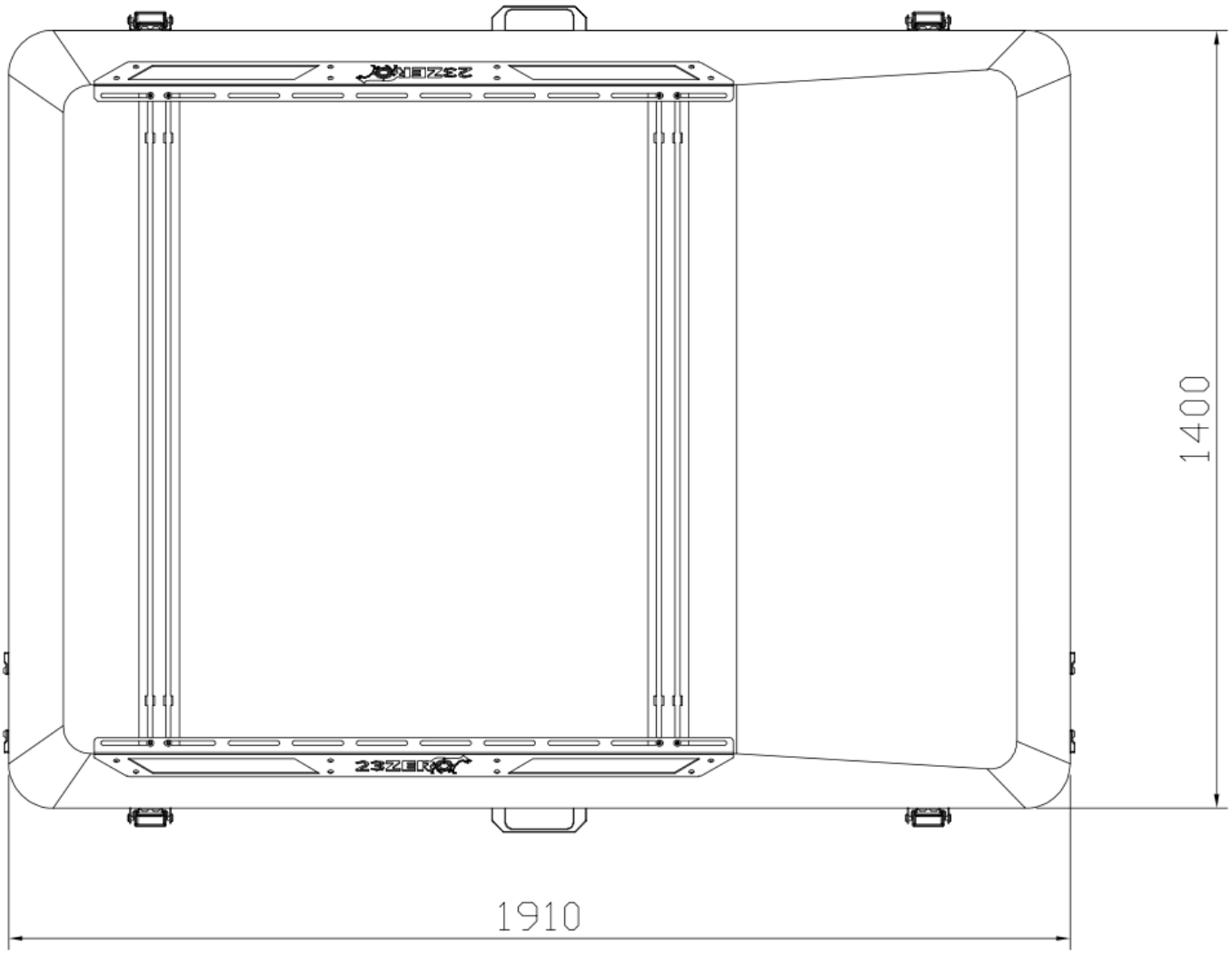
EXTERIOR DIMENSIONS – 1600



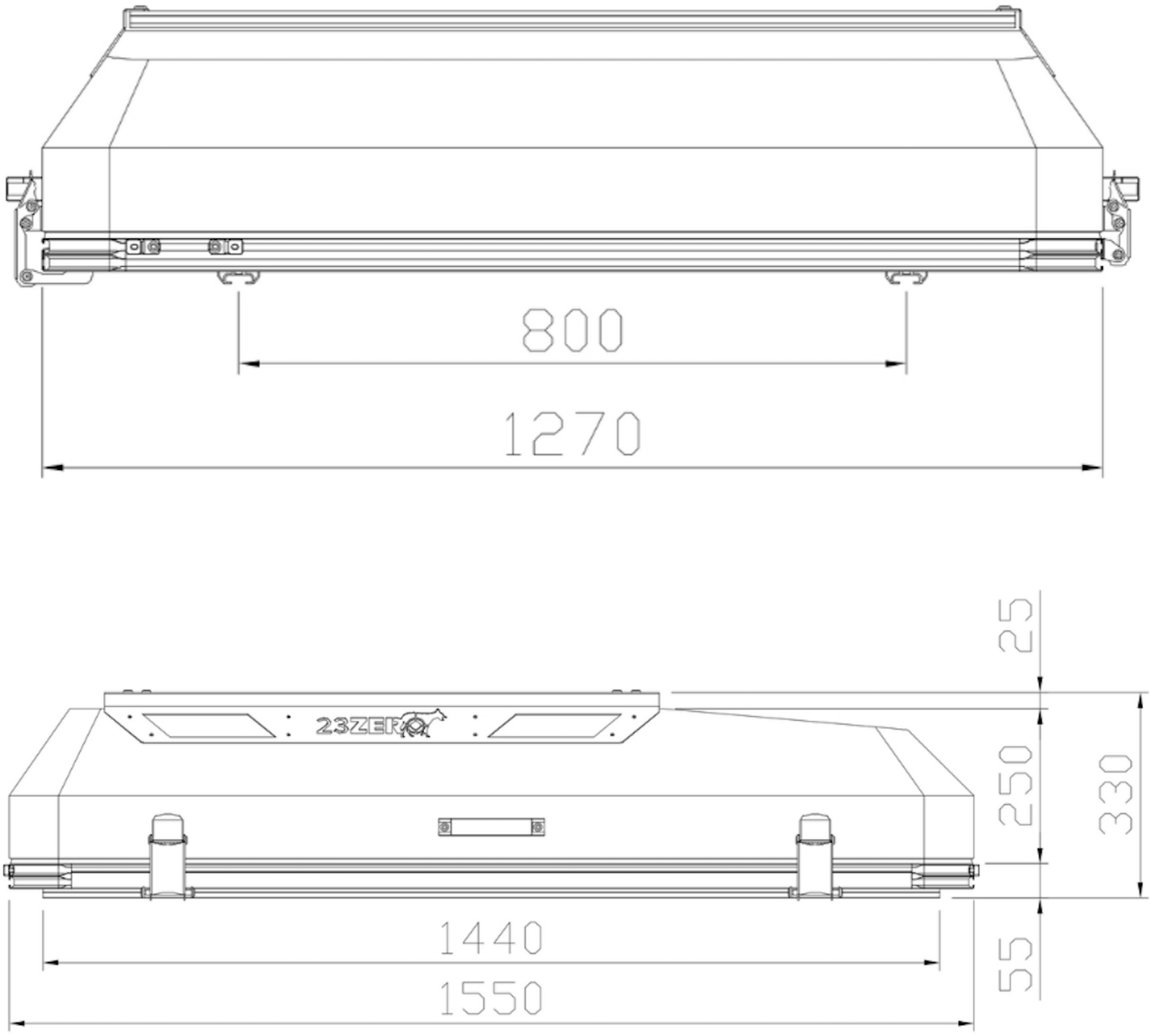


EXTERIOR DIMENSIONS – 2000



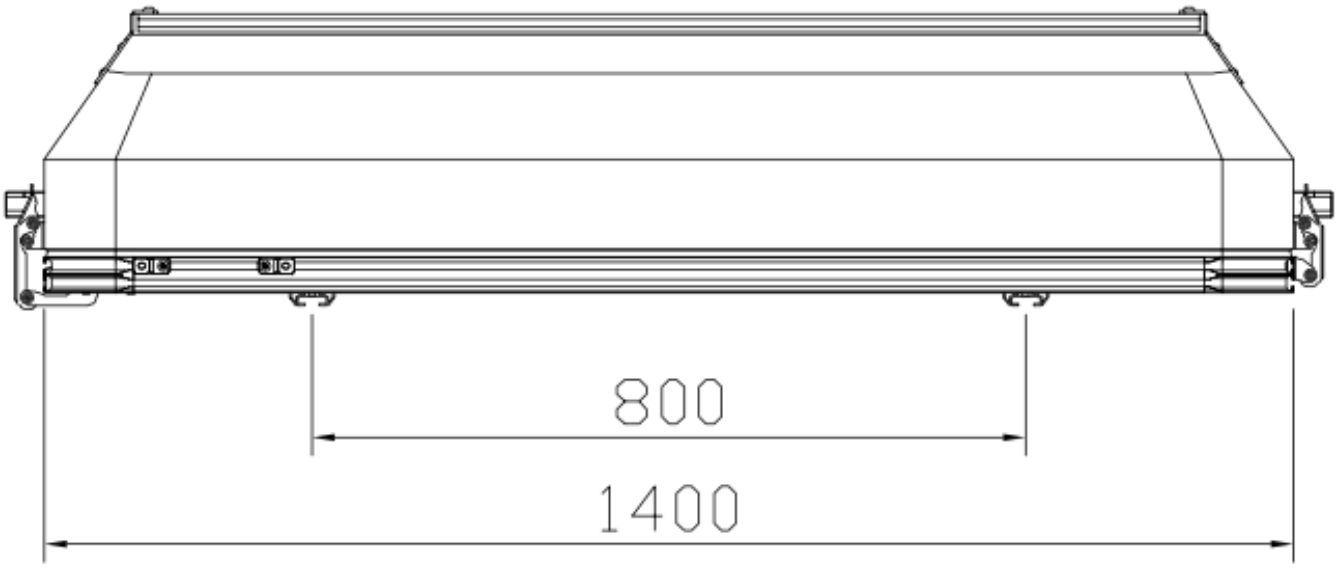


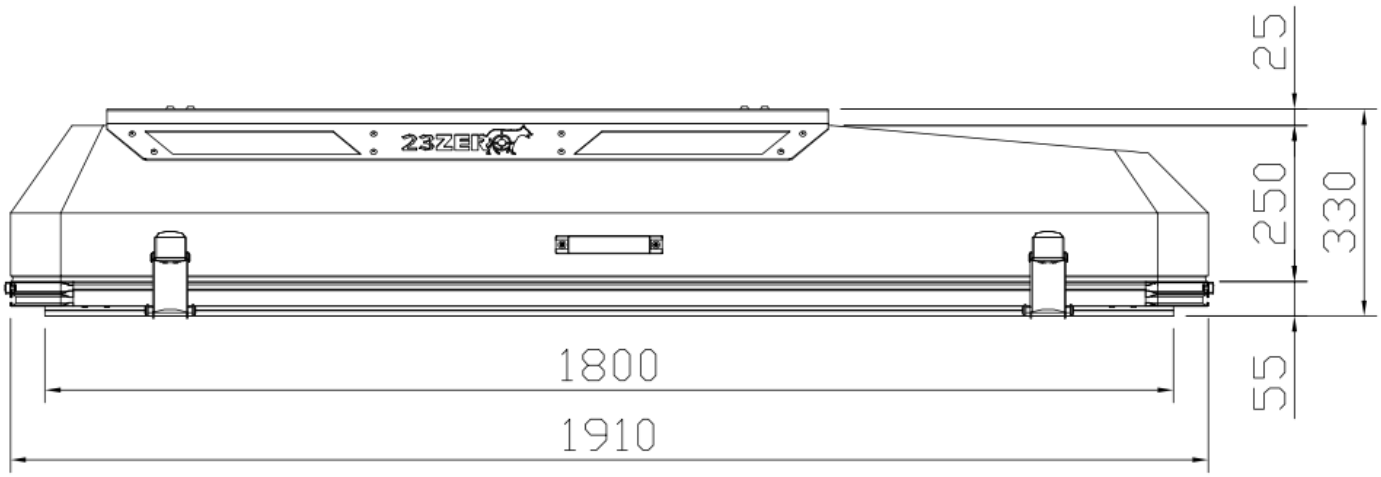
MOUNTING RAIL DIMENSIONS – 1600



Note: Measurements shown for the underside mounting extrusions may vary slightly due to manufacturing tolerances. It is highly recommended that any final modifications to your setup be made only after receiving delivery of the Panther Horizon.

MOUNTING RAIL DIMENSIONS





Note: Measurements shown for the underside mounting extrusions may vary slightly due to manufacturing tolerances. It is highly recommended that any final modifications to your setup be made only after receiving delivery of the Panther Horizon

CARE & MAINTENANCE

At 23ZERO, we take pride in the quality and durability of our products.
Below are some guidelines which must be followed to prolong the life of your product.
