

# 20 Metre R.V.V. Polecam system

## Suitable Vehicle Guide

Two types of vehicle are suitable for a pole system to be fitted.

# 1 A commercial van type vehicle or four wheel drive (not including SUV or sport 4WD)

OR

# 2 Pickup / Tray / Utility body with or without canopy over the rear body.

### **This document deals with type # 1 vehicles**

For type # 2 vehicles see the PDF document at R.V.V. web site

<http://www.rvv.com.au/InfoDocs/RVV-type2-vehicles.pdf>

For type # 1 vehicles there are two critical dimensions

REAR OVERHANG

and

ROOF HEIGHT

If measurements taken are well within the limits allowed then the vehicle should be suitable.

In all cases, prior to placing a deposit and order, E-mail us at RVV with the vehicle make, model and year so we can give a confirmation to go ahead with it.

This is because although a vehicle may be well within the limits, there may be something particular to the vehicle that might make it difficult or even prohibitive to fit a pole system to.

First critical dimension:

**MAXIMUM REAR OVERHANG**

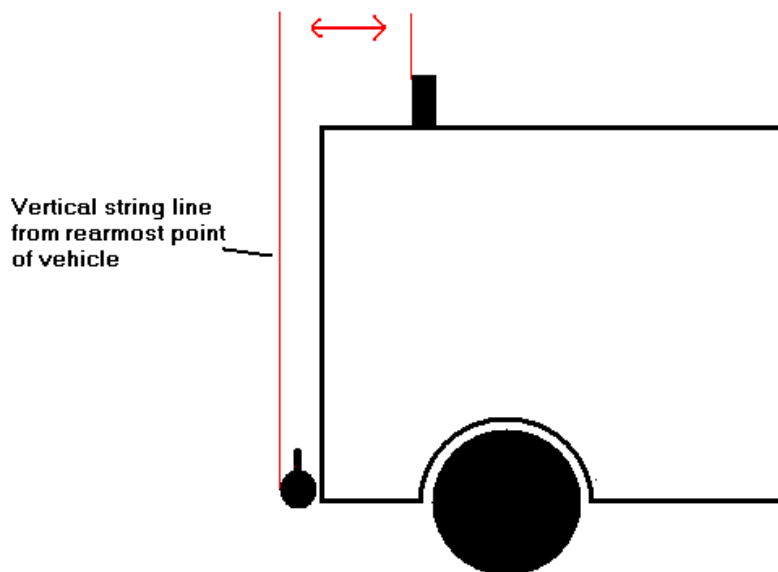
Taken from a roof rack fitted to the most rearward position on the roof, to a vertical string line drawn from the rear most part of the vehicle bumper upward.

String line is just a length of string with a weight at the end, hung down to get a vertical line, to measure to or from.

**NOTE**

If you do not have a roof rack, then you need to take the spot from a point on the rear of the vehicle roof guttering that would accept a full roof rack, and take that as the point to measure back from.

See image.



This distance must not exceed maximum overhang or the result is that the unit will place excess load on the rear most roof rack bar when the mast is in use as it is sitting a distance back from the rear bar.

MAXIMUM REAR OVERHANG = 750mm.

There is no minimum value.

Anything beyond that may not be suitable without additional fittings required so if you have a distance that is a bit longer, we can advise you on options available.

Vehicles like sedans or some SUV's are not suitable as the distance from the rear of the roof and the rear most of the vehicle far exceeds maximum rear overhang.

Second critical dimension:  
**MINIMUM ROOF HEIGHT**

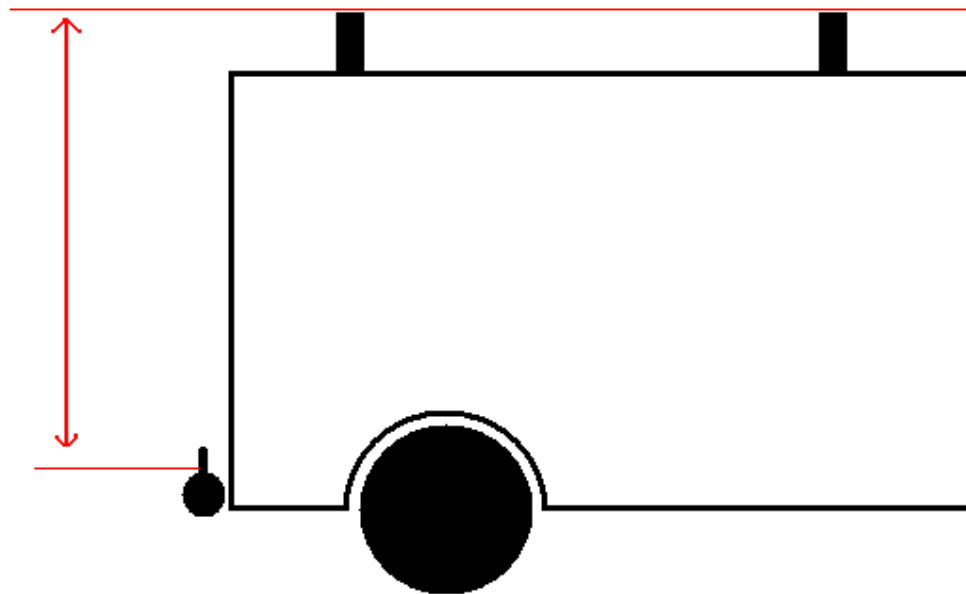
It is the distance from the top of a set of roof racks (top red line) to the top of the adjuster bar fitted to the rear.

There are two types of adjuster bar used, but for this purpose measuring down to a towbar or nudge bar fitted.

Or to the underside of the bumper bar is close enough.

