

TSUE9080QIS-ARMS

E82 1 Series/E89 Z4/E9X 3 Series (NOT XI) FRONT UPPER CONTROL ARM BEARING KIT WITH CONTROL ARMS (Assembly)

Parts list for kit:

- 2 Bearings assembled in aluminum housings
- 4 Stainless steel bearing inserts
- 2 External spiral-loc rings (pre-installed)
- 2 M12 Bolts



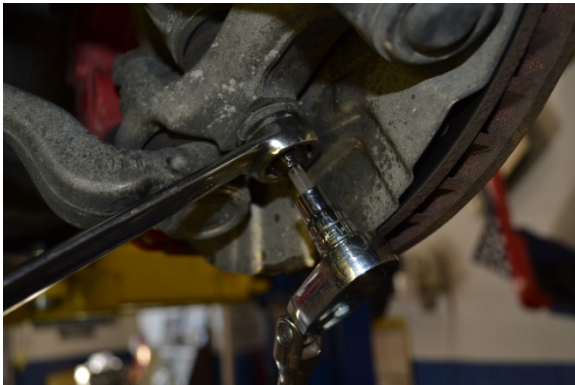
If there's one big fail point in the E82/E9X front suspension it's the thrust arms. The front inner thrust arm bushing is filled with dampening fluid that leaks over time. Once it's gone the bushing has the strength of a rubber band. Even though we sell two non-fluid bushings (Meyle HD and stock M3) as upgrades there was still room for improvement. For someone looking for superior performance and longevity these sealed monoball bushings are the best out there.

These were originally developed for our IMSA E90 328i and E92 M3 racecars (GS class Champions in 2011). But for this application we chose a sealed monoball with an inner liner to isolate the added noise, vibration, and harshness that a full solid monoball bearing will have. Our monoball thrust arm bushings are more at home on the street than other kits that are advertised as race bushings. We did extensive street, autocross, and track testing to ensure this bushing design excelled in each setting.

The advantage of a monoball bearing is that it will not deflect under load. All of the rubber bushings, including the M3, move in all sorts of directions and that changes your alignment, especially when used with big brake kits or when driven hard. And when worn out, performance suffers. Our monoball sits in a CNC machined aluminum housing which has zero deflection. The monoball allows complete freedom of movement but only at the desired angles. What you get is superior steering precision, better handling from more consistent alignment, and almost infinite bushing life. And thanks to the inner liner and sealed rubber boots there's none of the extra noise or reduced service life of fully solid race bushings.

BMW recommends that the bushings be replaced only once per set of control arms. So if your thrust arm bushings have been replaced already then we do not recommend re-using the arms. The other reason is that the aluminum arms stretch over time which will make the bushings loose inside the arm. Other manufacturers recommend filling the stretched arms with paste but replacing the control arm is the better solution. This is also why we prefer the press fit bushing over a bolt-together design. The press fit will allow you to inspect the arm for stretching or defects while the bolt-together bushings do not. We believe our press-fit thrust arm bearings are the best, and safest, design on the market.

- 1) Properly lift and support the car to access the front suspension
- 2) Remove large plastic under tray
- 3) Remove front tires
- 4) Spray upper control arm nuts with penetrating fluid
 - a) Nut on outer ball joint
 - b) Captive nut at control arm bushing
- 5) Clean off a spot on the control arm facing the front and mark the control arm FL (front left) and FR (front right) with a permanent marker. It is important to know which side of the control arm is facing the front of the car. This will be important during installation of the new bushings
- 6) Remove outer ball joint nut
 - a) Use a 21mm box-end wrench to loosen the nut
 - b) Insert T-40 torx into ball joint pin to hold ball joint from spinning while loosening the nut
 - i) NOTE: Only use the torx to keep the bolt from turning - do not turn the torx bolt
 - ii) NOTE: Depending on the manufacture of the upper control arm the torx maybe a different size and possibly a hex. Please check and use the appropriate tool.
 - c) A ball joint puller should not be necessary as this is the newer style non-press fit type joint

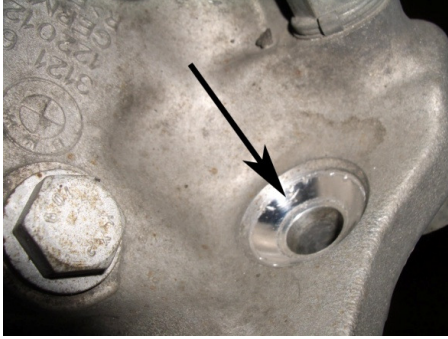


- 7) Remove inner control arm bolt
 - a) Un-fasten bolt for upper control arm with 18mm hex socket
 - b) The nut is captive on the back-side and does not require a wrench
 - c) Remove bushing bolt
 - d) pull bushing-end of the control arm out of the subframe
 - e) lift ball joint up and out of spindle to remove the control arm



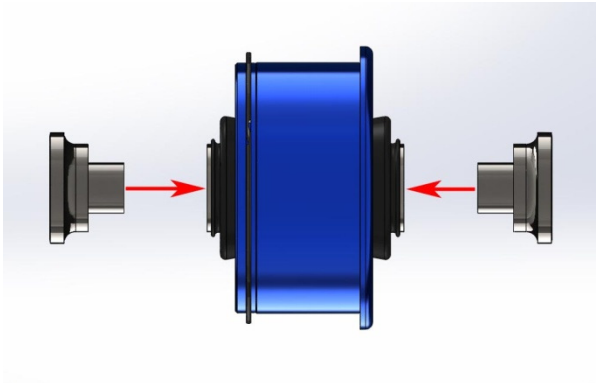
8) Installation of the control arm to the car is the reverse of removal

a) Clean/wipe out ball joint cup (in spindle)



b) Install ball joint end of control arm into spindle

c) Insert stainless steel sleeves into each side of bushing prior to placing bushing end into subframe



d) Install bushing end into sub-frame and install bolt

e) Torque bolt - BMW used two different grades of bolts for the bushing end of the control arm

f) If your bolt is grade 8.8 use a new bolt and torque to 68 Nm (50ft-lbs) plus 90°

g) If your bolt is grade 10.9 torque to 100 Nm (74ft-lbs) plus 90°

h) Torque nut on ball joint to 175 Nm (130ft-lbs)

9) Reinstall large plastic under tray

10) Reinstall wheels

Note: All Turner press-in bushings should be periodically checked for fit within the suspension component. We have seen the aluminum BMW suspension components stretch over time. The stretching happens before the aluminum fatigues and snaps. But stretching will loosen the press fit and give you some warning of an impending failure. If a visual inspection reveals a loose fit or you hear clicking sounds then the aluminum suspension component needs to be replaced (but you should be able to re-use your Turner bushings). Other manufacturers use bolt-together bushings instead of press-fit. But the bolt-together design has a major drawback – the control arm can stretch but the bushing stays fixed in place. You won't hear the click or clunk of a loose bushing and it will not have play when checking it with a pry bar. There will be no warning until the control arm fails. A press-fit bushing can provide audible and visual warnings where a bolt-together bushing will not.