

## How to Replace Ball Joints

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This is a big write up with a lot of pictures but I thought it would help some people.

I know a lot of people have been having problems with ball joints so when I did mine I took pictures and used only hand tools because a lot of people talk about how hard it is and what tools you must have. The ball joints were about \$75-\$80 or so each. The job took about 3 hrs or so on each side for me doing it with hand tools and not having help. The press with with cups for many axles was \$250 (also check auto parts stores to see if they loan tools) and the other tools I had. I was told around \$1100 \$1300 to do it and if they had problems with the rotor or bearing it would go up. Sounded as if it would not come off to start with, they just beat it off and charge you for a new one.

I just hear people that talk of working on the motor and doing lots of other stuff but when it comes to working on a big axle like this and you bring in the word Ball Joint, they farm it out. No need it's not that hard.

The one thing that I did not get into was the size of all the nuts bolts and sockets needed. Maybe at a later date I can add that and put the torque numbers for everything. As I look in the shop books, the size and spec for the bolts of that size the torque is all over the place so get it good and tight and use lock tite. The torque specifications don't give a wet or dry number and most of the lock tite we can get is a wet, you will get higher numbers, than the dry, that they used from the factory. That is why I did not cover it.



Remove the cotter key holding the axle nut. Break loose and remove the axle nut. You may want to hit it with penetrator oil the night before or early that day.

Break lug nuts loose



I drove up on ramps to make it easy to lift. only had to lift it a few inches.



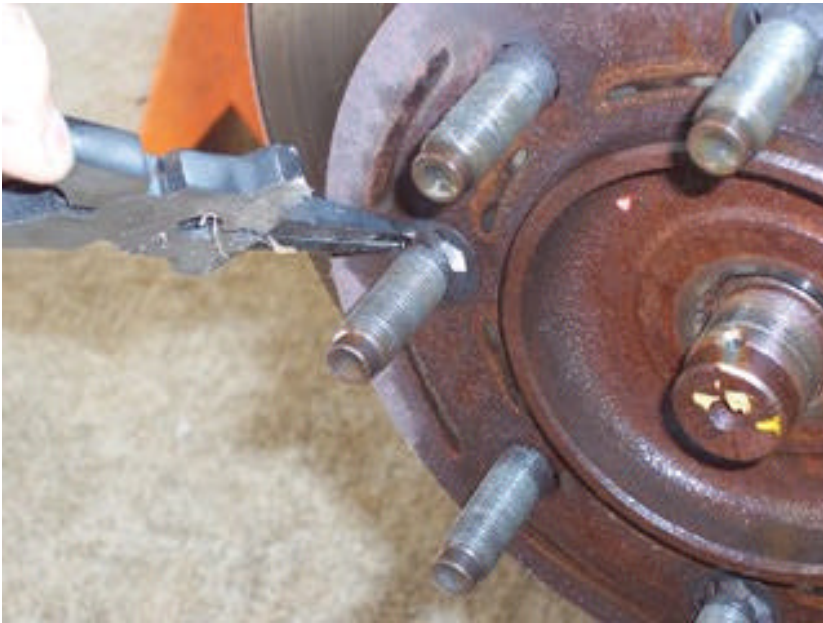


Block the rear tires front and rear as you will be starting the motor and moving the front around a lot.



I used three jack stands and left the floor jack under as a safety just because you are moving a lot of stuff around and starting the motor. I have a front hitch that I used for the center. If you lift the side you are working on higher the oil will not run out and no need to do anything with the diff. In this case the driver's side is about three inches higher.





After removing the tire and wheel you have some retainers to pull off, this is a good time to hit the hub with penetrator oil.



In this step you can give a little room for the pads, and it will let it drop on easy. If you don't do this you will need to get a pad pusher or C clamp and can damage you pads. That's why I did it on the truck it will just drop back on **IF YOU DON'T TOUCH THE BRAKES WHEN YOU START THE TRUCK LATER.**



Next take out the two caliper bracket bolts. Take the caliper and bracket off as one, no reason to break it down. Then tie it out of the way with some 550 cord.



Next use a wood block and a SFH and maybe a BFH... Never hit the rotor with steel. Tap, tap, tap all the way around several times.



