

20
YEARS
EXPERIENCE

CAE[®]
SHIFTING TECHNOLOGY

Installation instructions

📍 10031

Ford Fiesta
B5 / IB5
5-speed gearbox



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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!

i 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

i 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 shifter completely mounted, design depending on the ordered variant (picture A)
- ▶ 1x shift knob incl. counter screw M6x20 V2A, design depending on ordered variant (Picture B)
- ▶ Cable holder and gearshift lever (Picture C)
- ▶ Accessories package (Picture D)
- ▶ 1x shift cable (S), 1x selector cable (W) (Picture D, E)



i The shifter is intended for racing vehicles without interior equipment. If the center console is installed, it must be removed or cut out until appropriate clearance is ensured.

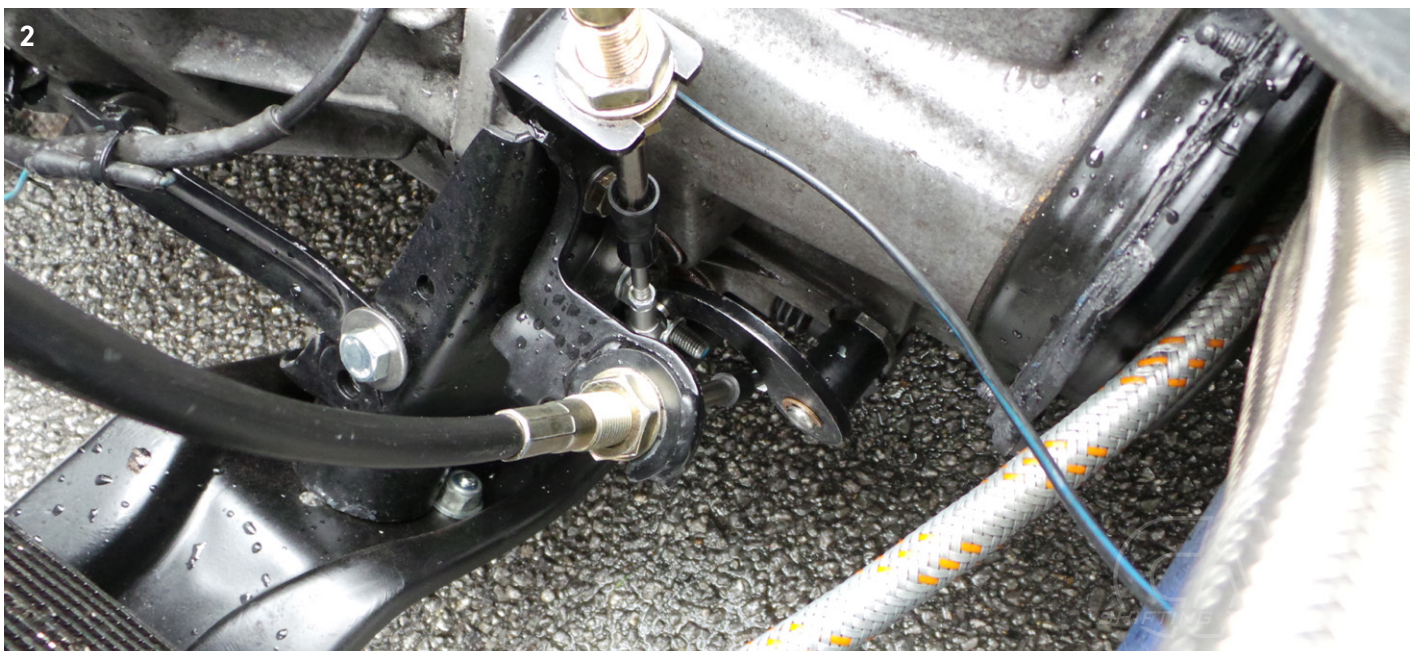
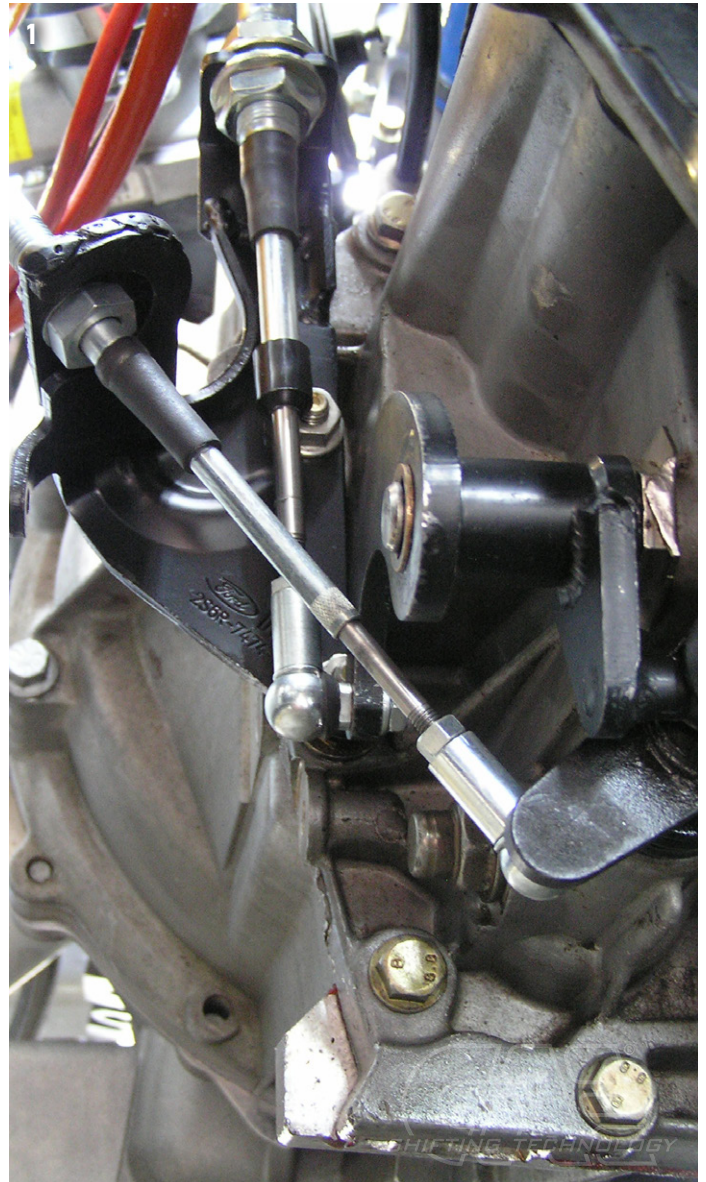
i PLEASE NOTE: All work must be carried out in the interior and engine compartment.

