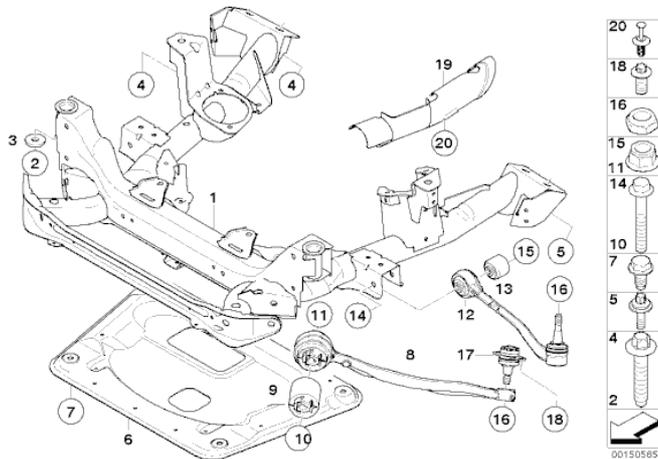


**DIY:** Replacing front lower control arm (referred to as wishbone in the diagram and parts list) .

BMW X3 (E83)

**Symptom:** Front suspension feels loose. Car jerks when you come to a stop or make sharp turns.

**Parts needed:**



- #12 (x2) – Left arm: 31-10-3-451-881 | Right arm: 31-10-3-451-882
- #15 (x2) – Self locking collar nut at ball joint: 33-32-6-760-668
- #16 (x2) – Self locking hex nut at bushing: 31-00-3-453-633



**Tools needed:**

- Jack and Jack Stands
- ½" Drive Ratchet
- ½" Drive Breaker Bar
- 10mm, 16mm, 17mm, 18mm, and 22mm sockets
- T-40 Torx Bit Socket
- Hammer
- 22mm Wrench

**Procedure**

Step 1: Loosen wheel bolts

Step 2: Carefully raise vehicle and support by jackstands. You do not have to raise it very high, just enough for the tire to come off the ground.

Step 3: Remove the wheel. Some people like to place the wheel under the car as an added precautionary measure. I use it as a bench to sit on.

Step 4: Loosen 22mm nut at ball joint. Do not remove the nut completely; just thread it out to the top of the bolt.



Step 5: Loosen 18mm nut on the bushing side of the arm with a breaker bar. You will need to hold the bolt side with a 16mm wrench or ratchet eventually but you might get away with at least loosening it with the breaker bar before you have to get in there with both hands. No need to remove the bolt completely at this point, it will be much easier once you have removed the ball joint.

## HIT HERE

Step 6: I don't have a ball joint puller or a pickle fork, so to get the ball joint separated from the wheel knuckle I just start hammering the 22mm nut (which you left at the very top of the stud in step 4). It can be a little tedious to hit it from that angle, and it will seem like you're not really making any progress, you might have to hit it for a little while. Eventually you'll hear it let loose. Be patient, it is an awkward angle to be hammering (especially on the passenger side). Oh and keep your head out of the wheel well unless you want to have your ears ringing for a couple hours afterwards (from experience). Once it's loose, you might have deformed the 22mm nut enough to make it tough to get off of the ball joint stud like I did. No fear, pull out your 22mm wrench and t-40 torx bit and turn the ratchet with the torx bit as if you were tightening it. Eventually the nut should come off.



Step 7: Wiggle around the ball joint until it comes loose and let the control arm fall and hang on the bushing side bolt. Now the 16mm bolt at the bushing should be easy to take out, along with the control arm.

Step 8: Now you go backwards. Start by loosely attaching the new control arm at the bushing.



Step 9: By rotating the steering angle and a jacking up the assembly with a floor jack under the rotor, move the knuckle and ball joint around until you can get it to go back through the hole. Loosely attach the nut 22mm nut (this should be a new one also, plus you've probably creamed the old one so shouldn't have trouble telling which is new and which is old).



Step 10: Now go back and tighten the bolt/nut at the bushing side. I used my torque wrench set to 80 nm but that was kind of a guess (yikes). Can anyone confirm the correct torque here?

Step 11: Tighten the 22mm nut at the ball joint side. Here I had to use a wrench and have no idea what torque I put on the bolt, but it was tight.

Step 12: Put your wheel back on and go over to the other side. The passenger side is the same only that you must deal with the ride height sensor, just make sure to be careful not to damage it (I removed the connector first, then the small 10mm nut which I kept from rotating using a 10mm wrench to hold the other side, then removed the entire assembly once I got the 18mm bolt off at the bushing).

Step 13: Carefully lower the car and torque your wheels up and take it for a test drive.