SHIFTING TECHNOLOGY

ULTRA SHIFTER

Installation instructions

10054

Ford Focus MK3 RS/ST
6-Speed gearbox

FOCUS MK3 RS / ST

WWW.CAE-RACING.DE

PLEASE NOTE

SAFETY FIRST!

- Please only do the installation if you have appropriate experience in the automotive sector and have the right tools! An incorrectly installed Shifter can seriously damage the transmission or make the vehicle undriveable or not shiftable and lead to serious accidents!
- If work on the electrical system is necessary, please follow the manufacturer's specifications.
- It is essential to leave the ignition switched off when the plugs are disconnected. Do not leave the car key in the vehicle.
- Carry out all work with care and cleanliness! For the professional assembly of a shifter is no force required. All parts are designed to fit your vehicle.
- If you are unsure, please contact your trusted workshop about the installation!

BASICALLY

- Use ethyl alcohol/brake cleaner to clean all aluminum parts.
- Occasionally lubricate all moving parts with spray grease, which has good creeping properties. Our recommendation: Würth HHS 2000 (WD-40 or similar is unsuitable because it is too thin)
- All screws and nuts that are not self-locking or are fitted with tooth lock washers glue in during assembly!
- Never kink shift cables, please!

ⓘ SURFACES AND THEIR CARE

Please note that an untreated aluminum surface (ALU) is sensitive to aggressive Liquids to which i.a. Hand sweat also counts. Especially the high-strength 7075 aluminum we use has a tendency to form black spots of corrosion due to its high copper content. Under special circumstances, very salty air near the sea and coast can lead to corrosion. The surfaces should therefore be cleaned regularly and treated with care to prevent this. For this purpose, e.g. ethyl alcohol or brake cleaner. Only spray these onto a cloth and wipe the shifter with it, NEVER spray the shifter directly. If stains have already formed, they can be removed with commercially available aluminum polish, but that is also not allowed get into the movable parts of the shifter.
The anodized versions of our shifters (EXS, EXGR) are more resistant to corrosion. The steel parts have to be also cared in all variants.

TIPS FOR GEAR SHIFTING

ⓘ FORCE DOESN'T MAKES YOU FASTER – IT ONLY HARMS THE TRANSMISSION

The question arises again and again: "Does a CAE shifter puts more strain on a gearbox than a standard gear lever?" The answer is clear: “No!” The things that are most stressful for a synchronizer ring in a transmission are excessive shifting forces or a wrong shift in gear. Basically, the shift travel with a CAE Shifter is significantly shorter than with the standard lever. We achieve 30 - 55 % reduction depending on the vehicle and transmission type. This can only be achieved by using the appropriate gear ratio on the shift lever. You can feel it through the precision of a CAE shifter engaging the gears is much better than with a standard gear lever designed for comfort.
The force for this decreases in the same proportion - we put in the gears with significantly less load for the synchronizer rings. In addition, with a correctly adjusted CAE shifter put in the gears is very precise and shifting into the wrong gear is extremely rare. Even in motorsport, fast, precise, but still sensitive shifting leads to the goal! Everything else is pure tugging and tearing (often seen on various YT channels), which looks "important", but in no way makes it faster - but it puts a disproportionately high strain on a transmission and in the worst case causes a fatal wrong shift in gear!

Included in delivery

- 1x shiftercompletely monted,
  design depending on ordered variant (Picture A)
- 1x Shift knob incl. counter screw M6x20 V2A,
  design depending on ordered variant (Picture B)
- Accessories package (Bild C)

