



Information regarding fitting Roof Tents to Vehicles

There are **legal limitations** of loads and on vehicle roof racks and these are two fold -:

- 1) Imposed by the Vehicle Manufacturer
- 2) Imposed by the roof Rack Manufacturer

Our obligation is to inform our customers that there are legal limitations but it is ultimately up to the customer to verify and comply before making a purchase. This is why we do not sell and fit roof racks to vehicles.

Our recommendation is always -:"You have the manufacturer weights of our roof tents - it is up to you to ensure you comply with any limitations on your vehicle or roof racks"

Here is general rule on Roof Racks and Roof loadings to help you out.

“The weight limit when driving is imposed by the vehicle manufacturer for safety reasons.

Adding a load to the roof of your vehicle increases the “swaying” when cornering.

This acts like a pendulum and there is a limit that the vehicles suspension is designed to take.

This load is far less than the roof rack load when stationary.

So although there is a roof rack load rating on each roof rack, the vehicle load is the first one to check on.

For example some models of the Kia Brand have limitations of 45kgs. Typically most cars are around 50-75kgs and some 4WDs can be much higher of 150kgs plus. This is your DYNAMIC rated load. This can be found in the vehicles manual or on the Vin plate or on the inside of the driver’s door.

The STATIC rated load for your vehicle is then typically a multiple of the dynamic load.

For Pro Rack roof racks who manufacture to the Australian Standard, the Testing Static Load is FOUR times the Dynamic Load. This multiple does change between brands and needs to be checked.

So if the Dynamic Rating is 75kgs then these racks WITH FIXED POINTS on the vehicle will take a static (sleeping load) safely of 300kgs in total.

We HIGHLY RECOMMEND you have your rack selection inspected and verified by a specialised Roof Rack Provider.

Helpful information from Rhino Racks

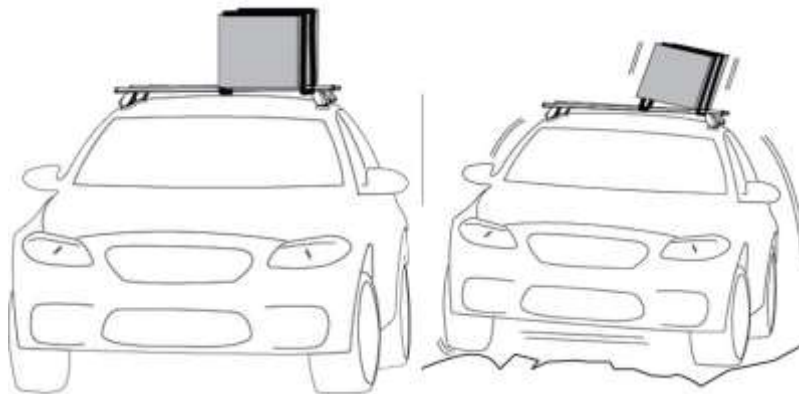
How to Fit Your Roof Top Tent



Roof Top Tents are all the rage right now but everyone is asking;

“How do I secure the tent to my vehicle’s roof when the crossbar’s load capacities is only a bit more than what I weigh?”

The straightforward answer is that there are two types of weight loading capacities for roof racks. These are the Static Weight Loading Capacity and Dynamic Weight Loading Capacity.



Static: when your vehicle is parked -----||-----Dynamic: when your vehicle is in motion

The load rating that Rhino-Rack publishes on our products is the dynamic load rating. This is required for Australian standards and because our customers are generally travelling or exploring and need to know what weight their Rhino-Racks can handle on the move. The load rating of a roof system is less when your vehicle is dynamic compared to when you’re still, or static.

Now when it comes to roof top tents the load rating you need to be aware of is both.

1. First off don’t buy a heavy roof top tent that the dynamic weight of your roof or roof system can’t handle.
2. Know that when your vehicle is parked and you’re ready to climb into your roof top bed you are static and as such Rhino-Rack’s capability to handle weight becomes a lot more.

More important tips for buying the right Rhino-Racks and Roof Top Tent.

Rhino-Rack are experts in vehicle roof systems and we, in case you didn’t know, make the world’s most useful roof racks. So here is the guide you need to setting your roof top tent up safely and securely.

1. Know your vehicle’s roof type and how much weight it can handle

Look at your vehicle manual and the weight of the tent you aim to put on it. The weight of roof top tents on the market ranges from 40kg-60kg. Each vehicle manufacturer has a weight limit their roof can handle so first make sure the weight is within the loading capacity of your roof.