Regular care and maintenance of this product is your responsibility.

CLEANING

Clean with lukewarm water and soft bristle brush.
Do not use soaps and or detergents.
Do not expose to petro-chemicals.

STORAGE

Certain situations may require the PANTHER HORIZON to be packed down wet. It is essential that at the earliest opportunity the PANTHER HORIZON is re-opened and allowed to dry fully. Though we use the best polyurethane proofing available, prolonged exposure to moisture causes hydrolysis which can affect the integrity of the proofing. Storing the PANTHER HORIZON wet in warm conditions is likely to cause mildew growth which will stain canvas and lead to premature breakdown.

WATERPROOFNESS

23ZERO uses a selection of refined raw materials and treatments in its design and development processes including long lasting polyurethane coatings and high frequency seam sealing. With multiple layer seams and addition of zips wind driven rain may cause small amounts of water ingress at times. Rubbing a softened candle wax stick over the affected area will help reduce any water ingress.

HYDROLYSIS

Hydrolysis is the chemical breakdown of polyurethane (PU) caused by its gradual absorption of moisture or water over time, a process more prevalent in humid or tropical environments due to higher moisture levels. This reaction is a natural characteristic of PU and is not considered a manufacturing fault of 23ZERO products. To reduce the risk of hydrolysis, it is crucial to use the tent regularly, provide proper care, and conduct routine inspections. During long-term storage or stowing, ensure all additional bedding, such as sleeping bags, blankets, and pillows, are removed to avoid compressing the canvas for extended periods. The tent canvas should be checked regularly and exposed to direct sunlight periodically to help maintain its integrity. These practices will significantly extend the lifespan and performance of your tent.

CONDENSATION & MOISTURE MANAGEMENT

Simple care steps to reduce condensation, trapped moisture, mould and mildew.

UNDERSTANDING CONDENSATION

Condensation is a natural result of warm, moisture-laden air inside the tent contacting colder surfaces such as the canvas, floor or aluminium base. It is most common on cold nights and in humid conditions.

Please note: Breathable fabrics reduce condensation but cannot eliminate it. High humidity, large temperature differences and limited airflow can still cause surface dampness.

1. AIRFLOW & VENTILATION

- **Crack the windows:** Open at least two opposing windows or vents slightly to maintain cross-flow.
- **Use a small fan:** A 12V or USB fan keeps air moving and helps reduce moisture settling on cold surfaces.
- **Do not seal the tent completely:** Use a suitable sleeping bag and warm layers while maintaining ventilation.

