Mercedes Benz W140

A DIY GUIDE FOR BALL JOINT REMOVAL AND REPLACEMENT

By Actros617

This guide is to help you replace your Mercedes Benz W140's Lower ball joint, often indications of it being faulty are, creaking noise or thud while going on bumps. This task is not difficult but its time consuming as it took me nearly 2-3 hrs to do each side without a guide, hopefully this will cut down your time. Let's get started!

Disclaimer: This is to article guide you though, I will not be held responsible for any injury/death or property damages following this guide. SO DO IT AT YOUR OWN RISK, YOU'VE BEEN WARNED!!

Tools

- Wrenches
- Ratchets
- Sockets
- Breaker Bar
- Ball Joint Removal Tool (optional, you'll see why)
- Mini Sledgehammer (REQUIRED)
- WD 40 or any rust penetrator
- Bottle Grease
- Torque Wrench
- Hex Key's (Allen Key)

Parts

- 2x Ball Joints (LEMFÖRDER BRAND RECOMMENDED)

CAUTION

1. Jack up both sides of the car. USE JACK STANDS don't rely just on the jacks alone even if it's a Heavy duty floor jack, **you do not want a 2 Tons of fine German metal crushing you!!** Remove tire, and for added safety slide your tires under the engine bay.

2. Put your keys in the ignition unlock the steering wheel and turn the wheels where the brake caliper is pointing inwards, you'll have better access to the ball joints nut.

3. Remove the sway bar link using a 19 mm socket and a Hex Key (forgot size), to prevent the bolt from turning with the nut together, removing enables the arm assembly to manipulate thus makes better access to ball joint, you'll see later down this guide. Also as you can see in the picture (yellow square) sway bar links are clearly shot and due for a change

4. Next remove the nut from the ball joint, you'll need a ***27 mm socket & breaker bar*** for the bottom ***and 21 mm wrench with Hex key*** for the top (forgot what size) to prevent the nut from turning with the bolt together

5. Now here comes the tricky part removing the ball joint from the arm, this is where I spent most of my time. To make your life easier start by removing the lower part first (red square), you may use a ball joint remover but I find it easier to use a mini sledge hammer and hit the bottom (red square) till it pops out, it take quite a few hits so be prepared for ***intense hammer time***, be careful not to hit the brakes caliper, rotor or any other things*. Wear eye and ear protection when doing this!!*

