



Transporting Your Bike

We all need to get our ride to where we want to pedal, but how to get there safely without damaging the bike and/or car is the goal. Transporting your bike in the vehicle only works when there is sufficient space to do it with the wheels installed. Removing wheels to fit the bike in the vehicle gets old fast. So, let's look at each system, their features, and important notes to keep in mind when using them.

Four general types of bike transport are available:

1. Trunk/hatch mount rack.
2. Trailer hitch mount rack.
3. Roof mount rack.
4. Tailgate pads, hard mounted fork clamps.

First of all, there isn't a perfect transportation device – they all have their weaknesses. All systems rely upon the bike owner following a rigid set of steps, in the proper order every time, to be sure that something isn't overlooked. Finally, a recheck of the mounted bike is essential.

The Trunk/Hatch Mounted Bike Rack

These are the most affordable bike carrier for cars, SUVs, and vans. The rack mounts on the trunk/hatch using tensioning straps. Mounting the rack takes the longest the first several times that it is used but improves as time goes on.

Advantages

1. Very affordable.
2. Bikes are shielded from bugs and rocks.
3. Fits most bikes.*
4. Can be used in multi-car families (universal fit – but there are exceptions).
5. Have a reduced impact on vehicle aerodynamics.

Limitations

1. Padding on the contact points on the vehicle must be kept very clean, otherwise paint scouring can occur.
2. Security is difficult. The tension straps can easily be cut, and the rack and bikes can be stolen.
3. They require being removed in between transporting the bike(s) (see above point).
4. *There is a weight limit to how much the combined weight of all the bikes that are being transported. Electric assist bikes are too heavy for this type of rack. Even some downhill bikes exceed weight limits.
5. Owners must be able to lift the bikes onto the rack.
6. *Bikes with sloping top tubes will mount with the front wheel hanging low. This can be an issue with compact cars. With the front wheel hanging low the bike can get jacked off the mount when the driver negotiates steep parking ramps. A virtual top tube can be purchased to eliminate this issue.
7. *Bikes with step-through frames are almost impossible to mount on these racks since the step-through frames lack a top tube. A virtual top tube will be a necessity.



8. These racks are limited to carrying 2 bikes.
9. Some trunk wings will not allow the upper frame of the rack to contact the top surface of the trunk. An arched top frame avoids this situation.
10. Anything that obscures a vehicle's license plate can result in fines. Police generally overlook this, but fines are possible.
11. The saddles that the bike top tube rests on must be kept clean. While bikes are being transported, they tend to swing to and fro scouring the paint on the top tube. Multiple bikes tend to crash into each other chipping paint and possibly damaging rear derailleurs.
12. As the vehicle moves down the road a low-pressure area is created at the back of the vehicle. This low-pressure area attracts dust and road spray.
13. In a rear-end collision your bikes act as a crush zone – not good.

So, a few good points about these racks, but generally they are only appropriate for very casual use with inexpensive bikes. The limitations will often result in the cyclist looking for something better very soon after purchasing the trunk/hatch mounted rack.

The Trailer Hitch Mount Rack

These have become very popular and are a good choice, provided your vehicle has a trailer hitch receiver.

Advantages

1. *These work with most bikes.
2. Have a reduced impact on vehicle aerodynamics.
3. Many designs have a layback feature which allows access to the trunk, hatch or end gate.
4. These are much more secure than trunk/hatch mounted racks, provided that the rack is secured to the vehicle using a locking hitch pin (usually an added cost).



5. Wheel-in-hoop/wheel-in-tray designs keep bikes separated, so damage from bikes crashing into each other is almost eliminated.

6. Security of the bikes is very good with wheel-in-hoop or wheel-in-tray designs. These designs have ratcheting arms that clamp down on the top-tube or top-of-tire. The arms can then be locked in position.

7. Power lift designs are becoming more popular with the increasing popularity of electric bikes. Here you will find racks with greater load carrying capacity – **check weight limits before you buy.**

8. Generally, the Wheel-in-hoop/wheel-in-tray designs will fold up when not in use. Hanging designs will often fold down.



9. Some designs are built heavy enough to still pull a light trailer.

Limitations

1. If your vehicle does not have a hitch receiver, that will be an additional cost over and above the cost of the rack and accessories.
2. A locking pin to lock the rack to the vehicle is recommended.
3. * On a hung-bike design, bikes with sloping top tubes will mount with the front wheel hanging low. This can be an issue with compact cars. With the wheel hanging low the bike can get jacked off the mount when the driver negotiates steep parking ramps. A virtual top tube can be purchased to eliminate this issue.
4. *Bikes with step-through frames are almost impossible to mount on hung-bike rack since the step-through frames lack a top tube. A virtual top tube will be a necessity.
5. Designs that do not have a layback feature make accessing the trunk, hatch or end gate very difficult and may necessitate removing the bikes from the rack.