A

B

C

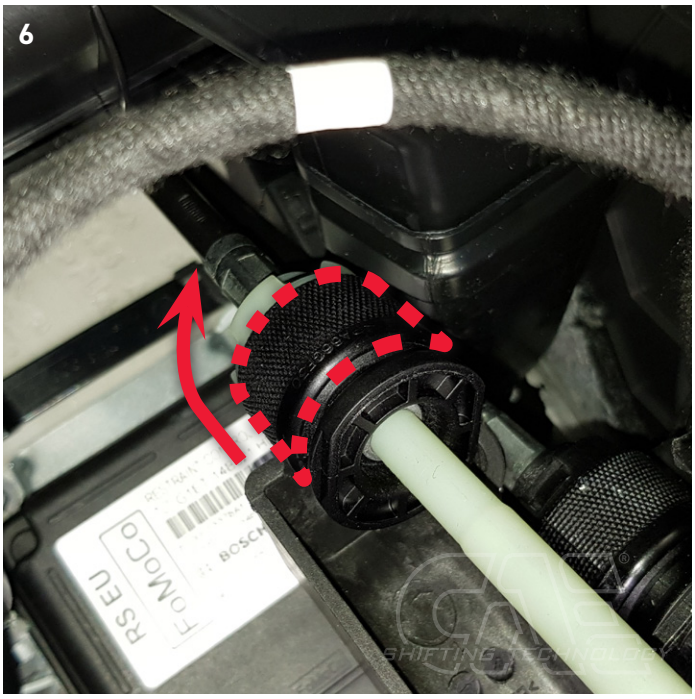
ⓘ The shifter is designed for vehicles with interior. The center console remains in its original condition and does not need to be machined. The shift bag can no longer be mounted.

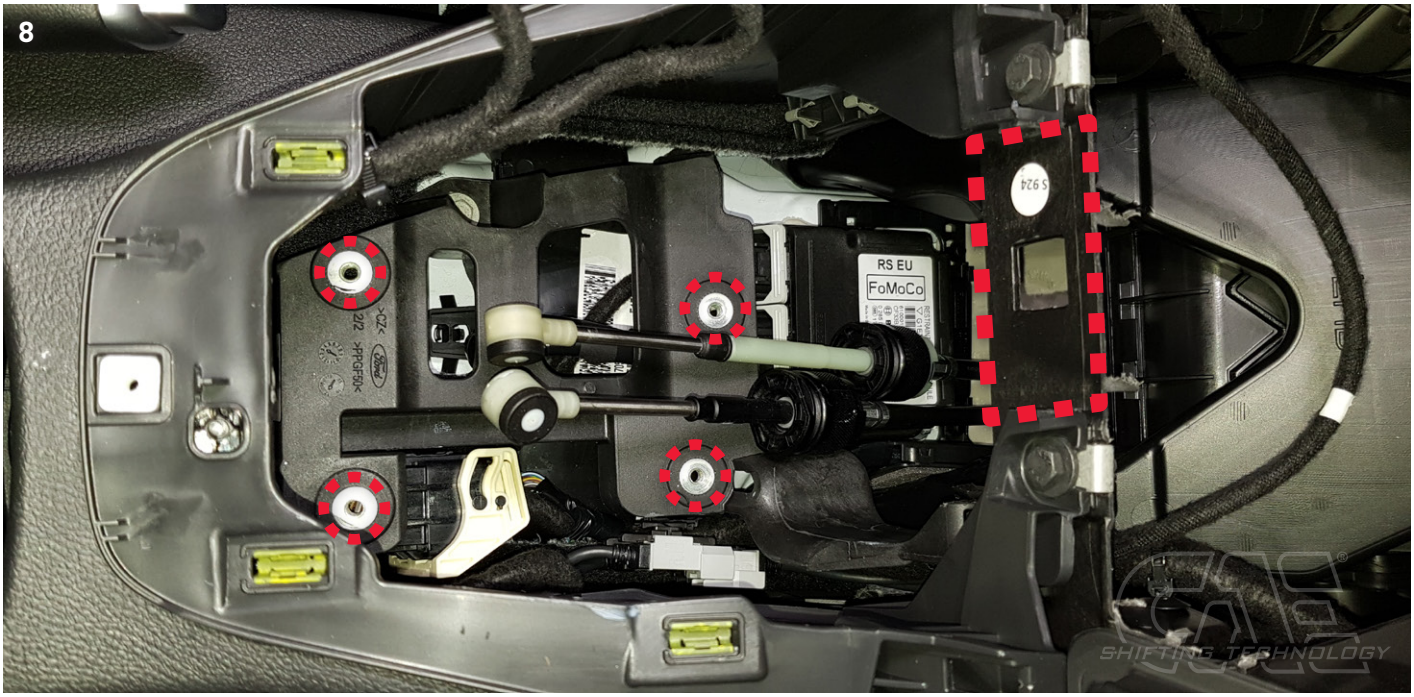
ⓘ **PLEASE NOTE: Generally install a sealing collar on each ball and grease the steel ball cups. After complete assembly of the shifter, secure the ball cups with the cotter pin clamps. Glue in all nuts / screws during assembly! Never kink the shift cables!**

