

How to Get the Best Ride out of your 5th Wheel™

You bought a 5th wheel because you wanted to travel and enjoy the space and luxury of a big trailer. Whether you're a weekender with a family, or a retired couple finally living out your dream, you thought the 5th wheel was the ideal way to make your dreams a reality.

The biggest problem with a 5th wheel trailer is the rough ride... the tendency to bounce or chuck.

After a few long trips, though, you discovered a problem: the stiff ride inherent in a 5th wheel trailer is causing such discomfort, even pain, that you're making shorter and shorter trips. Or you reach your destination and find the contents of your cupboards are now spread across the floor. Or you've discovered that the wear and tear on your tow vehicle is adding up to some costly repairs.

These problems have driven thousands of RVers out of their 5th wheels and into a more expensive motor home or a smaller travel trailer. Most sell or trade their 5th wheel trailer at a huge loss.

That's a shame, because it doesn't have to be that way.

The Problem

A steel hitch that connects a steel trailer frame to a steel truck frame equals a very rough ride.

When 5th wheels rose to popularity in the 70s, the rough ride was just considered a necessary evil. After all, you need a ¾ or 1 ton truck to begin with. You then attach a steel kingpin to a steel hitch, bolted directly to the steel frame of your truck. For any of you who've ever ridden roller coaster—not something that normally comes with shock absorbers—you know what happens when you put steel on steel. All the energy is transferred into the next link in the chain that has a little give. Usually, that's your truck suspension and the passengers.

The damage to your truck or trailer from a dynamic load can cost tens of thousands of dollars in repairs.

The uncomfortable ride is only half the equation, though. Your truck and trailer frame are made of steel members welded together at the angles. Under a static load, these weld points will normally outlast the owner.



Your 5th wheel and truck, however, are not always under a static load. When in motion, they are under a dynamic load. The constant bouncing and twisting (yes, twisting) that a truck and trailer tolerate will eventually weaken the welds to the point of failure. While normally not a dangerous situation, it is a costly one. Repairing a 5th wheel frame can run anywhere from a few thousand dollars to tens of thousands, depending on the amount of damage.

Solutions

Over the last twenty years, the RV industry has developed a long line of products to deal with the rough ride inherent in 5th wheel trailers.



Figure 1 – Pin Box Air-Ride system

The most common solution is an air-ride system that mounts directly to the trailer pin box. Often these are included in the purchase of a 5th wheel and, as a matter of convenience, the buyer looks no further for a suitable replacement.

Most of these systems incorporate the same basic design including a single air-bag and a shock absorber. While they do dampen the bouncing effects of the trailer, they simply do not have enough air capacity to absorb all the shock transmitted through the hitch.

The positive of this system is the low cost. Negatives are the low air capacity that doesn't quite eliminate the bouncing and has little effect on chucking (the fore\aft motion of the trailer). This type of system is usually not transferable from one brand of trailer to another.



Figure 2 – Mor/ryde Rubber Shear Springs

Mor/Ryde offers a variation away from air ride in their “shear spring” design. Essentially, two rubber pads that absorb some of the bouncing and chucking of the trailer. Again, a heavy trailer will require more than the Mor/Ryde system can offer, but it is an improvement over the standard pin box system.

The positives of the Mor/Ryde system are, again, low cost and easy installation. The negative is a lack of dampening effect for most 5th wheels. It will take away some of the bouncing and chucking, but not all.

Mor/Ryde also offers an excellent suspension system for the trailer axles. If your 5th wheel didn't come with this option, it's worth looking into. However, it still does not solve the problem of the stiff ride at the trailer hitch.

Air-Ride 5th Wheel Hitches

The best option to the 5th wheel problem is with an air-ride hitch, one mounted into the bed of the truck. Such a system allows for far greater air-capacity and better engineering solutions. There are several models on the market, all of which include air-ride of one type or another.



Figure 3 – Air-ride 5th wheel hitch

Most of these systems employ 2 to 4 air bags and some utilize shock absorbers as well. Shock absorbers are an essential part of a hitch system for a light-duty truck (up to 1 ton) as they dampen the “rebound” effect of the airbags and smooth out the ride.

While all these systems may appear identical, there are some key differences in the design. Some companies go for the “more air the better” approach. That may appear true on the surface, but eventually you reach a point where the additional air is no longer returning a benefit. Ideally, two air bags are fine for trailers up to 20,000lbs. For larger trailers, a 3rd air bag is about the maximum you’ll need.

