

# Instructions

## **MRT Engineering roll-center/bump steer/angle kit BMW 3-series**

### **Kit includes:**

- 2x Outer joint (E30/E36M3 or E36/E46 control arm fitment)
- 2x Steering adapter (E30/E36/E36M3/E46 fitment)
- Mounting hardware as shown in the picture



### **Notes:**

- Fits only BMW E30/E36M3 control arms with 41mm hole diameter or E36/E46 control arms with 48,9mm or 50mm hole diameter
- Minimum wheel size 15" (370mm inner diameter) on E30 strut, 16" on E36 struts and minimum recommended wheel size 16" with E46 arms
- Steering reducers highly recommended (see illustration on the last page)
- Racing part with NO warranty, not for use on public roads
- Manufacturer disclaims all liability for direct, indirect, incidental or consequential damages, including damage or loss of equipment, cost of purchase or replacement of goods, accident or injuries, or claims of the purchaser that result from the use of the part

### Tools and accessories needed:

- 10mm allen key
- 13mm (1/2"), 17mm, 19mm, 22mm wrench and/or socket
- Torque wrench
- Hydraulic press for outer joint installation
- Angle grinder or hacksaw for trimming the bolt threads
- Blue thread locking adhesive

### Torque specs:

- 7/16-20 UNF 12-point nuts 85Nm (use blue threadlocker)
- M10x1 or M12x1,5 tie rod nut 40Nm
- M12 socket cap screws 100Nm
- M12 and M14 lock nuts 100Nm

### Installation:

#### STEP 1.

Remove old control arm assembly

- Unfasten tie rod
- Unfasten sway bar
- Remove control arm

#### STEP 2.

Press old control arm outer joint out and clean all surfaces

- Use wire brush or abrasive paper to prep the surface

#### STEP 3.

Press the new outer joint in

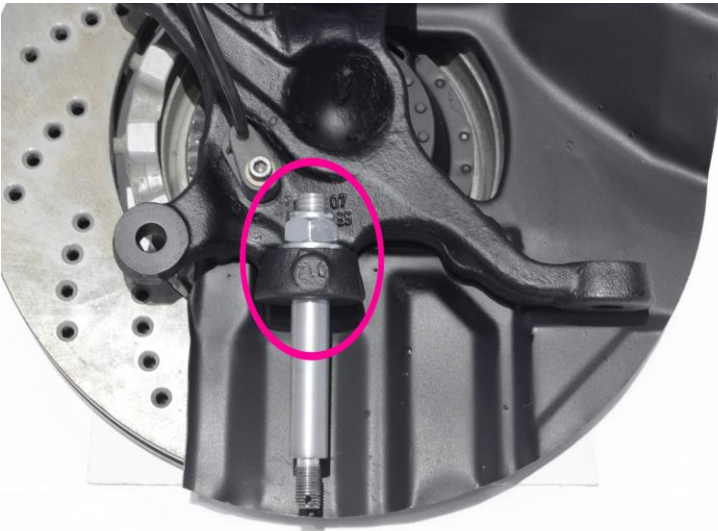
- MAKE SURE THE JOINT DIAMETER MATCH CONTROL ARM BORE  
(max. 0,4mm diameter press fit, slightly grind the bore if necessary)
- Use of hydraulic press is highly recommended ensuring a proper fit
- Outer joint needs to sit flush with the control arm surface
- Tighten the lock nut using a soft tool and a hammer



STEP 4.

REMOVE ANY BUMPS BOTTOM OF THE STRUT MOUNTING SURFACES

- Install the 16mm pin into the strut and tighten the M14 lock nut to 100Nm



STEP 5.

Install tie rod into the steering adapter

- Clean the tie rod taper and thread

**-Press tie rod taper adapter flat with the surface (for E30/E36 small taper tie rods only)**

- Put the washer convex side up

- Tighten the tie rod fine thread lock nut to 40Nm

- Trim the excessive thread of the tie rod end to allow strut clearance if needed (E30/E36M3)



STEP 5.5 (E36 and E46 applications only)

Insert the spacer between the strut and steering adapter

(E36 std **7.5mm**, E36 M3 3.0 **4.5mm**, E36 M3 3.2 **1mm**, E46 **6mm**)



STEP 6.

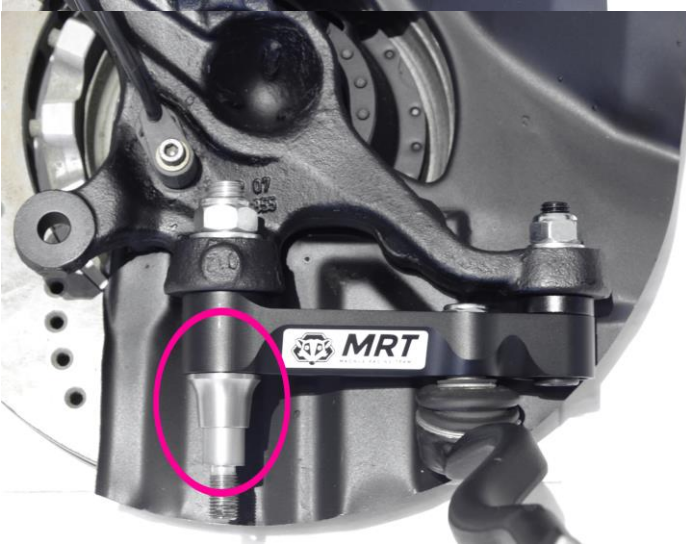
Install the steering adapter assembly under the strut

-Insert the foremost M12 bolt and locknut with washers on both sides, **DO NOT fully tighten**



STEP 7.

Insert the collet into the 16mm pin and drop the assembly through the control arm outer joint



**STEP 8.**

Insert the ARP 12-point nut using [blue threadlocker](#) and tighten to 85Nm



**STEP 9.**

Tighten the foremost M12 bolt and locknut to 100Nm



#### STEP 10.

Check that all bolts and nuts are set properly, insert the pin below the 12-point nut and bend the ends



#### STEP 11.

Mount control arm inner and rear ends back to the subframe/chassis. Fasten sway bar.

-These steps have shown to be effective way to install the kit

#### NOTE:

- Remember to check bolt tensions after first 100km/miles!
- Check bolt tensions occasionally
- **When tightening the M14 nut, always loosen the 12-point nut first!**
- Check adapter kit condition before and after every trackday
- Regular check, cleaning and maintenance can increase steering adapter kit lifetime significantly
- If you have any questions, problems etc, please contact us:  
[info@mrtengineering.fi](mailto:info@mrtengineering.fi)

**Steering reducer illustration**

Use any tube/washer/spacer that fits over the steering rack axle and stops against the end seal

**Reducer outer diameter smaller than ID**

**Reducer inner diameter same as shaft OD**

**Reducer length depends of the wheel setup**

