## **CAE Shift Rods**

## Installation instructions

### **♀** 10023 ROD-AL

Shift rods for shifters of the 10023 series

BMW Getrag & ZF adjustable

3XS 95 - 110 mm XXS 105 - 120 mm XS 125 - 160 mm S 160 - 220 mm L 205 - 280 mm XL 270 - 330 mm XXL 325 - 385 mm





























## **SAFETY FIRST!**

- Raise the vehicle safely with a vehicle lift for installation. Incorrect lifting a vehicle can cause damage to the vehicle and/or personal injury or lead to death!
- Please only carry out the installation if you have appropriate experience in the automotive sector and have the fitting tools! An improperly installed shift rod can damage the shifter and the gearbox or make the vehicle inoperable or unshiftable and lead to serious accidents!
- If you are unsure, please contact your trusted workshop for the installation!

#### Please note!

- Never use force to assemble our Shift Rods.
- Please carry out all work with the greatest care and cleanliness!
- Never spray brake cleaner or similar degreaser directly on/in the moving connections/joints. This will remove the grease layer in the joints and leads directly seizing up the components.
- Only use a soft cloth and a thin oil spray for cleaning and care. For example Würth Multi or WD-40.
- The CAE Rods are designed to fit our shifters, they are 100 % play-free and designed all dimensions are designed as a fit. This makes it difficult to turn the adapter and the lower part of the shift lever by hand when installed. The 10 mm fitting bolts are each firmly seated in the fork and the adapter and the lower part of the gear shift lever only rotate on the bolt.
- Absolute cleanliness must be ensured during assembly!
  Dirt in the bearings leads directly to the seizure of the components.
- For a perfect function and a long lifetime, the hinge pins and the contact surfaces have to be greased well. This should be repeated once a year. We recommend Würth HHS 2000 for this.
  - ATTENTION: WD-40 or Multi oil are not suitable for the lubrication of the joints!
- Please carry out all work on the mating surfaces/holes with the utmost care!
  The clamp connection of the length adjustment must be kept absolutely dry and free of grease!

#### The installation

## If necessary, further work regarding the assembly of the shifter is necessary - see separate installation instructions!

- Remove the original shift rod completely.
  To do this, the securing clips from the 10 mm bolts have to be pushed off the bolts and the shift rod have to be taken out sideways.
- Remove the circlip from the transmission connector and then press out the 6 mm bolt from the gear connection. Because of the narrowness above the transmission in the center tunnel, patience is required here!
- The foam insert, 6 mm bolt and locking ring from the original adapter are still used!















- ▶ Disassemble the CAE shift rod into 2 halves, for this loosen the clamping screw with SW 13 mm. (This step is not necessary if the shifter is already installed)
- ▶ Slide the original locking ring over the groove into the "parking position" of the adapter, so that it can be pushed back into the groove when installed. Also the foam insert from the original adapter and grease everything well. The foam insert is used as a grease reservoir and creates counter pressure so that the bolt does not vibrate.
- Slide the shaft circlip into the groove of the 10 mm bolt ▶ "Click!"
- Mount the shift rod half prepared in this way with the gearbox adapter on the gearbox.

We recommend inserting a 5 mm Allen key (as shown) between the adapter and fork, to prevent the adapter from tipping over and to be able to press in the dowel pin.

- (i) ATTENTION: The ear of the clamp points upwards!

  Otherwise it could touch the cardan shaft!
- ▶ Place the shift rod half on the gear shift shaft and align the adapter. Push/knock in the 6 mm bolt! It sits tight in the adapter!
- ▶ Then slide the locking ring into the groove from the parking position ▶ "Click!"
- ▶ Mount the fork of the other half of the shift rod on the lower part of the shift lever. Grease the bolt and fork well - our recommendation: Würth HHS 2000
- ▶ Carefully hammer the bolt into the fork with a plastic or aluminum hammer. Make sure that the hole in the lower part of the gear shift lever is aligned with the holes in the fork.
- (i) We recommend using a second plastic hammer as a counter surface or a plastic pad when the shifter is removed!

  Work carefully! Do not damage the holes in the fork and the lower part of the gear lever!
- ▶ Slide the shaft circlip into the groove of the 10 mm bolt ▶ "Click!"
- ▶ When installing the shifter, bring the shift rod halves together free of grease!
- ▶ Align the shift rod to the shifter very precisely in length and angle and tighten the clampscrew to 47 Nm. Several attempts are likely to be required here to find the perfect position.
- Carry out a collision check on the lower part of the gear lever in all gears!
  There must always be enough free space to the components of the shifter and to the cardan shaft!



FINALLY! All functions and settings check during test driving and readjust if necessary!

A wrong or inaccurate setting can cause gearbox damage!

CAE wishes you a good trip.





# RACE THE ORIGINAL



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