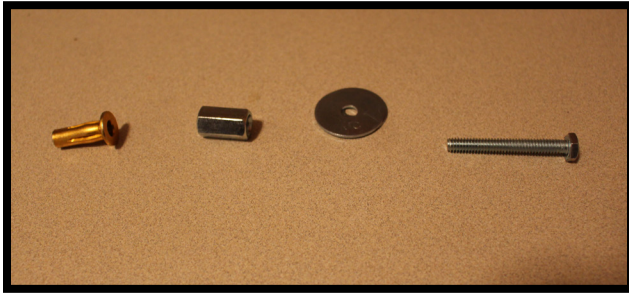


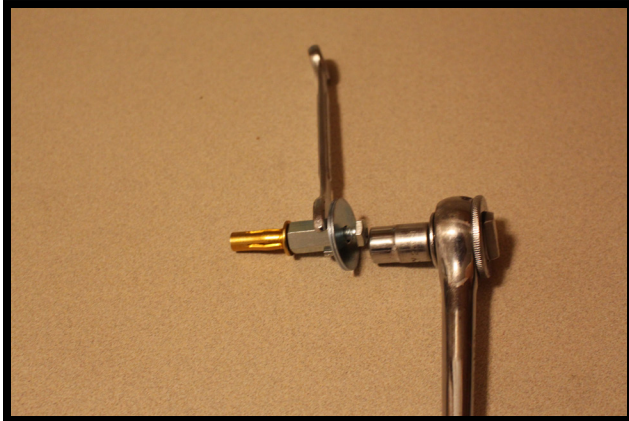
INTRODUCTION TO RIVNUT PLUSNUTS



The basic components to successfully install the rivnut plusnuts into your vehicles roof have been included. You will find (1) the plusnut, (2) the nut or tool used to compress the plusnut, (3) a fender washer, and (4) an installation bolt in the quantities necessary for your vehicle. The same bolt, washer, and nut tool will be used for each plusnut installed.



The image above shows the loose assembly of the components previously explained in order to properly install the rivnut plusnut. This image is only for demonstration and during the actual install you will first place the plusnut into the hole drilled in your vehicle's roof.



To compress the rivnut plusnut you will need both an open ended wrench or crescent wrench and a socket attached to either a ratchet, drill, or impact driver. I prefer to use a drill initially and then finish with a traditional ratchet for reasons I will explain later.



Shown here is the plusnut halfway through the compression process. You can see the plusnut begin to bulge and flare out. During the actual installation this will be occurring underneath the sheet metal roof of the vehicle creating what is essentially a 1/2"-3/4" diameter backing plate.



Here the plusnut is fully compressed. Depending on the thickness of the metal the plusnut will compress more or less. The plusnuts provided have a grip range of 0" - .25" which allows for a proper fit on the sheet metal roof.

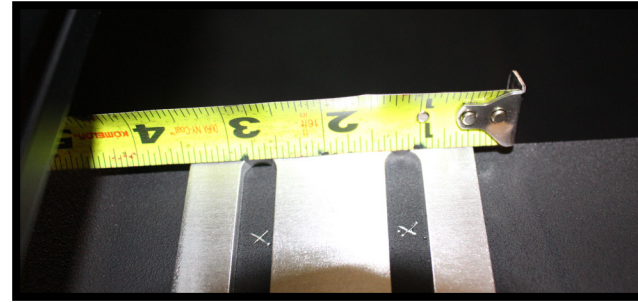


Another photo of the finished plusnut. This one could compress more to fit a thinner metal if needed. During the actual installation you will be able to feel the plusnut tighten up against the back of the install surface.

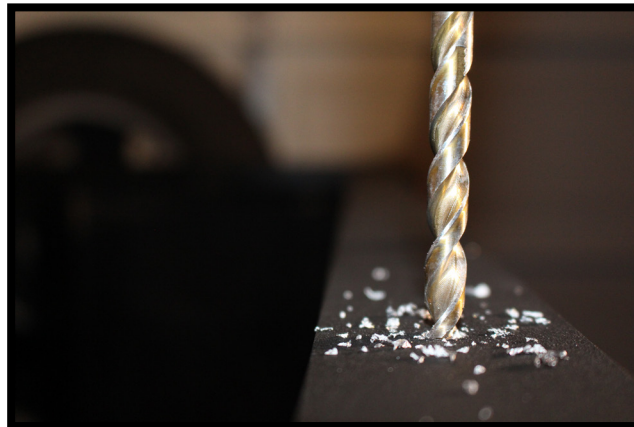
INSTALLATION OF RACKS REQUIRING PLUSNUTS



For purposes of this manual I installed a rack on my trailer using the plusnut method. As you can see before anything was installed or any drilling and marking occurred, I assembled the rack completely and placed it on the trailer to decide where I wanted it to sit. This is important because ultimately you will decide where you want the rack to be mounted. The racks are fairly light but I still recommend getting a friend to help so you don't damage the paint on the vehicle or trailer.