The removal

- ▶ Completely remove center console and original shift lever.

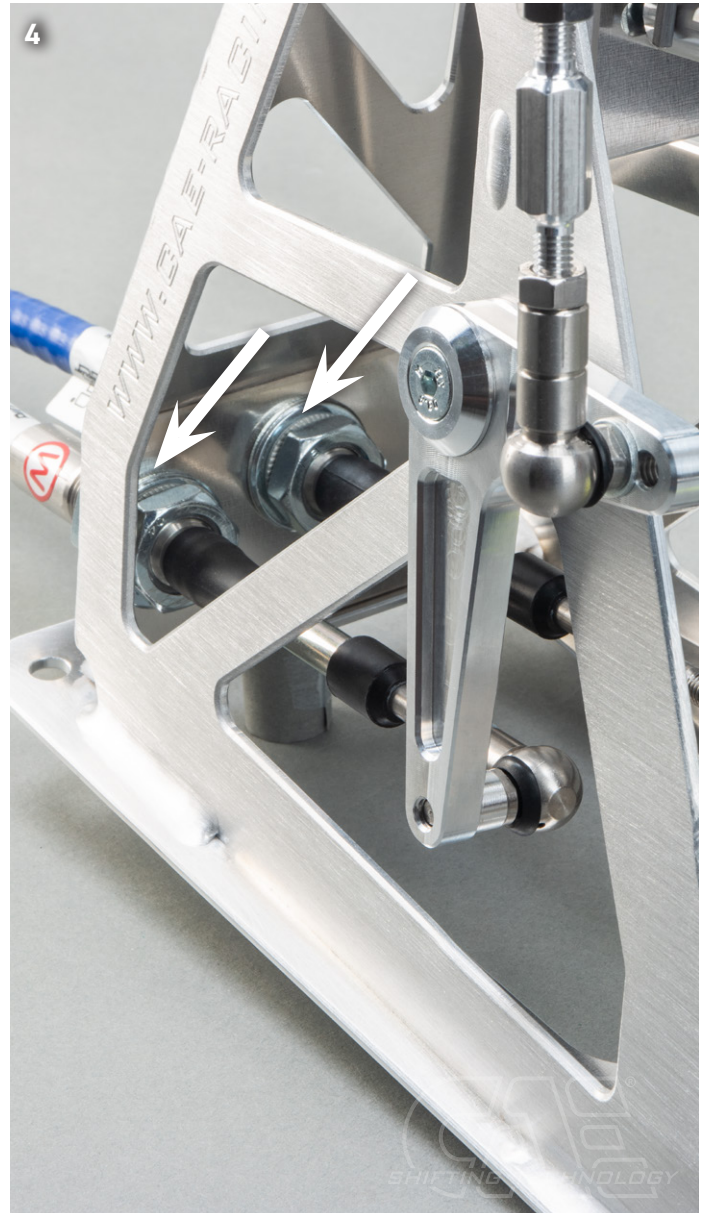
The installation / modifications to the gearbox