6. *The wheel trays/hoops can be limited in the width of tire that they can accommodate. The tires on a Fat Bike may not fit the tray/hoop.
7. These systems are usually limited to carrying 2 to 4 bikes.
8. This type of rack suffers many of the drawbacks of trunk mount designs in that they sit in the low-pressure area behind the car resulting in dust and road spray collecting, they can obscure the license plate, and rear collisions mean the bikes are the first to take the brunt of the crash.

Roof Mount Systems

These are the choice system for amateur and professional cycling teams as it allows for carrying up to 6 bikes and leaves the end gate of the estate wagon clear for the on-road mechanics to access tools and parts.

Advantages

1. High capacity when configured with the bikes oriented transversely. Most vehicles have enough span of the support towers to carry 4 bikes mounted alternating front-to-back/back-to-front.
2. The high mounting point means less chance of rock chips. "Bikeenies" can be used to cover the front of the bike to further reduce rock chips and bug splatter.
3. Fork down mounting reduces wind resistance and improves aerodynamics.
4. Bikes are safe from collisions but will suffer in a roll-over accident.
5. These systems do not block taillights or license plates.
6. *These accommodate most types of bikes.
7. These systems allow (with optional accessories) to haul skis/snowboards, kayaks/canoes and cargo.



Limitations

1. These require lifting the bikes onto the roof. Fat, downhill, tandem and inexpensive bikes may be too heavy to lift. Powerlifts for tandems are available - but are very expensive.
2. Locks to lock the load bars and towers to the vehicle and fork locks are recommended and are costs in addition to the rack system itself.
3. *The forks on niche bikes such as Fat, Tandem and Folding bikes may not fit or may require adapters to allow these bikes to be mounted.
4. *Fat bike tires may not fit the wheel trays. Even some Half-Fat (Plus Bike) and Downhill bikes may not fit in the trays properly. Optional wide trays may be available to accommodate these bikes – **be sure to check with manufacturer before purchase, if any of these bikes are a possibility in the future.**
5. Bikes are exposed to flying rocks (kicked up by other vehicles), bugs, and road spray. Bikeenies are available to cover and protect the leading areas of the bike.
6. **This is a big one.** Any overhead structures (garages, car ports, breezeways, bridges etc.) can destroy bikes, racks, and vehicle roofs if you attempt to drive through them with bikes that sit too high.
7. On fork-down mounts it is necessary to find someplace to haul the removed front wheels. Wheel forks are an option, otherwise you will need to find space inside the car and the wheels may not be the cleanest after a wet ride.
8. Inexpensive bikes with bolt-on wheels will be very inconvenient to use with these systems. Quick release skewers are almost a necessity. Thru-forks will require special adapters or Thru-fork mounting fixtures. Systems are also available to leave the front wheel in. These systems mean having to lift the bike higher in order to get it in the wheel tray.

9. Since the rack towers are all quite unique to individual vehicles it means repurchasing new towers with each new vehicle purchased. Load bars are generally quite universal.
10. Most makers have adapters to fit factory roof racks.

Other Methods

Here are a few alternate methods for transporting your bikes. Many of these just prevent bikes from moving around in a van, SUV, or pickup, especially in the event of a collision.

Fork Clamps/Fixtures

These can be hard mounted to an interior floor on a van, floor of a pickup, or onto a box cover. Some owners may wish to mount these to a piece of plywood that is cut to fit in the box of a truck or floor of a van. This method can also be used for the floor of a utility trailer. Be sure to determine if your bikes have Quick Release wheels or Thru Axles and buy the appropriate clamp.



Advantages

1. Bikes can be carried inside of the vehicle where they are clean, dry, and secure
2. Inexpensive for multi-bike families.

Limitations

1. Niche bikes like Downhill and Fat Bikes may not fit due to their non-standard fork/drop-out size
2. Drilled holes in bodywork can harm resale value of the vehicle when it comes time to sell.

Tailgate Pads

These are especially useful for Mountain, Downhill and Fat Bikes because they keep the mud where it can easily be cleaned and work with all three types of bikes, as the tailgate pad runs up between the front wheel and the downtube. Fork dropout widths, which can vary greatly between these bikes, doesn't affect how the bike is carried.

Advantages

1. Transferable between vehicles.
2. Keeps muddy bikes in the box where mud can easily be washed out.

Limitations

1. Security requires that a separate cable and lock be connected to a stake-hole eyebolt or a trailer hitch receiver.



A Few Key Points

1. Don't exceed the load limits of any of the racks.
2. Don't exceed the speed that the manufacturer has determined to be safe. TUV Certified racks clearly state the safe operating limits of them.
3. Follow the same mounting steps and checks every time so that they become engrained. This will reduce the possibility of something being missed.
4. Use all of the mounting points – don't just lock down the forks and skip the rear wheel hold-downs
5. Avoid letting too many people "help" with mounting the bikes.
6. The driver of the vehicle must double-check all connection points.
7. Racks should be examined for corrosion. Touch up all chipped or scratched metal components.
8. Cracked or damaged components must be replaced with original brand components.
9. Highly stressed mounting studs on roof rack towers should be replaced on a regular basis. Otherwise, sudden catastrophic failure of the mounting stud(s) can occur, damaging the rack, bikes, vehicle and other following vehicles.