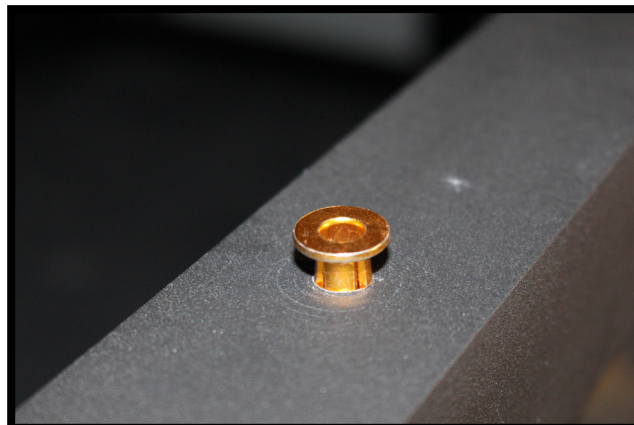
Once you have the rack where you want it to stay, mark the location to drill the holes for the plusnuts. My surface was painted black so I used a tack to mark the spots. A marker will work as well. **DOUBLE AND TRIPLE CHECK YOUR MARKS AND MEASUREMENTS SO YOU DON'T END UP WITH EXTRA HOLES!**



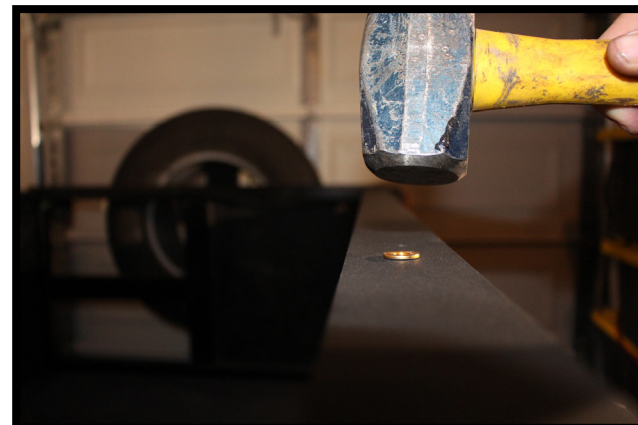
Next step is to drill the actual holes. Although not shown in this picture I used progressive bits to work up to the right sized hole. You want the plusnut to fit snug as shown below so start small with the bits and work your way up. Plusnuts may vary slightly in size so don't assume yours is the same as others who have done the install.



Insert the plusnut into the hole. You should find that it will only go into to the point where the buldge starts. This is correct and is the way it should be.

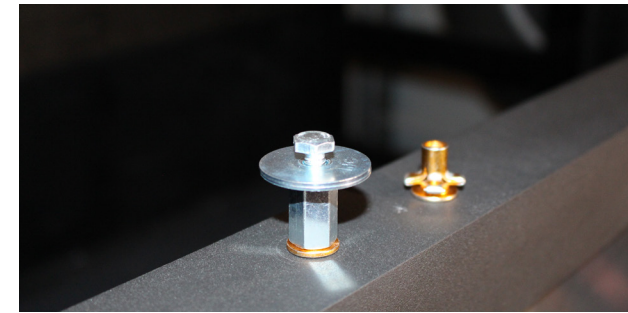


Once it is in the hole and has a snug fit you can try to push it in the rest of the way with your fingers. Sometimes a mallet, or hammer may be required to seat the plusnut. Brute force is not needed just a slight tap.



A plusnut properly seated will sit with the lip flush to the install surface. The plusnut is now ready to compress. **THIS IS NOT THE FINAL PRODUCT THE PLUSNUT STILL NEEDS TO BE COMPRESSED! CONTINUE TO NEXT PAGE.**

INSTALLATION OF RACKS REQUIRING PLUSNUTS



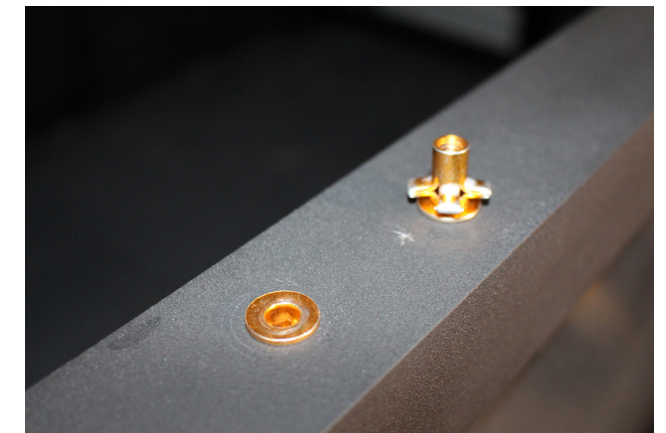
Once the plusnut is properly seated into the hole you will compress it using the hardware provided. If you forgot refer back to the intro to plusnuts page.