- ▶ Replace the cable holder and the gearbox shift lever with the CAE versions. (Picture 1, 2)
- ▶ Grease the 12mm hole of the CAE gear shift lever well before installation.



Installation of the shifter

- ▶ Attach the shift cables to the CAE shifter as shown in the photos. (Picture 3, 4)
- ▶ No thread is visible on the inside of the M16 thread. (Picture 4)
- ▶ Grease the ball cups before mounting them on the ball heads.





HEAT PROTECTION FOR SHIFT CABLES (FOR ALL VEHICLES WITH CAE SHIFT CABLES)

Exhaust systems generate incredible temperatures, which can be several 100 degrees, especially under full load! Therefore, the shift cables must be absolutely protected with the blue-gray protective hoses against the strong heat effect!

Also the protected shift cables must not be in contact with the exhaust. For turbo engines please take additional measures should be taken, e.g. aluminum honeycomb sheets, heat protection tape or foils.



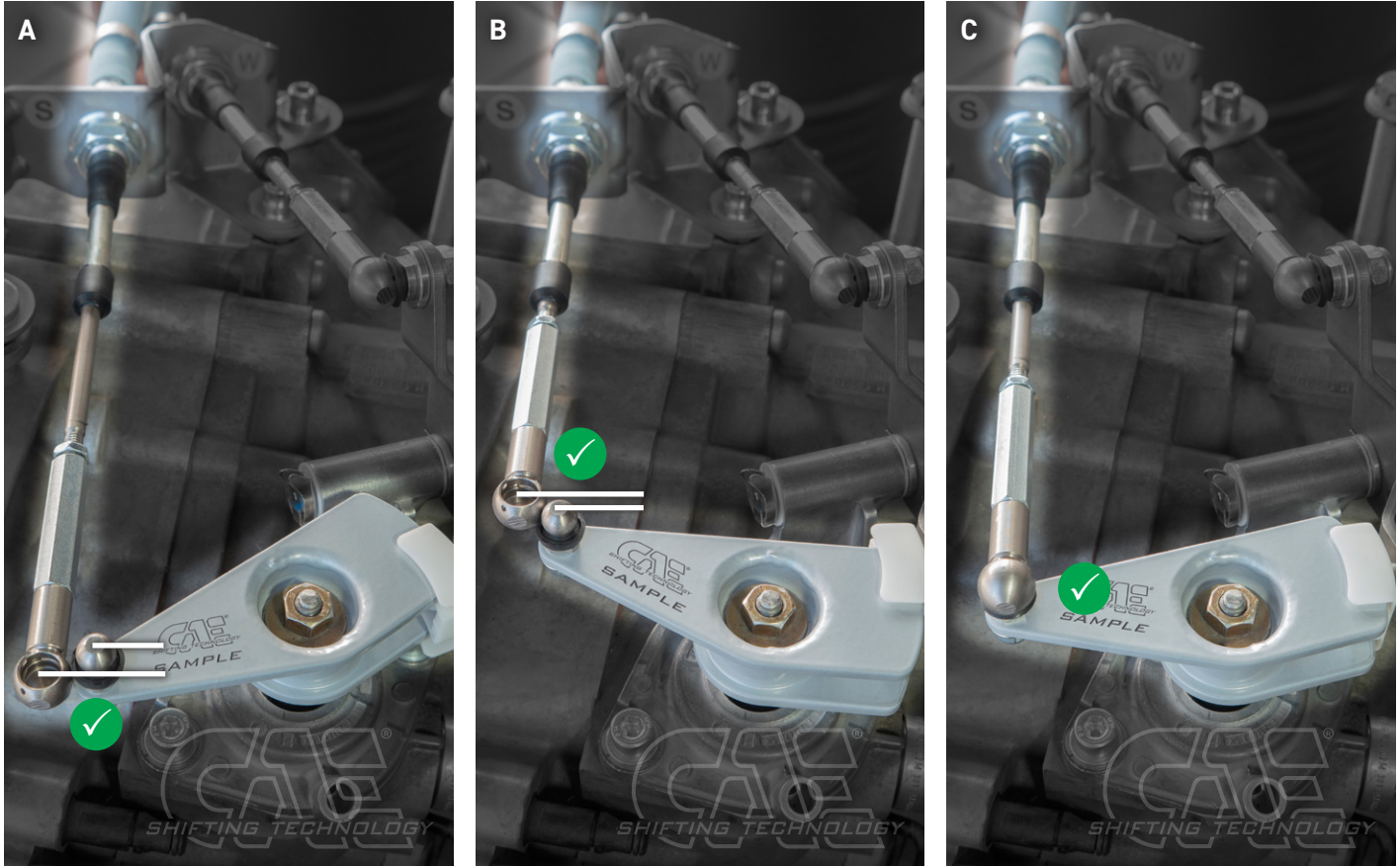
**EXCESSIVELY HIGH TEMPERATURES PERMANENTLY DAMAGE THE SHIFT CABLES!
ESPECIALLY IN MOTORSPORTS, THE HEAT DEVELOPMENT IS ENORMOUS!**


- ▶ Place the shift unit on the threaded bolts and route the shift cables through the tunnel opening directly over the gear unit in the direction of the cable holder.
- ▶ The black hose pieces serve as edge protection in the area of the sheet metal bushing. Alternatively, the standard bushing can also be reworked.
