

## **TOW VEHICLE LENGTH**

From Reference (8)

Why is length such an important factor? Well, it is not really the length of the trailer that is as important as is the size (or wheelbase) of the tow vehicle trying to pull it. The main focus of this is to minimize trailer sway, which in many cases is caused by the wind from either Mother Nature or large vehicles passing you by.

Basically, the longer the wheelbase the better! Think of it as leverage. The longer the trailer, the more leverage it can have on the tow vehicle. The longer the wheelbase of the tow vehicle, the more it can resist the leverage being applied from the trailer. You don't need a crew cab long bed truck to pull a pop-up that could easily be towed by a small SUV. However, you don't want to pull a 30' trailer behind that small SUV. You want something longer. But don't get carried away, either. Let's see how it works.

You will need 2 measurements, the wheelbase of your tow vehicle, and the total length of the trailer you are pulling (or intend to pull). That length is from the coupler to the back bumper.

### **Guideline**

(This guideline was first used by the RV Consumers Group [rv.org](http://rv.org))

For the first 110" of wheelbase, this allows you 20' of trailer.

For each additional 4" of wheelbase, this gets you 1' more of trailer.

Wheelbase / Trailer length

110" = 20'

114" = 21'

118" = 22'

and so on

If you look at some of the physics and geometry inherent to travel trailers, you might see why length is an important factor to consider. Ever try to carry a full sheet of plywood (or something similar in size) by yourself, on a windy day? It can be difficult to maintain control. But, how about carrying a

couple of 2 by 4's on that same windy day? Not so hard! That is because the 2 by 4's do not have the same surface area to catch the wind as the sheet of plywood does. So, in a way, that travel trailer is just like a sheet of plywood for catching the wind.

The next thing to look at is how far the coupler is from the trailer tires. The greater the distance, the lesser the impact it will have on the tow vehicle and the less sway it could create. You will see travel trailers of the same overall length with the axles in different locations. This is probably due to the floor plan or layout of the trailer in order to balance the overall trailer, as well as to provide enough, but not too much, tongue weight.

Finally, the ball, or hitch location. How far is it from the tow vehicle's rear axle? The farther away it is (known as rear overhang), the more leverage the trailer can apply to the tow vehicle and create the possibility for more sway. A Jeep or a Hummer would make great tow vehicles because they have very little rear overhang compared to most pickup trucks and SUV's. Another example of this would be in comparing a 2003 Chevy Tahoe to a 2003 Chevy Suburban. The wheelbases of the two are different, but their wheelbase to rear overhang ratios are almost identical. Therefore, both vehicles should be able to handle the same trailer with similar results as far as length is concerned.

If you end up breaking the length guideline by a few feet (3'-4'), you might be okay as long as you have a good sway control hitch or anti-sway bar.