**Measurement taken from top of roof racks to lower rear bar top.**

**Use string line or beam over roof bars to get top line to measure to.**



**If you have a vehicle with no racks fitted to it**, for measuring purposes, add around 80mm above the roof.

So in that case measure from the roof top down to the underside of the bumper or towbar as shown in the image, and then add 80mm.

**MINIMUM ROOF HEIGHT = 1350 mm**

If the distance is less it is possible the base of the pneumatic mast will touch the ground when it is tilted downward in operation.

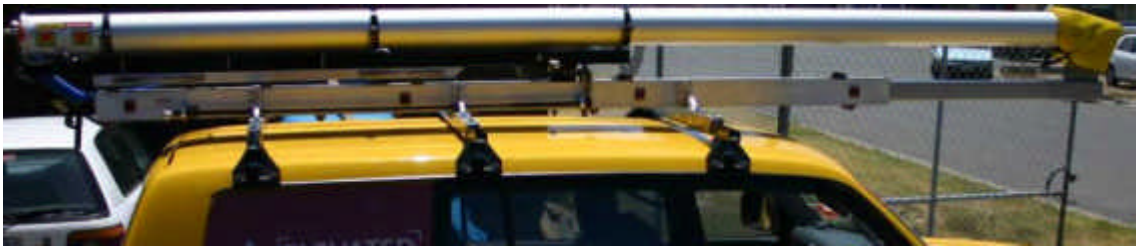
**MAXIMUM ROOF HEIGHT = 1750 mm**

If this distance is greater this may be accommodated by raising the position of the lower bar that the mast base attaches to. Please tell us if this is the case so we can advise how to resolve that issue.

## # 1 Type vehicle examples

note rear door is swung open during pole deployment to clear spare tyre from area where pole is stationed vertically at the rear.





### **Roof rack fixing points.**

To secure the unit to the vehicle roof we use Rhino brand roof racks in all cases.

Rhino have an on-line listing of the bar models to suit various vehicles here.

<http://www.rhinorack.com.au/VehicleSelection.aspx>

In all cases you should check the Rhino listing to ensure they have rack to suit your vehicle  
The listing for your vehicle must list 3 HD (heavy duty) bar option and must list a load capacity of no less than 100kg in the vehicle selection guide at the site.

### **To locate a seller of Rhino roof racks,**

For Australia see menu item "Find a Dealer" at the listings link above

For other countries choose the menu item "Select Country" to locate the nearest dealers and in some cases local vehicle listings to suit.

For USA Westin Automotive are the importer for Rhino brand roof racks.

Their site is here <http://www.westinautomotive.com>

See HD type bars

[http://www.westinautomotive.com/pages/PRODUCT\\_RR-HD\\_intro.html](http://www.westinautomotive.com/pages/PRODUCT_RR-HD_intro.html)

Go to "applications" link on the page to locate US vehicle and roof racks to suit, note the list is limited so you may need to refer to the Australian listing site above to locate the most suitable bar that will suit your vehicle roof mounting type as outlined below.

In general the Australian listings can be translated to overseas vehicles, which those international dealers can provide direct.

We at R.V.V. can assist with determining which bars you should use to fit equipment.

We may be able to provide the Rhino bars once we establish which type they are if you cannot locate them at a dealer near you.

Rack end images shown below describe the types that are suitable and those that are not.

These following types of bar ends ARE suitable

### **Gutter mount bar ends**



The gutter mount bars are the simplest and cheapest to fit, they vary in height with different vehicles.

### Gutterless track mount bar ends



### Example of track mounted bars.

The track the bars bolt to is riveted to the roof in places, the bars ends have vertical bolts that we put through the roof on the rearmost bar and centre bar with a nut underneath. This fitting is permanent to the vehicle and costs more than other roof racks types to fit by double the amount (requires some labour)



Be aware that the gutterless system has a track that fits to the roof skin, the roof skin/panel must be able to handle the load and so the roof must not be thin or weak, and the roof must have adequate upright pillars around windows to support the roof skin and keep the roof from twisting or sagging.

## Fixed Mounting position



Some vehicles have factory provided fitting points for roof rack ends.

Foot parts of these bars will vary with vehicles so the correct bars must be ordered for the vehicle from the Rhino rack listings.

In some cases the rear most fitting point for the roof racks is beyond the maximum overhang distance, in this case the vehicle is not suitable.

The vehicle **MUST** have 3 fitting points.

Some vehicles have allowance for roof rack fixtures fitted at the factory

For example the Hummer H3 has a unit fitted using track mount type Rhino bar ends that are fitted to the Hummer factory fitted track that has suitable load capacity.

We manufactured the threaded fastener blocks that fit into the tracks for the bolts to secure to.



We can manufacture small parts to adapt the Rhino bars to a factory fitted roof rail or securing points.

But those cases need to be dealt with case by case to advise you if this is possible before proceeding with intentions of fitting to such a vehicle.

**Mounting fixtures that are NOT suitable in ALL cases**

**Rail mount bars**

These are NOT suitable because they lack suitable load capacity



**Multi Fit door sill bar ends.**

These are NOT suitable because they lack suitable load capacity, are not firmly affixed and may release.



### **Rear mast fixing bar.**

There is another part that is fitted to the vehicle that the base of the mast secures to when it is raised to operate.

Adjuster links locate to this bar and to the mast base.

The bar is bolted to the towbar of the vehicle

Vehicles must be fitted with a towbar.

That is covered in the PRE install document on-line.

<http://www.rvv.com.au/InfoDocs/RVVPrelInstall.pdf>

Any questions regarding anything in this document.

Please call contact us.

E-mail at [contact@rvv.com.au](mailto:contact@rvv.com.au)

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In most cases you will need to leave a message with number to call back as we are a factory direct seller so all staff are engaged in equipment building activities.

David Brimage

Remote Vision Vehicles

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