2. Get the right Rhino-Racks

The variations of roof racks we produce differ in the amount of crossbars and the mounting style. Our Fixed Mounting Point, Trackmounts, Backbones and Gutter Mount systems can all handle the load rating of a roof top tent. We do not recommend the 2500 systems for a roof top tent as extreme

weight increases can alter the engineering of the product. Think of it this way – would you try to drive a 2WD vehicle across the Simpson Desert just because it might make it or would you choose a 4WD that will get the job done comfortably? The same applies for selecting Rhino-Rack Roof Racks

Backbone System

The Rhino-Rack Backbone range is developing load support technology that creates the strongest possible roof rack system. Currently available in select vehicles we are producing a range that will revolutionise roof top carrying capabilities and strength. The Backbone system is your number one option for Roof Top Tenting as they are specifically designed for an increased static load rating to accommodate static roof applications such as the Roof Top Tent.



Trackmount

The Rhino-Rack Trackmount systems are either drilled into your roof or they utilise the captive nut holes the manufacturer provides. This and allows for heavier load ratings. These systems are tailor designed for your vehicle's roof and available in a large range.



Fixed Mounting Points

The Rhino-Rack Fixed Mounting Point legs are custom designed pads to perfectly contour the vehicle mounting points. These are screwed into the roof structure providing immense strength. They are available in 2, 3 or 4 bar systems depending on the vehicle.



Gutter Mounts

The Rhino-Rack Gutter Mount systems grip the side gutters available on certain vehicles. The side gutters have an effective attachment method and provide excellent strength.



Now that you've selected your mounting system it is time to sort out how many crossbars go on top of them, and under your roof top tent. Your options are; a two bar system that works best for small roof top tents, a three bar system (engineer recommended) that distributes the load even better for your regular sized roof top tents with dimensions 1400mm by 2400mm or a four bar system if you have chosen a particularly long roof top tent.

Pioneer Platform

The Pioneer range comes in several sizes that will suit any Roof Top Tent style. The solid base of the Pioneer allows for more comfort particularly with standard overhanging roof top tents. These tend to have a thinner base plate than the self contained versions. If you were to get a smaller tent with a large pioneer platform then there is room for storage outside of the tent in the form of a Rhino-Rack Luggage Bag or Box, again ensure your roof top capacity.



3. Know the way your roof top tent fixes to the roof rack type and accommodate wisely with universal clamps or U-bolts

Heavy Duty



40mm

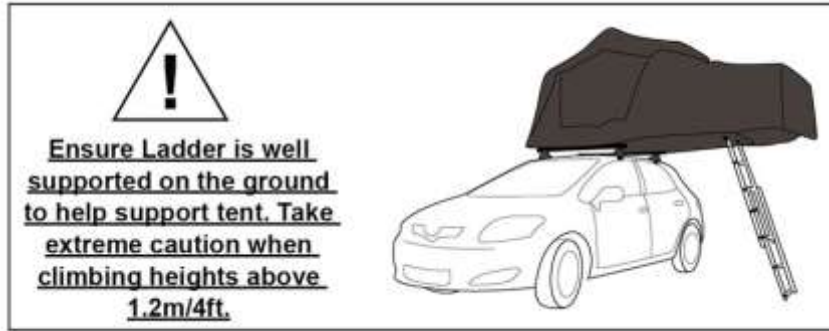
Vortex Bar



80mm

The majority of roof top tents are fitted to the roof rack system with a U-Bolt or Universal Clamp. We recommend you check with your roof top tent supplier before purchasing to ensure that these are the correct measurements for your Rhino-Racks. If the supplied bolts or clamps are too small then it is a simple procedure to get the appropriate fit. The Rhino-Rack Heavy Duty crossbar is 40mm wide and the Vortex bar is 80mm wide for when you're checking the fit. If you're using the Pioneer Platform as your base then the fitment will be similar. Some brands of roof top tents will require holes drilled into the Pioneer Platform. Due to the reinforced nylon and aluminium materials of the Pioneer Platform there is no risk of corrosion issues or structural weakening. Remember to regularly check your fitting system and tighten where necessary after long or corrugated drives.

4. Set up your roof top tent properly



The majority of the roof top tents on the market come with a support ladder. This is used as structural support for the overhanging section of your roof top tent not just a means of entering. The biggest error we see is the incorrect set up of this ladder and structural problems are always the result. Remember that it is not just a way for you to get onto the roof so when setting it up make sure it is on hard ground and evenly placed.

ALWAYS ADVISE THE CUSTOMER TO CHECK THEIR ROOF RACK MOUNTING BOLTS AND ROOF TOP TENT MOUNTING BOLTS AS OFTEN AS POSSIBLE.

