



05+ Tacoma, 4Runner, and FJ Cruiser Front Differential Removal Instructions

We now have the 05+ 8" Clamshell diffs available as cores to build and send out. Do to this we have had some requests for a write up on removing the front diff. Seems everyone is comfortable pulling the rear diff. Front is just as easy we like it more since we don't have to bleed brakes. Here is a write up for all interested.

Tool List:

- 12mm
- 14mm
- 19mm
- 21mm
- 22mm
- 36mm
- 10mm allen
- 12mm allen
- E14 interior torque
- Tie Rod separator
- Dead Blow
- Pry bar
- Misc basic tools

Remove Front wheels:

Remove Skid Pans:



Drain Diff fluid 10mm Allen:



Separate Tie rod ends, a cheap tierod separator can be purchased or rented from an auto parts store or alternately one can use a hammer and give a good smack to the spindle tierod body. Tie rod separator is easy and cheap, do not use a fork tool you will ruin the boot.



Hammer method:



Remove Spindle cap with a small screwdriver or chisel, work around the edge slowly and don't beat it to death they damage easily, once separated use a pry bar to pop it off:



Remove Cotter pin and lock retainer:



Remove axle nut 36mm w/ impact gun my battery powered electric took these off, if they are stuck or don't have power tools have an assistant hold the brakes while you put a breaker bar on it, if no assistant is available the nut can be broken loose by setting the tires on the ground in park and using a breaker bar, this should be done early on



Remove Sway bar link nut and pull link away from spindle this free up more travel:



Remove lower ball joint Bolts: There are only 2 early trucks had 4 bolts



The spindle is now ready to be pulled away from the axle shaft giving you room to swing it out away from the CV, this allows for CV removal. The splines of the CV can be fairly seized in the internal hub splines. Screwing the axle nut back on shaft and popping the end of it, with a dead blow will free it up.



Getting the spindle away from the shaft is much easier with an assistant but possible by yourself, pull rotor spindle assembly away while pulling CV shaft back towards diff



Position spindle to the rear and secure or have an assistant hold out of the way while shaft is being removed.



Remove CV shafts- use a pry bar to pop shaft out of tube and diff. internal c-clip is holding shaft in. A big brass drift can also be placed where prior bar is placed and can be knocked out with a hammer. I actually used the drift method as there is a metal dust seal on inner side of shaft that slightly interferes with pry method.



Unplug ADD motor harness careful not to break the plastic securing clips after all this is a 05+ truck let's keep it NEW!



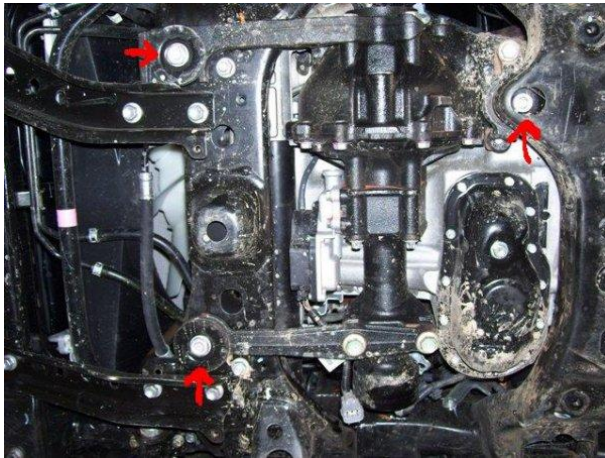
I like to go ahead and loosen the ADD tube retaining bolts, these are fairly tight and with the diff installed its a reasonable holding fixture. The tube can be fully removed now as well. But the tube serves as a useful place to grab when removing diff, and retains a bit of diff fluid that will surely drain all over you when you remove. I like to just break the bolts loose and leave it attached until it's on the bench.



There is a 12mm bolt on top of the diff that holds the diff breather and vacuum line retainer bracket go ahead and back this bolt out and disconnect the two lines.



Now time to remove the mounting bolts and drop the diff, remove the allen nut 17mm, and the other 2 bolts as pictured. Remove allen nut completely remove one bolt completely, and back out last bolt almost all the way out, so diff is still hanging, diff will be rotated forward/down.



Position self to support and remove diff, rotate diff back up and remove last bolt while supporting diff, allow diff to rotate down and raise up until rear allen mount stud is free and lower. The 05+ diffs have more room than the early truck to get the diff out so that is a plus. Diff can be removed by one person and only ways about 55-60lbs.



To remove the stub shaft for the ADD tube you can either use two pry-bars on either side or stick a small punch through the carrier from the drivers of the clamshell and tap it with a hammer.

Installation is the opposite of removal, make sure to seal the ADD tube with grey RTV sealant and make sure all bolts are tight. Take the truck for a test drive; verify no strange noises and check bolts once again to ensure they are tight.

Larger pictures of this removal process can be found here:

<http://eastcoastgearsupply.com/g-885-clamshell-removal.html#photo10907>