Hitch Heads

The head units for these hitches also differ in construction and quality. A good rule of thumb is: if it doesn't look like a heavy piece of steel, it isn't. If you're going to invest in an air-ride hitch, be sure that the head unit is made of heavy steel, the jaws completely encircle the kingpin, and the jaws are thick enough (over 1") to cover the length of the kingpin. Remember, the kingpin is your single point of contact, where the most force is applied. The more you can spread out the force over the surface area of the pin, the better. Don't ignore this vital point. A Holland/Binkley style head (like the one shown above) or similar construction is a good choice.

*A poorly designed
hitch head adds to
your ride
discomfort and
longevity of your
truck and trailer.*



Figure 4– A poor hitch head design – note the thin jaws

A quality hitch head should also pivot both front to back and side to side. This eliminates most of the binding on the kingpin and you'll get longer life out of the kingpin and hitch.

Level Beam Design

The final component of a well-designed air-ride hitch is probably the most overlooked: the position of the pivot point (or lack of one) relative to the hitch head. An air-ride hitch should absorb both up/down (bouncing) and fore/aft (chucking). Most hitches only accomplish the elimination of the bouncing motion. The chucking creates a different problem.

In 1990, a company called TrailerSaver introduced the **level beam design**, and it still stands as the industry standard in air ride technology.

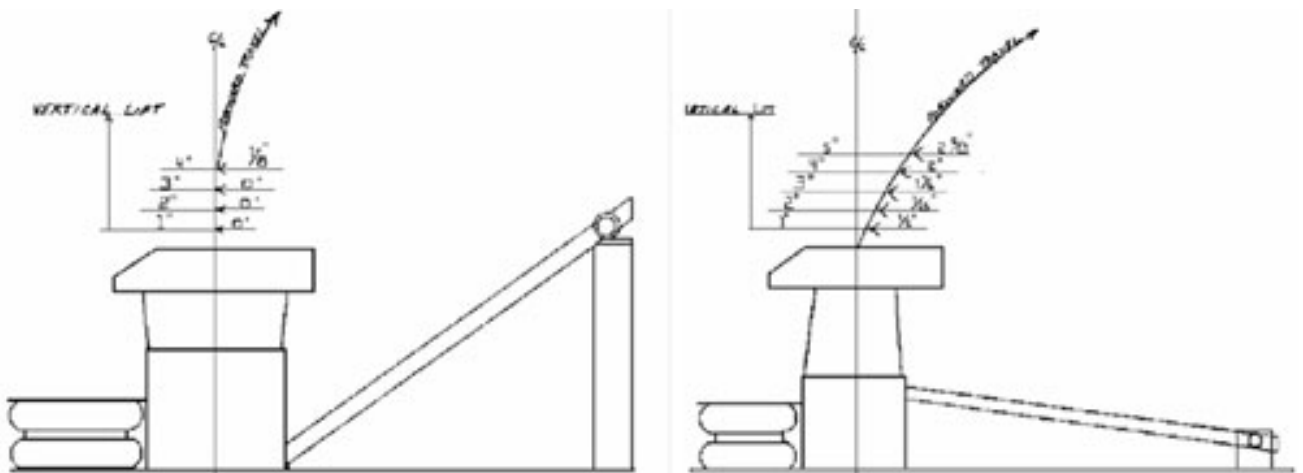


Figure 5 – Level Beam Design (right) compared to a typical design

The illustration on the left shows the pivot point level with the hitch head. You will notice by the arc of each hitch, that the level beam on the left allows the trailer hitch to move forward only 1/8" at its full vertical travel of 4". The design on the right allows greater forward travel as the head moves vertically. When this happens, the trailer is pulled forward on the up lift and then pushed backward on the down travel, resulting in a surging action in the tow vehicle and additional stress on the kingpin and pin box of the trailer.

Putting it all together

When purchasing any air-ride hitch, be sure to:

- Look for a company with a long-standing track record.
- Call the company and talk to a representative.
- 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.
- Ask if the hitch head tilts in two directions and if the jaws are thick than 1” and completely encircle the kingpin.
- Look for a “level beam” design.

*Your RV dealer is
an expert in
trailers, not in
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Remember, your RV dealer is an expert in the trailers that he or she sells, not in trailer hitches or air-ride. Where your comfort and the protection of your investment is concerned, don't settle for whatever is available on the shelf.

For a complete information package on the TrailerSaver air-ride hitch, call Hensley Mfg. at **1-800-410-6580** or visit www.TrailerSaver.com and fill out the DVD and Information request form. Hensley Mfg. does not share your information with any other company.