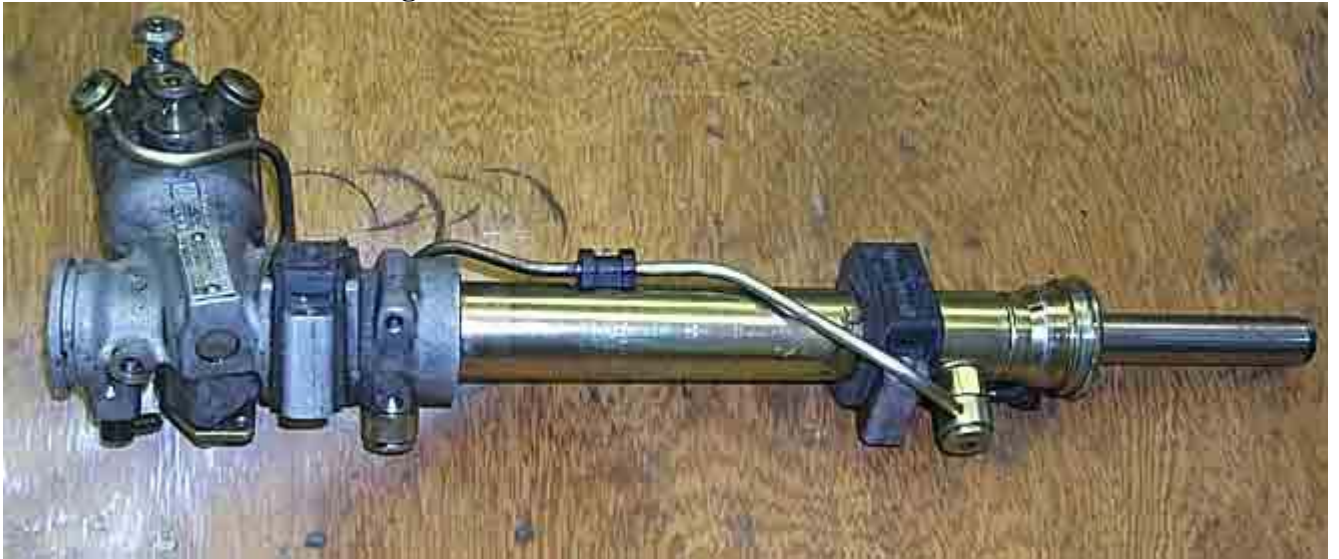




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Quality Parts for Your 944 Porsche

Power Steering Rack Seal Kit Installation Instructions



Step 1: Take the rack off of the car and place it on a large table / workspace. Make sure your workspace is large enough to lay out the disassembled rack so you don't lose track of where the pieces go. Also I would recommend giving the rack a good cleaning before you start to get most of the road gunk and dirt off so none of it gets inside of your rack while you are completing your reseal.



Step 2: Remove the rubber mounts from the body of the rack. The aluminum U bracket slides off and lets the rubber mounts open up so they can come off the rack.



Step 3: Take off the metal hoses that are on the rack. You use an allen key to get them off but they may be on there tight. I used an end wrench as a "cheeter bar" as you can see in the picture above but be careful, they come loose all at once.

Also contained on the ends of the metal hoses are 8 o-rings. Please match them up now with the ones from your kit.



Step 4: Now this part is a little tricky. Where the body of the rack meets the gear casting there is a little ring with 2 notches in it. The correct way to take this off is with a special spanner wrench, but we are trying to get the job done and not collect a bunch of tools we will only use once. Because of this, just use something like you see in the picture above to tap the ring counter clockwise so it will unscrew. After it moves anywhere from a 1/4 to 1/2 turn it should be loose enough to unscrew the rest of the way by hand.



Here is the rack after the ring has been removed and the rack housing has been slid back.



This is the rack housing removed from the rack.



Step 5: Remove the 3 bolts on top of the gear casting and pull the flat piece off as shown in the picture. Contained in this flat piece is one of the wiper seals and an O-ring. Match these up together now so you can keep track of which seals and O-rings go where.



Step 6: Disassemble this piece using a set of snap ring pliers. It should slide off the open end of the rack. The piece has 3 o-rings and one band seal that needs to be replaced. Please match the seals up with this piece now to avoid confusion later on.



