How to Eliminate Trailer Sway™

Most new travel trailer owners will stop using their new trailer after only one or two camping seasons. Why? Because they feel unsafe while towing. Towing a trailer isn't like driving a car. The trailer is exerting huge forces upon the rear end of the tow vehicle, often giving the driver a sense of being out of control.

Even if there are no injuries, even a minor trailer accident results in thousands of dollars in damages, a lost vacation, and more lost time getting the trailer towed and repaired.

The primary cause of this out-of-control feeling is trailer sway. And, since trailer sway is the number one cause of trailer accidents, there is good reason to feel uncomfortable when towing. Trailer Sway, or fishtailing, is when the trailer begins to move side to side behind the tow vehicle. Think of the tail wagging the dog analogy. The problem, of course, is that the tail in the case weighs anywhere from 3,000 to 12,000 pounds. If the tow vehicle weighs less, and it usually does, an accident can result. Even when a heavy tow-vehicle is used, the trailer can still sway and brake loose from the ball. Even if there are no injuries, even a minor trailer accident results in thousands of dollars in damages, a lost vacation, and more lost time getting the trailer towed and repaired.

Solutions

The RV industry was aware of the trailer sway problem early on, and numerous devices have been manufactured in an attempt to correct the problem. Early attempts involved the use of trailer brakes and even a single wheel underneath the trailer tongue. Neither solved the problem. In fact, the "extra wheel" caused even more instability.

A trailer towed with a heavy vehicle—such as a 1 ton dually--will still sway.

The use of the trailer brake controller to control sway requires fast reflexes and a steady hand. Too much braking locks up the trailer brakes and can cause damage to the trailer or tow vehicle receiver. We recommend that you never count on trailer brakes as a method of controlling sway.

The size of the tow vehicle is also a common "solution" to trailer sway. However, a trailer towed with a heavy vehicle—such as a 1 ton dually—will still sway. It may be more difficult to flip the tow vehicle, but the trailer will still break free of the ball.

Today, most trailer enthusiasts use some sort of sway control hitch. The earliest models were simple friction bars that were mounted between the

tow vehicle and trailer frame. By tightening the friction plates, you can create more resistance that the trailer must overcome in order to sway.

Figure 1 - Friction Sway Control Bar

The benefit of a system like this is low cost. The downside is that, in order to create enough friction to safely block trailer sway, you also hinder the tow-vehicle's ability to turn. Friction works both ways and is very inconsistent. Most of these designs come with a warning label stating that you should completely disengage the friction plates under wet conditions, leaving you with no sway control during a rainstorm. We don't recommend this type of system for any application.

A more common type of sway control hitch still uses friction as its primary method of control, but the system is built into the weight distribution aspect of the hitch.

Figure 2 – Typical Sway Control Hitch

In this type of sway control hitch. The friction is controlled either where the weight distribution bars enter the frame brackets or where they enter the head unit. Most systems like this can be used in wet weather, so they are an improvement over the old sway bars. However, friction is still the

primary means of control and can only dampen the trailer sway. They cannot completely eliminate trailer sway.

A New Class of Trailer Hitch

In the 1980's, a company call PullRite® addressed the primary reason that most sway control hitches don't adequately reduce or eliminate sway: the pivot point of the trailer is on a ball well behind the rear axle of the vehicle. PullRite® solved the problem by physically transferring the pivot point to the rear axle of the tow vehicle. The system installs onto the tow vehicle, locks out the trailer ball as the pivot point, and moves it forward over the rear axle, so that the trailer responds more like a 5th wheel.

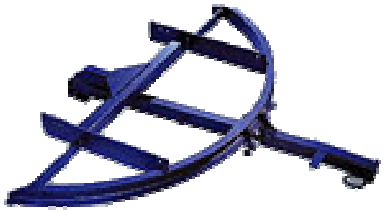

Figure 3-PullRite® Sway Control Hitch

This system was a huge improvement over the friction style sway control hitches and introduced a new way of thinking about towing a trailer. By blocking the trailer ball as the pivot point and transferring the pivot point over the rear axle of the vehicle, PullRite® introduced, for the first time, a truly safe way to tow a trailer.

The benefit of this system is that it actually eliminates trailer sway. The downsides are that it is much more expensive than older types of sway control and is custom fit to the vehicle. When you buy a new tow vehicle, unless it is the same model, you will likely have to buy a new PullRite® system.

In 1993, Hensley Mfg. introduced a towing system based on the principal of transferring the pivot point over the rear axle. However, Hensley™ took it a step further by making the transfer theoretical instead of physical. This was accomplished through their Converging Linkage System.