The removal

- Pull up the shift boot. (Picture 1)
- Remove the side cover of the center console. (Picture 2)
- Remove cover frame. (Picture 3)
- Remove front panel. (Picture 4)
- Unscrew and remove upper part of center console. (Picture 5)

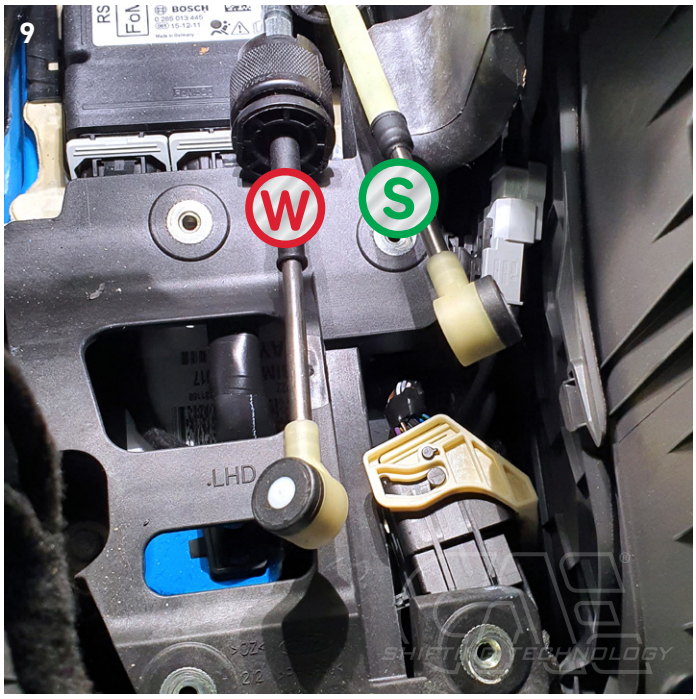
- Remove the shift cables and detach them from the gearshift bracket. To do this, push the sliding sleeves on the shift cables (in front of the gearshift bracket) forward and lift the cables. (Picture 6, 7)
- Completely remove the original shift lever. (4 screws) (Picture 8)
- Remove crossbar from center console. (Picture 8)

