TANDEM AXLE SCAMP SETUP

At the time we ordered our new 1993 Scamp 5th Wheel, I asked the factory to put on tandem axles/ wheels and tires. Their reply was “you don’t need them,” and besides “we can’t do it.” After towing the trailer many miles and with seven tire failures, I decided in 1997 to take on the job myself. The earlier Scamp 5th Wheel models like mine, had 13 inch rims. Later, after many complaints, the company raised the trailer two inches and started using 14 inch rims with larger tires.

Here’s an outline of the procedure I followed to modify my Scamp to install a second axle:

Step 1: Prior to any cutting, I figured the critical measurements to determine where the final longer wheel well would be. Measure twice, cut once! Inside the trailer, I determined what parts would be moved and/or cut to accept the new larger wheel well. I moved wires, plumbing, the water pump and the converter before doing any cutting.

Step 2: Then I jacked up and blocked the trailer. Remember, I was removing the axle, the trailer needed to be blocked securely, evenly and **level**. I also removed the tires from the wheels. It was necessary for making certain the axles were mounted absolutely parallel to one another (Fig. 1).

Step 3: I placed two jack stands under the existing axle. Before cutting the axle loose, I marked the frame just forward and behind the axle. These two marks were used to measure for the front axle’s new position. In determining where the new axles were to be placed, I knew the current axle was balanced to the trailer. I needed to maintain proper tongue weight. If the axles were placed to far back, the tongue would have had a heavier load and vice versa. Then the axle was cut loose with a high-speed grinder.

Step 4: I cut out and removed the fiberglass skirt around the wheel well to enlarge and accommodate the tandem axle setup. I could always come back and cut the area larger, but could not come back and cut it smaller! I used the same measurements for both sides of the trailer. I put 25" between the axles (tube to tube). This measurement depends upon the size of wheels/tires used. A different size wheel/tire could also change the size of the wheel well. I wanted the tires to be close together, but obviously not so close they rubbed against one another.

Step 5: Using a thin chisel I cut through the fasteners holding the wheel well. Once the existing wheel well was removed, I cut through it in the middle, top to bottom...and now had two end pieces. I used a thin sheet of metal to form a pattern to extend the length of the well. This pattern was about 36" long. I waxed the metal and placed it on a piece of wax paper to lay up the fiberglass. When it was dry, I peeled the fiberglass extension away from the metal and pop riveted it to the two end pieces. I then laid this piece on wax paper and filled in the middle with fiberglass.

Step 6: Next, I used nails to anchor the new wheel well to the wood floor and epoxy to anchor it to the body. Then, laid on my back with everything falling in my face to lay more fiberglass and to tie everything together! Remember, this area had to be made waterproof to the interior of the trailer.

Step 7: Mounting the axles. Like the original, a Dexter torsion axle rated at 3,500 pounds was used. The second axle did not need brakes. I needed two pieces of rectangle steel tubing 2" x 3", one piece about 4' long and the other about 3' long. (The trailer was being raised and I used these pieces as spacers between the frame and the axles.) The original axle was moved forward 9" of the original position from the front mark on the frame (Step 3). I cut two spacer sticks 25" long. With the forward axle temporarily in place at its new position, and using the spacer sticks (tube to tube), I moved the second axle in place behind the front axle. To align the axles, I dropped a plum line from the hitch to establish a stationary reference point. I measured to the center of the hub to the reference point and did this for each axle and on both sides of the trailer. This distance **had** to be the **same** on each side of the trailer for both axles! I adjusted each axle's position, as necessary, to make certain the measurements matched.

Step 8: This is also where it becomes evident why I was working with bare rims. Using a perfect straightedge, I placed it against both rims and made certain the straightedge touched in four places (Fig. 1). Because I was working with a perfectly level trailer, I was also able to use the straightedge to make certain the rims were level at the bottom (Fig. 2).

The rims must touch the straightedge in these four areas.

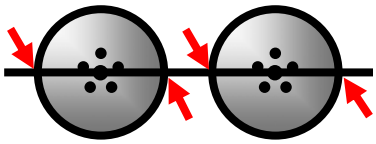

Fig. 1

The rims must be level here.

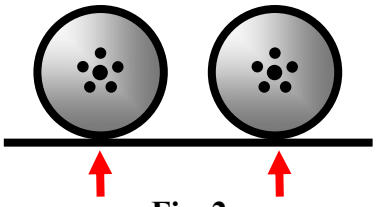

Fig. 2

Step 9: The axles were now ready for the welder to secure them to the frame. Welding took about an hour. When welding...be careful, fiberglass burns! The moment of truth, I had the tires mounted on the rims, put them on the trailer and lowered the trailer down on the tires.

Step 10: Lastly I riveted new molding around the bottom edge of the wheel well skirt (exact type as original).

My Scamp 5th Wheel handled well with one axle, but it is steadier now. Also I've upgraded by adding shocks which made it even better. The first reason for all of this work was to lighten the load on the tires by half. My second reason, I now have 14" wheels with larger tires which improved the ride further. Since this change to tandem axles, I haven't had another tire failure. In fact the trailer currently has the original tires from the day the tandem axles were mounted and I've towed it thousands of miles.

The fine print: No guarantee expressed or implied come with these procedures. A different brand/model of trailer or even another Scamp 5th Wheel may require additional or different modification for a successful setup. I didn't work quickly, but I did work methodically.

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