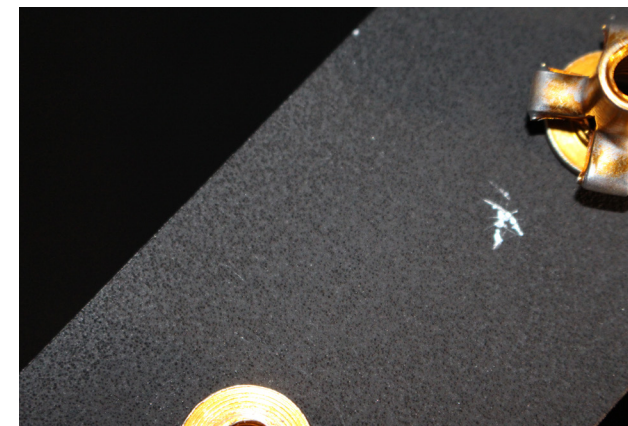
Grab your tools as mentioned in the intro and start to tighten the bolt. This will cause the plusnut to slowly compress as shown in previous pages and it will tighten up against the mounting surface from the inside.



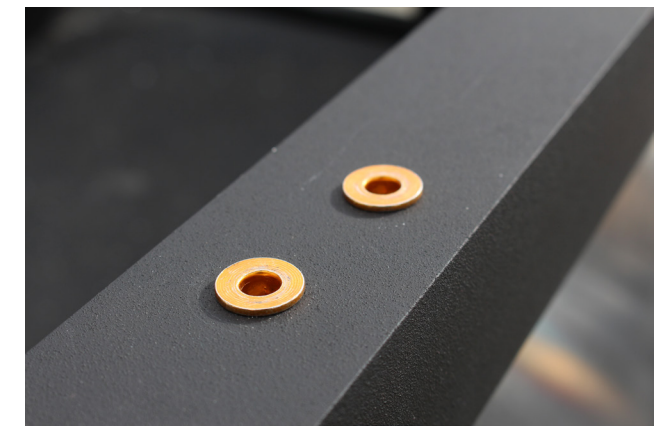
I mentioned earlier that you can use a impact driver, drill with a socket or a traditional ratchet to install the plusnut. I like to start with the drill and finish with the ratchet. The drill allows for a more uniform motion and helps to quickly compress the plusnut to expand the flanges. The ratchet then allows you to slowly snug up the plusnut without over tightening and stripping the threads.



Once the plusnut is tight, back out the bolt and you should be left with this, plusnut completely installed. To the right you can see what it looks like on the inside of the metal completely flared out with a good backing surface. You can now install the rack into the threaded nuts.

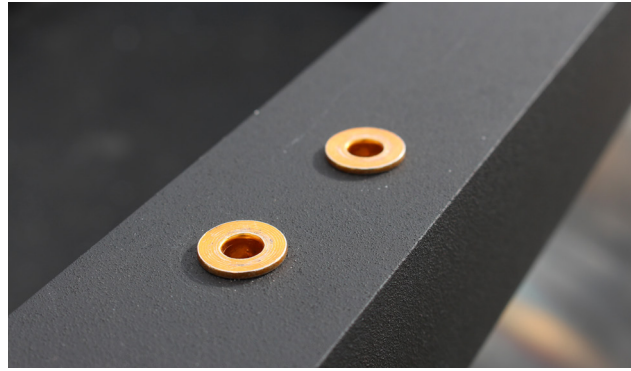


Now go around and repeat the process for each spot you marked. You can do all the drilling then all the installing and compressing to save time.



Finished product for one mounting tab of the trailers rack.

INSTALLATION OF RACKS REQUIRING PLUSNUTS



Start with your finished product from the last steps.



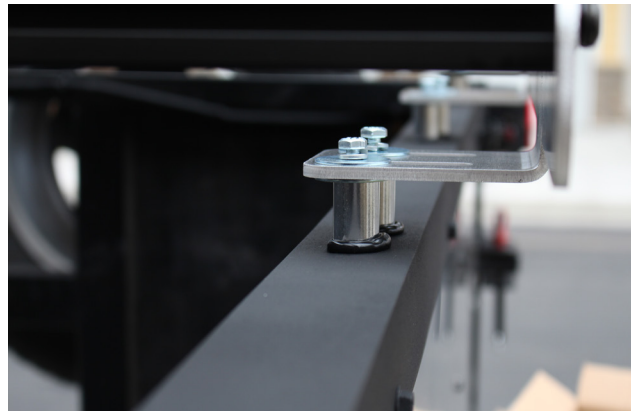
Grab your helper and your preferred sealant. I have use black silicone 100% as well as polyurethane sealant with good luck.



Make your best hershey's kiss shaped globs right on top of the plusnuts or OEM threaded inserts.



Go around and place all the standoffs on the mounting surface. The standoffs shown are not recommended or needed for trailer installs. I simply used them as an experiment and for the purposes of these instructions. Next lift the rack onto the standoffs with care so that none of them fall over.



With the rack loosely resting on the standoffs, go around and loosely start all the bolts into the plusnuts. As you do so the sealant will be stuck into the threads. Once all of the bolts are loosely started, make sure the rack is centered and aligned before tightening.



Tighten down the rack enough to compress the lock washers and snug everything up. Don't overtighten. Let your sealant dry in accordance with manufacturers specs before use or exposure to rain.