Then move the wood block the area between the cooling fins and tap, tap a few more times all the way around. It takes time but will come off. Don't go hitting it hard or with steel, it will damage the rotor or the bearing.



Next back the four bolts out a little over 50% that hold the bearing on. —





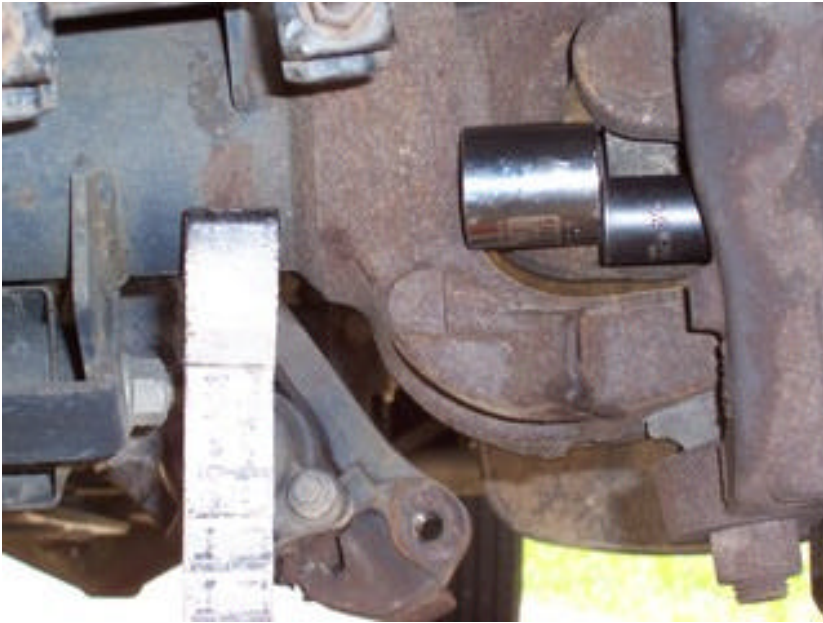
The front are harder to get to  
then the back.

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This step is when you need to  
start the truck and then use a  
socket and extension to go from  
the bolt head to the axle tube  
and brackets. If you have  
someone help you remember  
take it slow and watch the hands  
the power steering is under a lot  
of pressure and you can bust  
stuff or that person.

Just take it slow and move 1/4"  
at a time side to side. Back the  
bolts out more and keep going.  
You want it to come out  
square...



The front works better with two sockets; the other side of the axle can be done with the socket and ext.



So the hub comes out and shows why it is so hard, lots of rust... —



Close up of the bearing and some of the rust.



After the bearing has been pulled then you can pull the axle shaft. It shows more rust and also the circle clip on the Ball Joint you need to remember to remove. Now is a good time.





After removing the nuts on the ball joint the outer will fall off and you can just chain it and the tie rod out of the way. If you need to use a pickle fork leave one nut on some, if not the thing will jump off and get you. It's heavy.



Now its time for the ball joints the upper old is coming out.

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The lower ball joint is coming out.

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Clean up of the outer, wire brush and file to get all the rust off.

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Clean up of the bearing to get all the rust off.

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Put the new upper ball joint in.

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Put the new lower ball joint in  
Put both the grease fittings in,  
something the old ones should  
have had. \_



Both the grease fittings in,  
something the old ones should  
have had. \_



Put the outer on and get the nuts tight. This is what you can grease the joints and put the flat plug in the bottom joint.



Put the axle back in and put a good coat of never seize on it so if you ever need to pull the hub it will be easy. Put it on the axle spline and flange of the bearing.





Install the bearing and the four bolts that hold it and put lock tite on them. —



Wires brush the face of the bearing so the disk will fit without using the BFH. —



Its a good time to clean and look over you disks to see how they are and clean them up, wire brush out all the rust from the flange area.



Install the brake caliper and mounting bracket with the two bolts and use lock tite. Add 4 lug nuts to hold the disk in place and seat it on the hub. Push your brakes by hand or foot to make sure the pads close up like they should and you will feel and should hear them some.



Put the tire and wheel back on and take it off the jack stand. This is when you need to put what you got to get the big nut tight.



The center cap goes on and off for a ride. —