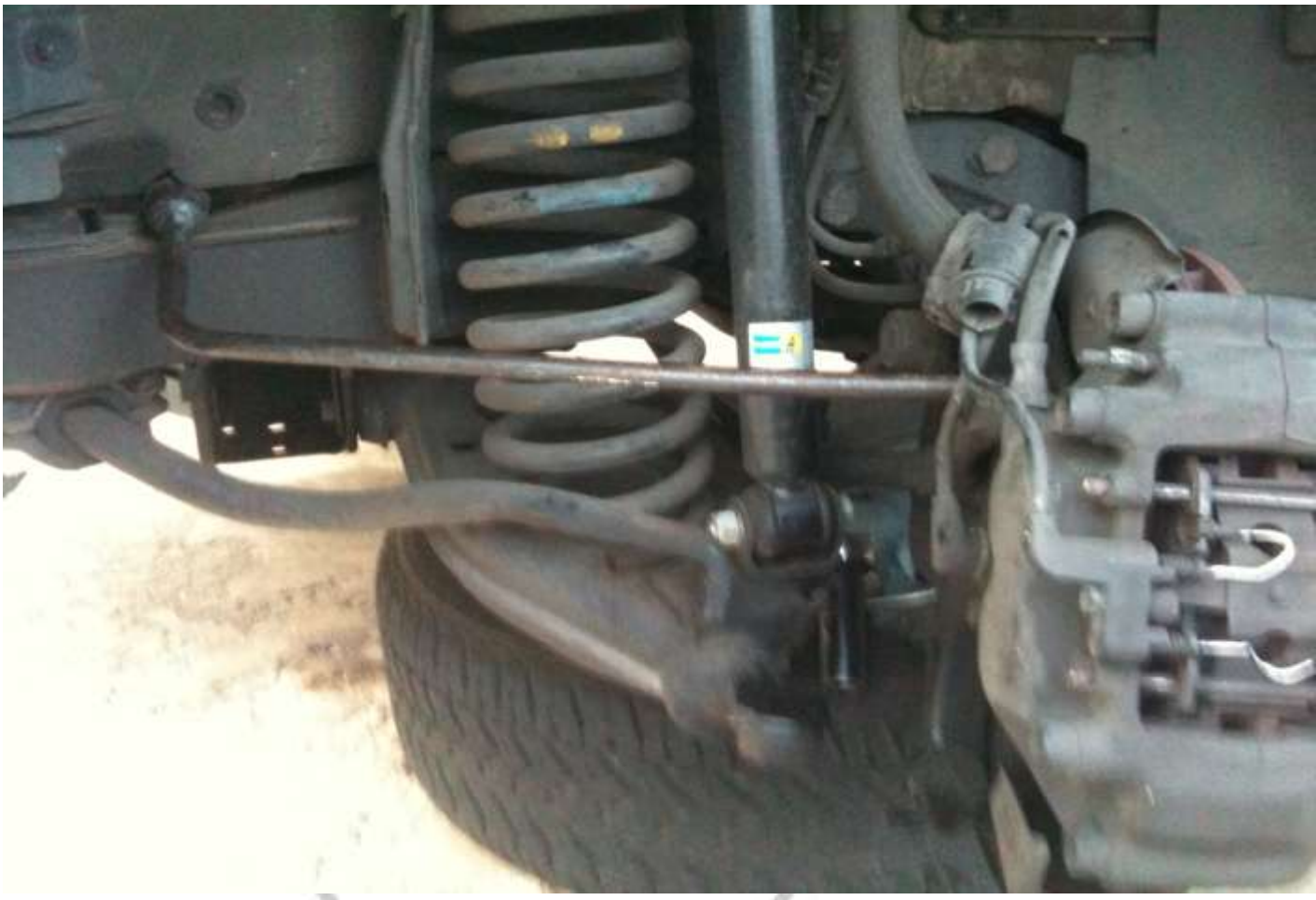
6. Ok now ones you have the bottom part of the ball joint out, turn the steering the opposite direction and you should be able to ***hyperextend*** the brake/rotor assembly away from the lower control arm like this (see picture below) now tie it up or put something, like a bar (yellow line) to hold the brake & rotor assembly in its place. Now you should see the entire ball joint, (red box) and have a clear access to it. Time to use the Jaws of Life i.e. Ball Joint Separator tool or not…Bilstien SHOCKS FTW!

7.

Now that you have a clear access to the upper part of the ball joint you may use a ***ball joint separator tool***, but it didn't work for my case, as the universal cheap o joint separator could not break free of the very tightly fitted ball joint so the tool broke instead, strip its groove (yellow circle in pic 2) rendering it nothing but just scrap metal, kind a scary to think how tight these ball joint can get, anyways time for plan B. So plan B is to use a small scissors jack and jack up under the lower control arm to support (to prevent damage the upper control arm and shocks) and use the mini sledge hammer and pound the heck out of it until it drops, for me it took a bit of pounding, it was in there for good! Careful not to hit the brake assembly, shocks, springs and the lower control arm and use ***eye and ear protection*** when doing this or else you're definitely going to go deaf and maybe blind too

Above: Red shows the damage done by hammering on the spindle, and in the yellow box shows the aligning pin that is important for installation, will explain later. .

