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THULE CAR RACK SYSTEMS



Choosing a Tow Bar Mounted Bike Carrier - Steve Minshall

There is a huge choice of bike carriers that can be attached to your vehicle's towbar. So how do you choose the correct one for your needs?

When looking to carry cycles on your towbar you should be considering the following:

- The Law
- Type of tow bar you want to attach to
- Limitations of vehicle
- Quantity of bikes
- Type of bikes
- Ease of fitting to vehicle
- Theft prevention
- Access to vehicle boot
- Warranty



The Law

Traffic laws change from State to State so you need to do your own research into what can get you in to trouble when using a bike rack in your state. The key things I consider when using a bike rack in NSW is how far the bikes and racks protrude and obscuring of the vehicle's lights and number plate.

The following is my own interpretation on how the law relates to NSW.

At the time of writing I reckon you would be ok in terms of protrusions if the collection of bikes is not more than 120cm from the back of the car and the bike wheels shouldn't stick out of the sides further than your wing mirrors.

It is very rare for the bike rack not to obscure the car's number plate so you will most likely need to get a special 'bike rack number plate' from the RTA. No, you cannot make up a number plate from a piece of card, even if it is nice laminated one! And the bike number plate **MUST BE ILLUMINATED AT NIGHT TIME.**

Finally you should decide if the bikes and the carrier obscure your vehicle's rear lights. Again this is usually quite likely and rather than trying to convince a traffic cop that you can see your indicators through 4 sets of bike wheels it can save a lot of hassle, points and



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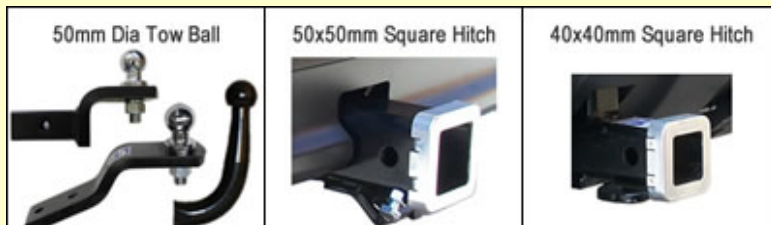
\$\$s if you invest in a small light board. These are available from Rhino, and Thule for a very reasonable price and are simply attached across the rear of the bikes with Velcro straps and fix up all your number plate carrying/lighting requirements at once.



As of March 2013 the penalty in NSW for having a number plate that is not clearly visible is **\$397 and 3 points**.

Type of towbar and vehicle

There are basically 3 types of towbar when it comes to mounting a bike carrier.



The most universal attachment is to a 50mm diameter tow ball. This applies even if you have removable hitch because you simply use the tow bar with its ball mount inserted. The only time this may not work for you is if there is something getting in the way like a rear mounted spare wheel or an overhanging tray.

So as ball mount bike carriers can be used on pretty much all types of towbar why not just use this style? The main reason is for strength of attachment. By sliding a bike carrier into a square socket you are creating an extremely strong connection. Additionally the design styles of hitch mount carriers are generally much heavier and industrial giving at least the impression of greater strength.



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Towbar/vehicle cont.

Finally with regard to the vehicle side of things you need to consider the strength of your towbar system. A tow bar is not designed to carry a bike rack it is designed to haul a trailer. Why have I underlined this? Because, the general perception about tow bars and bike carriers is usually greatly under estimated. Every day we answer quotes for towbars that are “just to carry a bike rack”. Carrying a bike rack is a very aggressive use of the tow bar.

When you pull a trailer most of the weight goes through the trailer’s wheels and a much smaller amount, called the ball weight, goes through the coupling. A tow bar will have a specified ball-weight rating to indicate what down load the tow bar can handle at the coupling. What complicates the issue with the bike rack is the fact that ALL the weight is being taken vertically by the towbar with no trailer shock absorbers to dampen any bounce. Most importantly, this weight is not just the total of the collective weight of the rack plus bikes, but it will also have up to a metre of leverage multiplying its effective weight significantly.