2. COLD-WEATHER USE

- **Dry-air heating only:** If heating is required, use only a correctly installed, externally vented diesel heater in accordance with the heater manufacturer's instructions.
- **Carry a microfibre towel:** Minor condensation can still occur. Wipe damp surfaces before packing the tent away.
- **SAFETY NOTE:** Never use unflued gas or propane heaters inside the tent.

3. CONTROL INTERNAL MOISTURE

- **Keep wet gear outside:** Avoid storing damp jackets, towels, boots or other wet items in the sleeping area.
- **Use external storage where possible:** Shoe pouches, the vehicle or an awning area are better places for wet equipment.
- **For storage:** Reusable silica gel or suitable moisture absorbers can help manage residual humidity.

4. MATTRESS CHECK - AFTER EVERY USE

- **ALWAYS check beneath the mattress after every use:** Lift the mattress and inspect both the underside of the mattress and the tent base. This is one of the most likely areas for hidden moisture to collect.
- **Check beneath the fly:** Pay particular attention to areas above TPU sky windows and other sections where moisture can become trapped and difficult to see.
- **If moisture is found:** Wipe down as necessary, keep the mattress raised and allow the mattress, base and tent to dry completely before closing for storage.

IMPORTANT - CHECK UNDER THE MATTRESS AFTER EVERY USE

The underside of the mattress and tent base is one of the most likely areas for moisture to build up. This moisture can be hidden, so the tent may appear dry while dampness remains trapped underneath.

- **LIFT & CHECK:** Lift the mattress after use and inspect the underside of the mattress and the full tent base.
- **DRY COMPLETELY:** If moisture is present, wipe it down and leave the mattress raised or removed until both surfaces are completely dry.
- **DO NOT LEAVE PACKED DAMP:** Moisture trapped beneath the mattress for an extended period can lead to mould, mildew, staining and odour.

IMPORTANT - STORAGE

Never pack or store the tent for extended periods while wet or damp. Before long-term storage, always lift the mattress and confirm the mattress underside and tent base are completely dry. Trapped moisture can lead to mould, mildew, odour and material deterioration. Allow the tent, mattress, fly and bedding to dry completely.

WARRANTY

At 23ZERO, we stand behind the quality and durability of our gear. If your product has a manufacturing fault in materials or workmanship, we'll repair or replace it — at our discretion — from the date and proof of purchase.

What's Covered

- Manufacturing defects or faults in materials and workmanship.

What's Not Covered

Our warranty does *not* cover damage caused by:

- Incorrect setup, installation, or misuse
- Modifications or tampering
- Transit damage or general wear and tear
- Condensation, mould, or rust from poor maintenance
- Punctures, UV damage, prolonged weather exposure, or high winds
- Broken poles or damage from excessive force (e.g. jammed or forced zippers)
- Insect, animal, or child-related damage
- Hydrolysis (the natural breakdown of PU coatings due to prolonged moisture exposure)
- General poor maintenance

Note on Hydrolysis

Hydrolysis occurs when polyurethane coatings absorb moisture over time — especially in humid or tropical climates. This is not a manufacturing fault. To help prevent it, regularly use your tent, air it out in sunlight, and avoid long-term storage with bedding or compressed canvas.

Need Help?

If something's gone wrong and you believe it's a manufacturing issue, contact our team. We're here to help you.

CONSUMER RIGHTS

Our goods come with guarantees that cannot be excluded under Australian law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have goods repaired or replaced if the goods fail to be of acceptable quality and failure does not amount to a major failure.

** Due to our policy of continual product development, the specifications, colours and features may vary.*

MAKING A CLAIM

To make a warranty claim, please email service@23zero.com.au with details of the issue and relevant photos, including a copy of your proof of purchase. We aim to respond within 48 hours - If you don't hear from us, call 03 9547 4691.

Warranty items must be returned to: 23ZERO Australia, 32B Eileen Rd, Clayton South VIC 3169

Return freight costs are the customer's responsibility unless otherwise agreed.


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