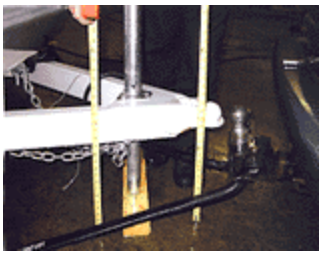
How To Set Up Your Equalizing Hitch

by Andy Thomson

Two of the great mysteries for trailer enthusiasts, whether they have towed for years or are just starting out, is how their equalizing hitch works and how to adjust it properly. I look at the set-up of every trailer I pass on the highway and it is rare that I find one that is connected with everything adjusted, as it should be. It is also not unusual to see combinations that have an equalizing hitch just resting on a ball. Without an equalizing hitch we would not be able to tow trailers of any substantial weight. A trailer needs hitch weight to be stable and it is the action of distributing the weight over the entire tow vehicle that creates a bond between the trailer and vehicle. Even minor changes in the adjustment of the hitch can cause dramatic improvements in handling so it is well worth the effort to make sure it is correct. It is not rocket science so let me take you through it. The goal is to have the trailer riding level and the tow vehicle going straight down when the trailer is connected. By straight down I mean the front of the car will be pushed down from the weight of the trailer just as much as the back. This is not something you do every time you hook up just when you change tow vehicles or trailer or when you do something that substantially changes loading or if you make suspension changes such as new springs.

1) The first thing to check is that your ball is in as close to the back bumper as possible. If it can go in closer you should get an expert hitch installer to re-drill the 2" solid square section of the hitch and if necessary cut it to allow the ball to be as close as possible to the bumper. Even a couple of inches here will make a difference. At our dealership we use welded ball mounts whenever possible because they allow the ball to be closer to the bumper.



Try to have your rig loaded pretty similar to how it is when you normally travel. For better balance, if the water tank is in the front fill it, if it is in the back empty it. The only way to really adjust everything properly is to park the combination on a very flat surface, such as a concrete pad.

2) Park the unit in a straight line on the level pad.

3) Disconnect the trailer and move the tow vehicle forward 6".

4) Level the trailer: If the "A" Frame is level with the main frame rails then I usually measure to the bottom of the frame between the wheels and to the bottom of the "A" frame just behind the ball. Then measure from the ground to the top of the coupler to determine the ball height

5) Measure from the ground to the top of the ball on the tow vehicle - it should be equal to or 1/2" higher than the trailer ball height. This is especially critical if the trailer has independent suspension. If the trailer has leaf springs, the ball can be an inch or two lower. The weight between the front and rear axles is equalized on units with leaf springs.

6) Next check the angle on the ball mount. The ball mount should angle back as much as possible. This

angle on the ball mount acts like the forks of a bicycle - it makes the unit want to stay in a straight ahead position (that is why you can ride a bike with no hands).
To check the angle, install a torsion bar in the ball mount and swing it parallel to the trailer frame. The end of the bar should be 4-5" off the ground when you lift it enough to take all the play out of it. If the ball height is over 22" then the bars can be a higher off the ground.
7) Back-up the tow vehicle so that the ball is under the coupler, but do not put any weight on the ball. Put some masking tape on each corner of the car and mark a convenient spot. Here we used 19". Now we know how the vehicle sits by itself.
8) We are now ready to start connecting the combination. Lower the trailer onto the ball and connect the torsion bars to the link that you think might be correct (likely the first or second link) and lower the weight onto the car. If you are connecting a vehicle with independent rear suspension do not raise the back of the car to connect the torsion bars, instead use a jack under the torsion bar if you need help to get the chain swung up.
9) Now measure the vehicle where you marked it and see how much it has been pushed down. It should go down evenly on all four corners. If it is down more at the back then you need more pressure on the torsion bars so you would reconnect using the next link.
10) Often you will hook up and the back will be down say 1 1/2" and the front will be up 1/2" but it you pull up the next link the back might be even and the front down 1" so you need something in between, you need a way to adjust a partial link. A 1/2" bolt pushed through two overlapping links is a 1/3 of a link of adjustment. So you can use one or two bolts in the chain to create 1/3 or 2/3 link of adjustment.
11) If the vehicle does not drop evenly side to side then you can put more pressure on one bar to compensate. The right hand torsion bar will affect the left front of the car and vice versa. Especially on pickup trucks due to the flex in the chassis the back end may twist in relation to the front. In this case the front is the most important.
12) If you cannot get the front of the vehicle pushed down no matter how far you do the bars up then the torsion bars are likely too light or the receiver on the vehicle is twisting and needs to be stronger.
13) Once you have everything set, mark the link you connect for future reference. We use a cable tie but a dab of paint or nail polish is a popular method. On a new hitch, the bars will work-in quite quickly and after a few hundred miles you may need to use a bolt to bring the bars up 1/3 of a link.
14) Install your sway control, breakaway cable, chains and lights, and you are ready to travel.
Once you know what the combination should feel like, you will notice when the hitch has worked-in further and the front wheels are not as firmly planted as they should be. I often will check and adjust the hitch as necessary when I stop for lunch or gas. Generally you notice the difference right away when you head back out onto the road.
I know this may seem complicated, but once you have gone through it a few times you will find hitch adjustment an easy and simple process.