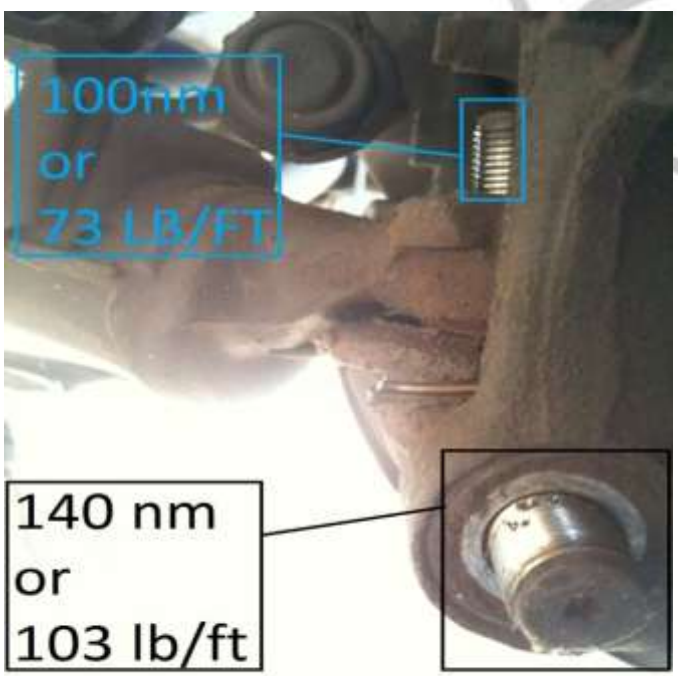
8. Now that with that lower ball joint removed you should have something like this…



Ahh, jointless, yes I know it's the same picture I should slap myself for forgetting to take another pic, now this would be a good time to clean the holes of any rust build up, use a nylon brush or a steel wool and some WD-40 to clean the holes, you may use a metal brush but just be careful with it. Once the cleaning is done apply some grease on the holes and the new ball joint and you're ready for installation!!

9. Installation.
   Alright we're almost done. Remember that picture of a ball joint in step 7? Do you see that pin? That is the aligning pin that fits right into that small hole (yellow box) below the bigger hole. It's important to install that pin into its socket (yellow box), or else your ball joint will not seat properly, damage will occur to the ball joint, and you'll have to buy another one.

Now installing the ball joint is goanna be tricky because it seems that you're going to have to align that pin and at the same time bolt them up but, but really you don't have to. So this is how I did it, install the ball joint to the lower control arm first (see pic/green box), grasp the lower ball joint (red box) firmly and move the ball joint around to make it easier to manipulate later. Then ***hand tighten*** the upper ball joint nut (green box), do not tighten it down as you need to move it around. Then swing the brake assembly and try to get the lower bolt (red box) on to its place (orange circle) and thread in the nut on to the lower ball joint (red box), don't worry about the pin for now you want to get the ball joint bolts into its holes for now. Now once you have the nut threaded on to the lower part of the ball joint (red box),slowly tighten up the upper part of the ball joint (green box) to raise up the ball joint into its socket until the pin lines up with the pin hole, now you may need to use a screw driver or vice grip and leverage the ball joint pin side to side to align right into the pin hole, you may pull on the brake & rotor assembly to check if the pin slides into its place. Ones pin can slide into the hole, keep pull on the brake & rotor assembly and tighten the lower part of the ball joint (red box) until the align pin sits into its hole (yellow box) then tighten up the upper part of the ball joint (green box) until the rubber boot begins to compress, Then torque the upper at 100 nm or 73 lb/ft and then bottom at 140 nm or 103 lb/ft (see pic 2), do not exceed torque values or premature wear may occur.



And that's it you're done, just be sure that you remember to reinstall/replace the sway bar link, and take it for a test drive to check for any noises, if it does make clunking/or thud noise it means the ball joint is not tight enough. Also make sure you replace any other wore out suspension components like upper control arm, lower control bushings, sway bar link, tie rod, or else you'll have a premature ball join failure!! I hope this DIY guide has helped you!

Above: *As you can see it's already night when it was completed. Took me almost 6 hrs to do both sides with taking pictures, 1/2 of the time spent was just hammering the ball joint loose! 1/4 Let's hope it will last me for another 10 years before doing it again…*

If you have any comment questions or corrections that needs to be made email me at Actros617@gmail.com