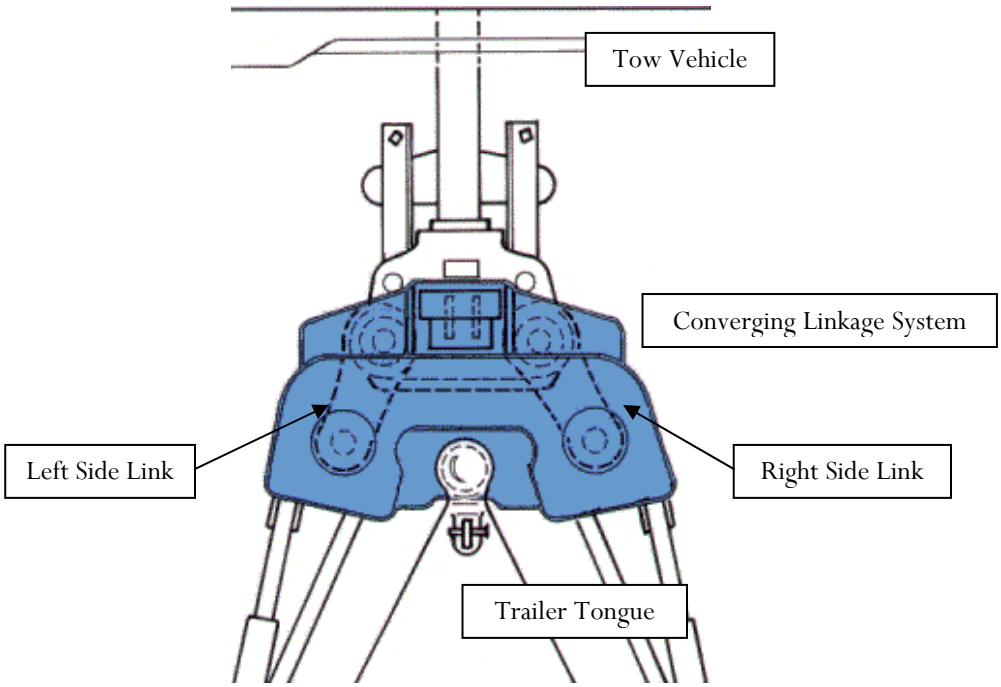

Figure 4 - Converging Linkage System

Hensley's New Idea

Hensley Mfg. took a basic physics concept—the 4-bar linkage system—and applied it to a trailer hitch. Essentially, the links form a trapezoid. In the physic's problem of a 4-bar linkage, if you lock out certain points on the trapezoid, you eliminate "degrees of freedom" for the trapezoid to move. In the case of the converging linkage system, Hensley™ locked out the rear two points. By doing so, they blocked out the trailer's ability to initiate the pivot, or sway.

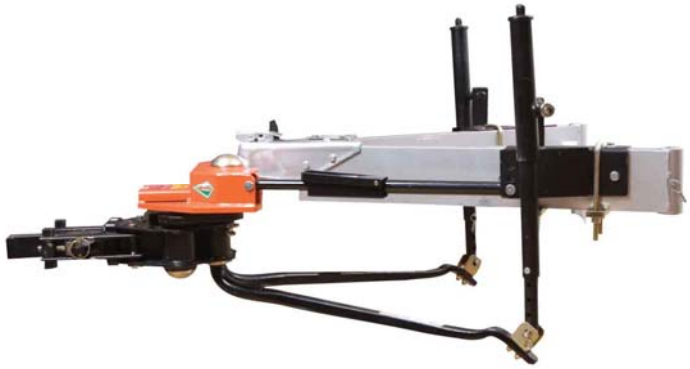

Figure 5 - Hensley Arrow™

The primary benefit of this system is a complete elimination of trailer sway without the use of friction. Unlike the PullRite™, the Hensley™ hitch is mounted to the trailer and is transferable from one trailer to another. Once purchased, the owner will never need to purchase a trailer hitch again, no matter how many tow-vehicles or trailers he or she goes through. Like the PullRite™, the Hensley™ is more expensive than friction type hitches. However, if the investment in a sway elimination system saves you from even a minor trailer accident—like brushing against a concrete barrier in a construction zone—the investment is well worth your consideration.

Hensley Mfg. makes two anti-sway products, the Arrow™ and Cub. The Arrow™ is rated for trailers up to 14,000lbs., which covers almost any trailer built. The Cub is rated for trailers up to 6,000lbs., or about 24 feet. Both operate using the same converging linkage system.

What to Look For

When purchasing any sway control hitch, be sure to:

- Look for a company with a long-standing track record of safety.
- Call the company and talk to a representative.
- Ask the person you speak with if he or she has used the product you are inquiring about and for how long.
- Ask if the product is shipped the same day or if there is a waiting period (a reputable company will keep a large inventory).
- Ask if there is a 24-hour support line.

Your RV dealer is an expert in trailers, not in trailer hitches or trailer sway.

Remember, your RV dealer is an expert in the trailers that he or she sells, not in trailer hitches or trailer sway. Where your safety and the safety of your family is concerned, don't settle for whatever is available on the shelf.

For a complete information kit, including a 25 minute DVD, call Hensley Mfg. at **1-800-410-6580** or visit www.HensleyMfg.com and fill out the DVD and Information request form. Hensley Mfg. does not share your information with any other company.