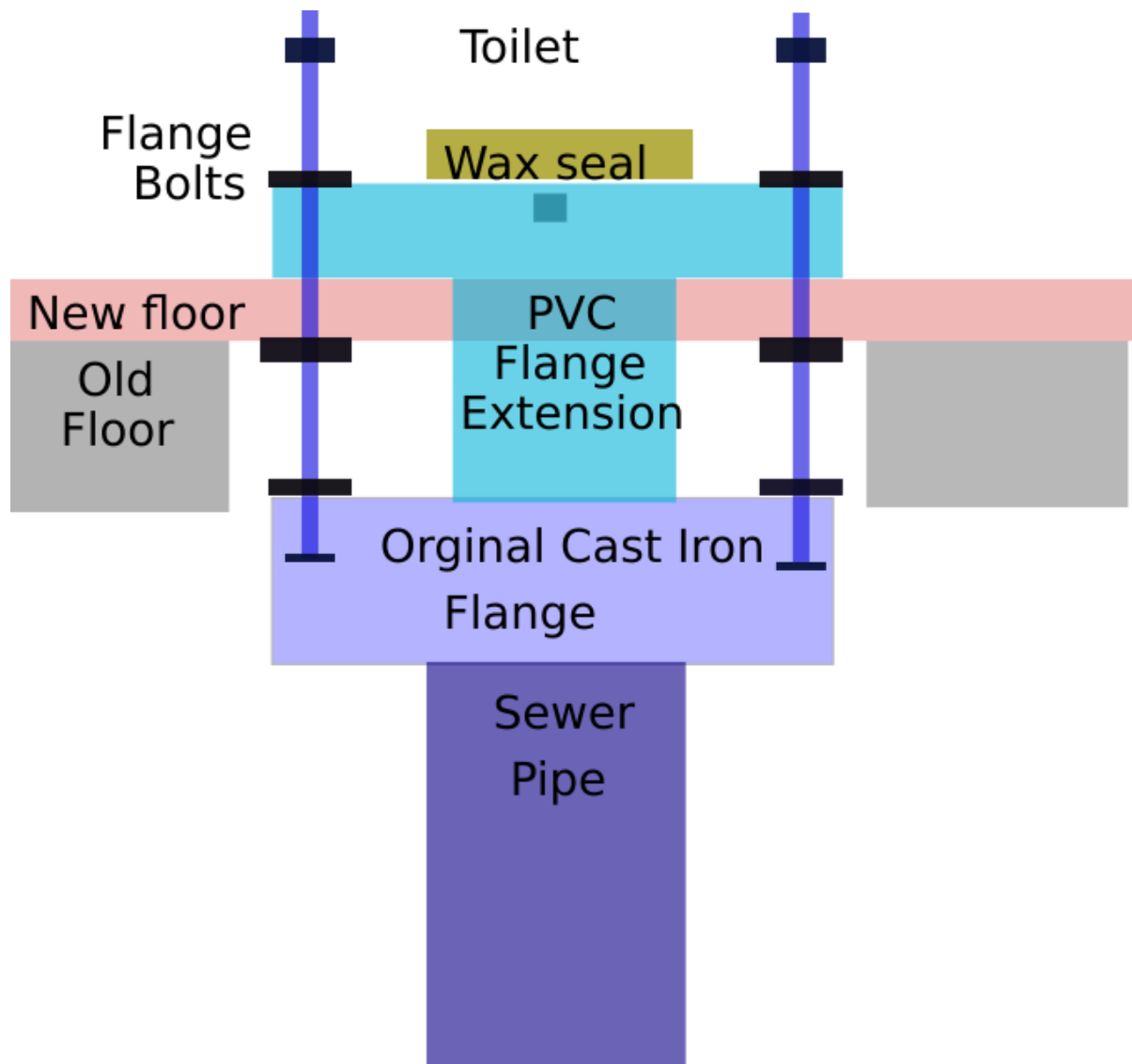


Sometimes difficult toilet installations can happen due to problems with old plumbing, raising floors, etc. This is an example of how I fixed my situation. Hopefully it will help others.

