

**MRT-20003-W Roll-center / bump steer -correction kit, BMW E30 / E36 / E46**

Kit content:

- 2x Roll-center correction outer joint (pre-assembled)
- 2x Bump steer adjustable / correction outer tie rod end (pre-assembled)
- (1x Thread tap)
- Mounting hardware (as in the picture)



Disclaimer:

- 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 / equipment required for installation:

- 17mm / 19mm / 22mm / 24mm / 27mm / 36mm wrenches or sockets
- Torque wrench
- Wire brush / abrasives for paint removal / cleaning of the parts
- Hydraulic press for outer joint removal / installation
- Angle grinder for original outer joint removal (E30 M3 Dorman / E46 non-M / E46 M3 aluminum control arms)
- Loctite (**blue**)

### Torque rates for the bolts / screws / nuts:

- M12x1.5 tie rod nyloc nuts 75Nm
- M12x1.5 tie rod castle nuts 45-75Nm (depending on pin hole alignment)
- M14x1.5 tie rod lock nuts 100Nm
- M14x1.5 nyloc nuts 120Nm
- M14x1.5 castle nuts 85-125Nm (depending on pin hole alignment)
- Outer joint retainer nuts / inserts 100Nm

### Important notes:

- Fits only 32mm / 33mm / 41mm / 48.5mm outer joint control arms
- **Control arm end may need to be ground down with aftermarket Big Brake Kits and / or rotors to allow sufficient clearance**
- **E36 type inner tie rods required on E30 applications**
- **Longer E90 inner tie rods required with E46 non-M / E46 M3 control arms**

## **Wheel fitment chart**

Spindle / knuckle	min. Wheel inner diameter, mm	
	w/ quick steering block	w/o quick steering block
E30 non-M	370	370
E30 M3	-	400
E36 / Z3 non-M	380	400
E36 M3 3.0	390	420
E36 M3 3.2 / Z3M	380	410
E46 / Z4 non-M	380	400
E46 M3 / Z4M	420	420

Installation:

1. Remove control arm and outer tie rod from the spindle / knuckle, unfasten sway bar from the control arm on E30 / E36 applications.
2. Install new outer joints

**E30 / E36 control arms:**

- a. Use hydraulic press to press out the original outer joint on the control arm
- b. Clean the bore with wire brush or abrasive
- c. **Measure and confirm that outer joint diameter match control arm bore size, maximum recommended interference fit 0.4mm**
- d. Use hydraulic press to install the new outer joint from bottom side as original joint

**NOTE: Install 48.5mm eccentric outer joints thin side out as in the picture**



- e. Insert and tighten outer joint lock nut using a soft tool and a hammer

**E46 non-M control arms:**

- a. Cut out the retaining lip of the outer joint on the bottom side of the control arm and press out the outer joint
- b. Clean the bore and flatten the surface



- c. **Measure and confirm that outer joint diameter match control arm bore size, maximum recommended interference fit 0.4mm**
- d. Use hydraulic press to install the new outer joint from bottom side as original joint  
**NOTE: Install 48.5mm eccentric outer joints thin side out as in the picture**
- e. Insert and tighten outer joint lock nut using a soft tool and a hammer

**E30 M3 Dorman / E46 M3 control arms:**

- a. Cut out the retaining lip of the outer joint on the bottom side of the control arm and press out the outer joint
- b. Clean the bore and flatten the surface  
**NOTE: Open up the oval bore on the top side of the control arm to allow adequate articulation for the outer joint**
- c. Chamfer the edge of the bore and tap it with the thread tool included in the kit



- d. Assemble the outer joint dry and confirm that the bearing retainer will index with the bearing and tightens it
- e. **Make final installation using Loctite on both bearing and the bearing retainer, secure the bearing retainer with a safety wire**

3. Clean up and flatten the spindle / knuckle mounting surfaces

**NOTE: Paint will cause fasteners to loosen up and may lead to a failure!**



**4. Install pre-assembled correction kit into the spindle / knuckle as in the pictures**

- a. Install tie rod outer end into the tie rod inner end, install outer end with pre-set bump steer geometry into the spindle / knuckle
- b. Install control arm mounting stud into the spindle / knuckle
- c. Tighten up the nyloc nuts (*M12x1.5 75Nm, M14x1.5 120Nm*)



**5. Install spindle / knuckle back into the control arm**

- a. Install castle nut beneath the outer joint and tighten it up (*85-125Nm, see where pin hole aligns the best*)
- b. Insert and secure the pin



**6. Re-install control arm into the chassis and mount the sway bar**

**7. Re-align front toe geometry and tighten up the tie rod lock nuts (*100Nm*)**

**8. Check and measure bump steer geometry, adjust by relocating the 5mm shims**

- a. After confirmed setup tighten the M12x1.5 castle nut (*45-75Nm, see where pin hole aligns the best*)
- b. Insert and secure the pin

**9. Remember to check and inspect all fasteners after first 100km and occasionally after every 500km until the fasteners have set properly. Repeat inspection before and after every trackday**



If you have any questions, feedback or other comments regarding the kit please reach us via email / WhatsApp or social media direct message:



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If you have problems / issues with the kit, please state where you have bought the kit, original Order No. and / or exact model of the kit you have / you supposed to have to ensure we can give you an accurate response.

All spare parts are available on our webshop and dealerships around the world:

<https://mrtengineering.fi/collections/spare-parts>

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