What does this mean in practice? Well I am not clever enough to calculate all the forces involved in using a bike rack. So the best advice I can give is to be sensible. If you have a small car with a light duty towbar (say less than 100kg down load) just be mindful of what is going on under the skin, where the towbar bolts to the often very thin metal of the vehicle. Load the heaviest bikes first, closest to the car where they have the least leverage and don’t drive fast on uneven road surfaces. Finally if you are fitting a towbar for the purposes of fitting a bike rack don’t underestimate the job and consider a heavier duty bar if one is available for your car.

Quantity of bikes

What is often forgotten when buying a carrier is that bikes are actually really awkward things to try and group together in a small place. They vary in sizes and the handlebars and peddles always seem get in the way of each other. Therefore, it is always worth considering how generous the spacing is on a particular bike carrier and maybe buying a system with a capacity of one bike more than you need, just to make it easier to load up. This not true for platform carriers where bikes are



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supported from underneath, as these generally give more width per bike and a more defined position for each bike.

Type of Bikes

If your bike is high value and very precious to you, especially if it has a carbon fibre frame then go for a platform style bike carrier. These are generally more expensive and bulkier than a bike carrier with arms but the bikes are given a defined spot to sit in and there is much less chance of bike to bike contact during transport and loading. It is also much more desirable to support a carbon frame by the bikes wheels rather than letting it swing from the crossbar.

For general use adult bikes then a bike carrier with arms is fine. There is a bit of a blind spot from manufacturers that most bikes are full adult sized and have a convenient horizontal crossbar to suspend it from. For everything else the solution offered is a 'frame adapter':



A frame adapter attaches to the saddle post and handle bar stem to create an artificial cross bar. This is an OK solution for full sized bikes that do not have a cross bar like some mountain bikes and girls bikes but it doesn't really help with kid's bikes which is a segment of the market that is really ignored. The usual solution for fitting small bikes will involve lateral thinking and extra webbing straps.

Electric bikes need extra consideration because they are generally heavier than a conventional bike which is likely to reduce the number that can be carried and the load rating of the carrier should be considered. Thule offers a two bike platform carrier specifically for electric bikes to address these issues.



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RETRORACK FIBERGLASS THULE CAR RACK SYSTEMS

Ease of fitting to vehicle

Thule has designed some very clever mechanisms that give an easy one handed connection to the tow bar with no tools. These are however either the more expensive or very light duty bike carriers. For most other bike carriers some sort of spanner is usually required and supplied with the kit. No bike carriers are particularly hard to attach to the vehicle but some are more difficult due to their bulkiness or their weight which may be a consideration if you are of slighter build.

Theft prevention

Some of the more expensive carriers have locks included to both secure the carrier to the vehicle and the bikes to the carrier. Other carriers have locks as an optional extra.

My personal view is to consider the locks that come with any bike racks in relation to the value of the asset and the situation that the bike/rack is going to be left. When I use a bike carrier that is likely to be left unattended, for example stopping at a transport cafe, then I use a long, good quality cable lock. This goes through everything and is secured back to the D-shackle eyelets on my towbar. The lock on the bike carrier then becomes irrelevant.

Access to vehicle boot

Bike carriers can vary hugely in how difficult they make it to get into your boot once they are on. You generally have the following options:

- No tilt bike rack has to be removed to access rear of the vehicle
- Can be tilted with the bikes removed
- Can be tilted with an effort with the bikes loaded
- Can tilt or swing away easily with bikes fitted

Not surprisingly the ease with which the carrier has this facility is usually indicative in the price.





Warranty

Ask about warranty, some bike carriers have 1 year and some have 3 or 5 years and the Yakima range has gone all the way with a Lifetime warranty.

Summary

So finally you have bike carriers ranging from less than \$150 to over a \$1000 depending on features, warranty and add-ons. Decide what features are important to you, attachment method, capacity, weight rating, ease of fitting, access to the rear of vehicle and security. Then take a look at our website at http://www.shop1auto.com.au/towbar_bike_racks.htm for the specs of different models and current pricing. It is then worth talking to a specialist like Shop 1 Auto to see if there may be any issues with your particular car.