Upon removal of the old toilet it was discovered that the original cast iron flange was not level and was also recessed below the floor level by 1 ¼ inches after adding a new vinyl floor in the bathroom.

I asked on several plumbing forums and I either did not get any real help or I was pointed to solutions that would not work in my situation. So here is what I did.

Refer to this drawing below for my explanation.



Example using Oatey expanding flange extension with support bolts.

The original subfloor had been cutout at least an inch around the flange so there was no material to bolt a new flange to. I used an Oatey 43539 PVC flange extension. This allows precise positioning using

three stainless steel hex keyed bolts to compress a rubber gasket inside the cast iron pipe. If the original flange is not level, as it was in my case, it can also be corrected.

OK the problem. There is nothing to fasten the new PVC extender flange to. The subfloor is missing around the old cast iron flange and the new floor above is two layers of vinyl. You can't screw to that. So as you can see in the photo I used long 3 1/2" flange bolts positioned properly on the cast iron flange. On the top side of the cast iron flange I used a stainless washer and nut to securely fasten them in place. Use the PVC extender to make sure the bolts are positioned properly and measure from the back wall so they are equal on both sides. I did not use the flange bolt holes in the PVC but instead turned it 90 degrees and used two fixed holes. This is a stronger place to bolt to. Before installing the bolts to the cast iron flange add another nut and large washer on top of it. This washer and bolt will go under the vinyl floor as a backing. Once the nuts are tightened on the cast iron flange screw the nut and washer under the existing floor up to snugly press under the floor. Then install the PVC extender. It pushes into the existing cast iron flange. Push it down over the two flange bolts. The three hex stainless steel screws inside should be loose when inserting. Once in place tighten two more washers and nuts on the flange bolts securing the new flange tight to the floor. The bolts under the floor will stop it from pushing down too far but do not force it. Then tighten the three hex bolts in the PVC extender. This forces the rubber seal tight inside of the old cast iron flange. Now you have a nice new and very secure flange above the floor where it should be. As a final touch I sprayed expanding foam under the new flange using the unused holes. I had previously foamed around the old cast iron flange so the new foam filled in the space around the extender and made everything that much stronger. Not that the PVC extender into the cast iron will leak but it is also a good waterproof seal and fume seal if it did.

Photos of before showing the cast iron flange below floor level with a plug in place and after showing the PVC extender ready for a wax ring and the toilet. Yes wax, I have little faith in rubber or vinyl waxless replacements after reading some of the reviews. We all use chemicals in toilets and the rubber and vinyl will deteriorate. Until they come up with a better way that is known to withstand time I am sticking to wax!



Photo of the old cast iron flange in good shape but 1 1/4 inches below floor level and not level to floor. The sub floor was cutout much bigger than this leaving gaps to the craw space. They were filled with foam around the edges. The top floor was further notched on each side to make clearance for the two flange bolts.





New flange extender in place and foamed. DO NOT touch the foam until it dries. It is then easy to break off. Before foaming I tightened the three flange bolts inside the new PVC piece.



The completed flange ready for the toilet. You can see the three flange extender bolts which are tightened with a hex key. This makes for a very secure installation. If necessary it could be removed but not in my lifetime! The flange bolts are 3 ½ inches and no trimming of the length was necessary after installing the toilet.

Here are some links for the Oatey flange extender that was used. They also have a screw in extender but that would not have worked here as the flange needed to be pushed over the two flange bolts and could not be turned once installed.

[https://www.oatey.com/ASSETS/DOCUMENTS/ITEMS/EN/oatey2016prodcat-lcs911f-816-r5\(1\).pdf](https://www.oatey.com/ASSETS/DOCUMENTS/ITEMS/EN/oatey2016prodcat-lcs911f-816-r5(1).pdf)

Oatey 43539 4" Replacement Closet Flange

<https://www.homedepot.com/p/Oatey-4-in-PVC-DWV-Replacement-Closet-Flange-43539/100139480>

<https://www.supplyhouse.com/Oatey-43539-4-Closet-Flange-Replacement-PVC>

Video links -

This video shows this Oatey extender being used -

<https://www.youtube.com/watch?v=wKI3NC674MA>