

Yaw, more commonly known as sway in the RV industry, is a bad word for trailer owners. The definition of yaw or sway is a side-to-side movement. Nothing will ruin the way you feel about camping faster than the first time you experience trailer sway.

You have tent camped for years and now you decide it's time to move up to a pop-up. You go to your local dealership and find a pop-up with the perfect floor plan for you and your family. The sales person knows that it will be close to the maximum weight that your vehicle can tow. He really needs a sale because things have been slow. Rather than risk losing the sale he decides not to explain the added expense of the proper hitch work to safely tow your new trailer.

You're all packed up for a weekend getaway. You made all of your pre-trip checks and you're ready to go. You load the most precious cargo you have, your family, into your tow vehicle and head out on a new venture. Everything is fine when you leave the house. You take the on ramp to the interstate. You're cruising at the speed limit enjoying the music on the radio. Suddenly out of nowhere a transfer truck going twenty miles over the speed limit is passing you as if you're sitting still. The pop-up is pulled into the draft created by the truck. In an attempt to correct this totally unexpected event you over steer and the trailer begins to go the opposite direction. Not really sure what to do you hit the brakes and turn the steering wheel to the left, then to the right. Now, that one-ton trailer behind your sport utility vehicle is veering sharply from side to side and begins to affect what little control you have over the vehicle. The results are catastrophic.

Ok, since this is just an article, let's start over and fix this before you even realize there is a potential problem. You purchased your pop-up from a reputable local RV dealership. At the risk of losing the sale your sales person explains that you will require some specialized hitch work to pull your new trailer safely. You are a bit skeptical, feeling like they just want more of your money. Besides, your father never needed any of this stuff. He just hooked the trailer unto the ball and went.

You decide to give the sales person the benefit of doubt and listen for a minute. He shows you in his book that your tow vehicle is rated to tow a maximum of 3,500 pounds. Then he explains what you must factor in to that tow rating. It includes the weight of your new camper, any after market accessories, like the roof mounted air conditioner and battery the dealership is going to install, all of the cargo and personal belongings that you load in the trailer and in the tow vehicle, and the weight of the passengers in the vehicle. Now all of the sudden the sales person has your undivided attention. You had no idea that all of this had to be considered.

He shows you the weight label on your new trailer. The unloaded vehicle weight (UVW) is 2,100 pounds. The air conditioner weighs 100 pounds and the deep cycle battery weighs 50 pounds. To be safe he estimates that you will carry about 300 pounds of cargo, and then adds another 300 pounds for your wife and two children. You are amazed how fast things add up. Now you have 2,850 pounds instead of the 2100 pounds that you

thought it was. It isn't over yet. Your sales person starts to explain that every state has different requirements on how much a trailer can weigh before it requires trailer brakes. In your state the weight is 3,000 lbs., but your dealership has brakes installed on any trailer they order that weighs over 2,000 pounds. He explains that even though your vehicle is rated to tow 3,500 pounds the brakes on the vehicle were designed to safely stop the vehicles weight, not an additional ton and a half being pulled behind it. He takes you to the parts department and shows you a brake controller and explains that this is what activates the trailer brakes and the dealership will install it when they do the wiring for the trailer lights. You like the features that he explained about the brake controller. The fact that you can manually adjust the amount of braking action so that when you hit the brake pedal the tow vehicle and the trailer work together to stop the weight in a reasonable amount of time. What you really like is the part he explained about the manual override lever that activates the trailer brakes without using the vehicle brakes. He said if you're on a steep grade and you don't want to prematurely wear out the vehicle brakes you slowly slide the lever and the trailer brakes will slow you down. But what really sold you on it was when he explained that if the trailer starts to sway you could gently move the lever, activating the trailer brakes, to help straighten the trailer out. He went on to explain that trailer sway is one of the biggest potential problems that you can encounter while towing a trailer. He points out some of the factors that contribute to trailer sway.

- First and foremost poor trailer design contributes to trailer sway. When there is too much weight behind the trailers axles causing the tongue weight to be less than 10% of the trailers weight it has a natural tendency to sway.
- Incorrect tire inflation
- Improper weight distribution hitch adjustments
- No sway control on the trailer
- Crosswinds
- A transfer truck passing from the rear of the trailer
- Descending inclines
- Towing speeds
- Tow vehicle not properly matched for the trailer
- Improper loading, overloading and poor weight distribution

He took the time to explain that for the trailer to pull properly the manufacturer recommends that the tongue weight resting on the ball mount should be 10 to 15% of the total trailer weight. He said if it is more than 15% they have what is called a weight distribution hitch that takes the additional tongue weight and distributes it to the axles on the tow vehicle and the trailer where it should be, and if it is less than 10% when you load your cargo you distribute it to add some additional weight on the tongue. He looked up the pop-up you were buying in the brochure and the tongue weight was 305 pounds. With the air conditioner installed and your cargo loaded you would be between the 10 to 15% range. He explained that a weight distribution hitch was more commonly used with heavier trailers and in some cases with pop-ups depending on the tow vehicle, but in this case it would not be required.

The next thing he asked was if your vehicle had a receiver. You reply, do you mean a hitch? He explains that the part that is bolted to the vehicle is called a receiver, and he shows you a chart that has several different classes of receivers depending on the amount of weight you will be towing. The class II receiver was rated for 3,500 lb. gross trailer weight and 300 lb. max tongue weight. For a small difference in price he recommended a class III receiver rated for 5,000 lb. gross trailer weight and 500 lb. max tongue weight since your trailers tongue weight exceeded 300 lbs.

With that done he said let me show you the one component that our dealership strongly recommends to anyone purchasing a pop-up. He walked over and picked up a part from the shelf. This is called a friction sway control. We mount one end of it to the ball mount and the other end to the tongue on the camper. You adjust the amount of friction by turning the lever clockwise for more friction and counter clockwise for less friction. He explained that you turn it in 1/8" increments until you get it adjusted where you feel comfortable. This will not totally eliminate sway, but once the forces of sway are in motion it will dampen the sway and help you control it when you're towing your camper.

Well, he said, that about does it. For less than 10% of the price of the pop-up you can get all of the hitch work done and ensure that your family is safe when you go on a trip. At this point you're convinced that the sales person has your best interest in mind and was not just trying to make more money.

You're all packed up for the first weekend getaway with your new pop-up. You make all of the pre-trip checks that the dealership explained to you and you're ready to go. You load the most precious cargo you have, your family, into your vehicle and head out on a new venture. You take the on ramp to the interstate. You're cruising at the speed limit enjoying the music on the radio. Suddenly out of nowhere a transfer truck going twenty miles over the speed limit passes you as if I you're sitting still. You feel a slight movement behind you. It was just enough to remind you that you're pulling the pop-up. You look at you're watch and tell the family that you should be at the campground in a couple of hours.

Knowing how to react when a trailer begins to sway can be the difference between your safety and disaster. To learn more about controlling trailer sway check out my "Trailer Towing, Weights, Hitch Work & Backing DVD" and e-book. [Video Details](#)

*Happy Camping,
Mark*

Mark J. Polk is the owner of RV Education 101. He also hosts the RV Savvy segments on RVTV, which airs on the Outdoor Channel. RV Education 101 is a North Carolina based Company that produces professional training videos and DVDs on how to use and maintain your RV. Our goal at RV Education 101 is to make all of your RV experiences enjoyable, fun and most importantly SAFE. www.rveducation101.com