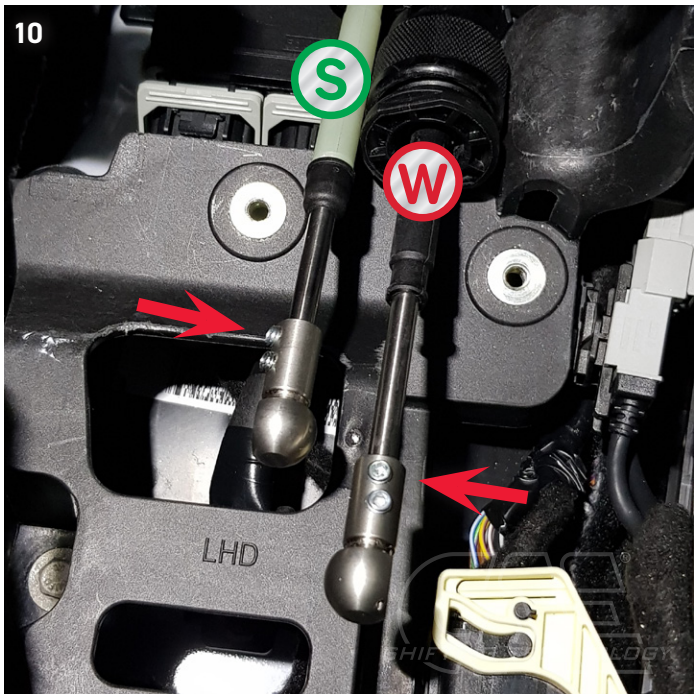




Modification of the cable ends on the shifter

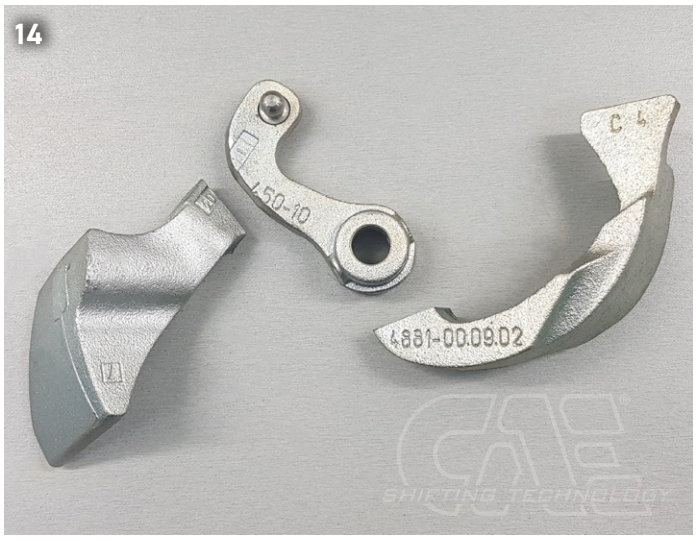
- Remove the original plastic cups from the cable ends. (Picture 9)
- This is best done with a pair of pliers, the plastic parts will be destroyed. (If the shifter is retrofitted, the steel pans must remain on the cables).
- Only the steel cores of the cables remain on which the new ball cups are then pushed on completely.
- Tighten the grub screws and grease the ball cups. (Picture 10)





- We also recommend the conversion of the ball socket on the gearbox as this has a lot of clearance ex works to prevent vibrations from being transmitted. This is optional and not absolutely necessary for the pure function of the shifter. (Picture 11-13)

- Removal of the absorber weights on the gear lever also contributes to better shiftability; this is also recommended and not absolutely necessary for the function. (Picture 14, 15)



- **Optional:** Performance Package (Bild 16 a)

Installation of CAE Shifter

- Place the CAE Shifter on the center tunnel and align it over the threads, inserting the shift cables already into the shifter.
- Tighten the shifter with the screws and washers supplied.
- Push in the shift cables on the front plate from above until the sliding sleeves engage, then press the ball cups of the cable ends onto the heads and secure them with the locking pins (Picture 17), likewise the coupling rod in the shifter, also lock the nuts.
- (The side coupling rod will be secured later).

Adjustment of gear shift paths 6-speed transmission

- Adjust the center position of the shift lever: Loosen the spring stop (Picture 18) under the shift tower and align the shift lever. It should now be exactly straight. Tighten the spring stop again. Only loosen this screw with an Allen key (SW 5 mm) (approx. 2 turns), but never unscrew it completely!
- Shift the gearbox to 3rd gear. To do this, move the shift lever forward without moving it sideways.
- Adjust the right (long) coupling rod to the L lever by turning it in such a way that the ball socket can be pressed on without changing its length. (Picture 19)

PLEASE NOTE: The cup with ring groove on the neck has a left-hand thread!

CHECK: When 3rd and 4th gears are engaged, the lateral the lateral clearance at the shift lever must be the same, otherwise correct at the coupling rod!

- Secure all ball cups of the coupling rods with the lock nuts. (wrench size 10 mm)

- Shift the gearbox to level 1/2 using the shift lever and screw in the stop screw until the gears can be changed cleanly. (Picture 20)

- Now shift gearbox to gear level 5/6 using shift lever and screw in stop screw, also until gears can be engaged cleanly. (Picture 20)

- Proceed in exactly the same way with reverse gear and the corresponding adjusting screw. Check the settings later during a test drive and readjust if necessary. (Picture 20)

ⓘ **PLEASE NOTE: The stop screws (Picture 20) must under no circumstances be in contact with the bolt when the gear is engaged. A gap of approx. 0.5 mm is okay.**

FINALLY! Check all functions and settings during the test drive and readjust if necessary!

Incorrect or inaccurate settings can cause damage to the gear box and consequential damage!

If you have any questions or problems, please be sure to contact us, we look forward to your feedback to improve our products.

CAE wishes you a good trip.

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