LOADING THE BACKTRAX SPORTS UTILITY ROOFTENT TO VEHICLES

Here is a guide to the actual fitment of the Backtrax RTT to vehicles and trailers:-

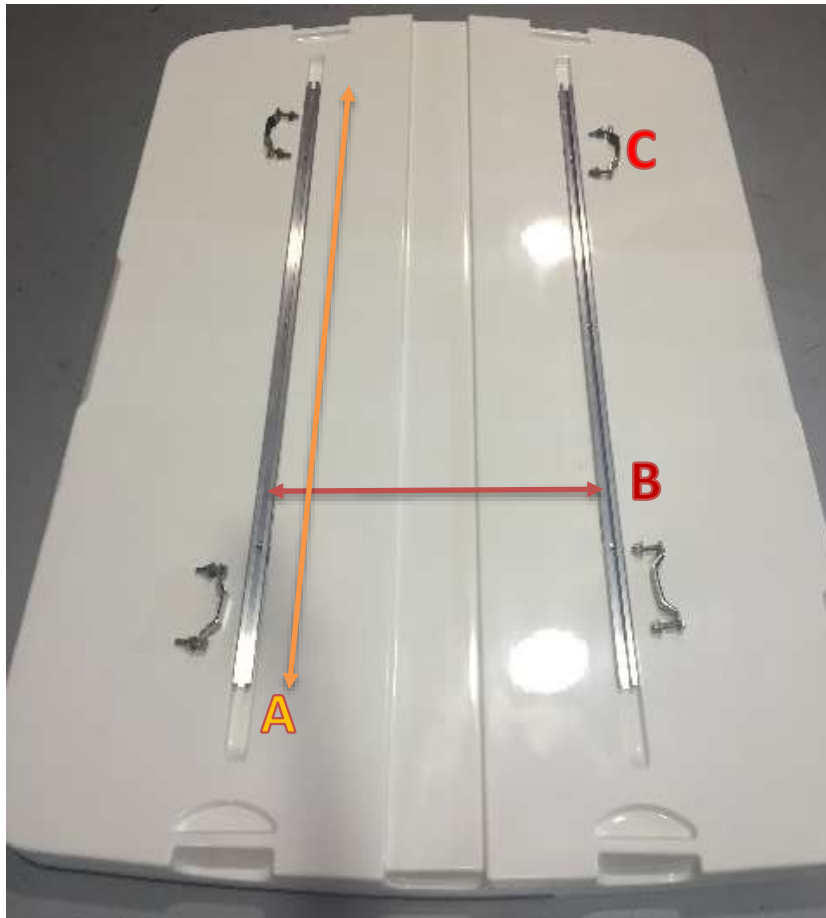
“Our recommendation is to always fit the rooftop tent to an East/West orientated roof rack system”

Our vital statistic’s as posted on our website under FAQ’s is as follows:

A – Length of the alloy support channel running north/south under the roof tents – 1500mm

B – Distance between the channels – centre to centre is 62.5cm (Ascent – Double Bed) and 75cm (Summit – Queen bed)

C x 4 – Stainless Steel Brackets used – 130mm centre to centre with an M10 – Cuphead bolt used at 150mm in length



We recommend the minimum distance between the bars is centralised at 800mm.

- This gives a maximum hangover of at the centre of the roof tent from either end of 65cm.
 - Please note this is the bare minimum and must have very secure racks to achieve this!
 - At these limits the pressure is not the weight but the updraft whilst in motion and at speed.
 - The ideal distance between the racks is 1200mm

CUSTOMERS WHO NEED TO BOLT THE ROOF TENT TO A FRAME (ie North/South orientation)

We have a few customers with either front runner or ARB expedition platforms or soft tonneau covers or tradesman’s canopies and want to mount our rooftents and ask how this is achieved.

Our supplied bolts can bolt straight down (or source a longer M10 Stainless bolt) and through any rack or support and will need to have a large washer and split washer to secure.

To fit the RTT to this type of canopy or trailer we will assume the rooftop is to be centralised.

Step 1. Measure the entire width of the rack the RTT is being fitted to.

Step 2. Mark the central point on the rack which should be the central point of the vehicle as well.

Step 3. Our central distance between the channel supports is 625mm (Dbl) or 750mm (Qn) as per measurement **A** above, mark a distance of 312.5mm (Dbl) or 375mm (Qn) either side of your central vehicle point.

Step 4. This is the point you can drill a hole to bolt the RTT to the bracket.

Step 5. Drill x4 points are the required number to secure the RTT to the vehicle or trailer.



NOTE:- If mounting to a canopy with a side awning mounted to the rack – you need to leave enough space to access the over centre catches on the side of the RTT. You may also need access to the opened latch to mount a Redwing Awning if you have chosen that option.