The disassembled piece should look like this. On a side note, whether your rack has them on it now or not, your kit comes with the correct size o-rings for one to be placed under each band seal. It is very important when replacing the band seals that these o-rings are not left out.



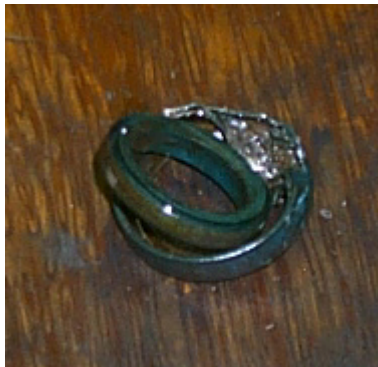
Step 7: After completing step 6, the piece shown above should slide off the open end of the rack. There is one wiper seal on the inside and a hard plastic or copper stop ring under it. These should be tapped or pressed out at this time and matched up with their respective pieces contained in your kit. Also there is an o-ring and plastic band on the outside of this piece. Please keep the plastic band and match up the respective o-ring from your kit.



Step 8: Grab ahold of the spline on top of the gear casting and pull vertically. As it comes up and out of the gear casting it should spin slightly. There are a number of rings and bearings around this spline piece. Please keep track of where each one goes so reassembly is not a problem.

On this spline piece you will see 4 band seals. Please match these up now with the 4 band seals and 4 o-rings from your kit. At the bottom of the gear casting where this piece was sitting you will find another wiper seal. This one can be a little tricky to get out. Sometimes CAREFUL destruction of the seal is necessary to remove the old one. If this has to be done, please be certain not to score or scrape the seal seat with what ever you are prying at the seal with. If the seal seat is nicked or scored significantly the fluid may leak around the seal. Here is a picture of a seal that had to be destroyed in order to be taken out. The trick is to bend the outer edges in towards the center until the seal collapses onto itself.

When this seal is out, please match it up with the one in your kit.



Step 9: You can now remove the rack itself from the gear casting for proper cleaning before reinstalling. It may be necessary to loosen the plate on the front side of the gear casting to get the rack back into place. This is done by loosening the two bolts on the face of the plate. Contained inside the plate is a spring which puts pressure on the rack itself giving your steering that "tight" feeling.



Step 10: Inside of your rack housing is your last wiper seal. This piece has two plastic rings behind it. The one you can see in the picture above should be pulled out of the rack first to avoid damage. Then the seal and ring should be tapped out from this side down. Please try to tap it out evenly because if it starts going crooked it may make it harder to remove. When this piece is out please match it up with the correct wiper seal that is in your kit.

NOTES:

When replacing the seals make sure to tap them in completely and evenly so they seat properly. I like to match up a socket that is the same size as the outer ring of the seal so I can press/tap the seals in evenly all at once.

When removing the seals they can be tapped out with anything from a socket to the rack itself. If you use the rack itself (not recommended but sometimes it's the only thing you have around that is the correct size) please do not hit the rack. Place a block of wood on top of the rack and hit the wood. This keeps the rack ends from getting chipped.

Wash everything while working on the rack and before you put the rack back together. Dirt and gunk is what caused your rack to leak in the first place. Dirt getting wedged in between the wiper seals and letting fluid pass is the main cause of leaky racks. The cleaner you keep the inside while working on it, the longer your rack will last. I also recommend replacing or cleaning your fluid reservoir when reinstalling. This catches quite a bit of that dirt and gunk we don't want and puts it right back inside of your freshly sealed rack.

You should replace the copper washers on the banjo bolts. They are not included in the rack seal kit but can be purchased seperately on the power steering page.

If your boots are torn, please get new ones. These help keep the dirt off of your rack. (they are not for holding fluid as you might think from the looks of your leaky rack)

Also I would like to add that this is the way "I reseal a rack." The procedures discussed in this how to are more than likely not recommended by ZF or Porsche. This is the procedure that works for me but if you at any time feel uncomfortable with doing this yourself please consult your Porsche mechanic. It is good to explore and understand the intricate inner workings of your car's components and this can be done without any mishaps or damage if you practice patients, cleanliness and ask lots of questions.