- ▶ Pull the blue heat protection hoses over the shift cables, they have to be fixed later in the exhaust area.
- ▶ Fasten the cables to the gearbox cable holder by tightening the SW 24mm nut and press the ball heads onto the shifter. Secure the M16 nuts with the supplied lock washers, do not glue them in!
- ▶ **Grease ball cups before mounting on the ball heads.**

CHECK THE END POSITIONS OF THE SWITCHING CABLES

ⓘ PLEASE NOTE: ! Check cables for "end position free travel". When a gear is engaged, there must still be a residual travel available on the cable! (Picture A, B, C)

Sample pictures:



ⓘ CHECK: With the gear engaged, pull the ball cup off the gearshift lever and check whether the shift cable  can still be moved at least 3 mm. This applies to the "front" gears R-1-3-5 (Picture A) with the cable retracted and to the "rear" gears 2-4 (6) (Picture B) with the cable extended. The end position can be corrected by screwing the ball cups on the M6 thread of the cables in or out.

► After checking and adjusting, reassemble the ball cups from the shift cable. (Picture C)

ATTENTION: THIS CONTROL IS VERY IMPORTANT FOR THE FUNCTION OF THE SHIFTER !!!
If the remaining travel on the shift cable is missing, there is an immediate risk of damage to the gearbox. !!!!!

Adjust the shift ranges 5-speed gearbox

▶ Adjust the center position of the shift lever:

- ▶ Pull off the upper ball of the coupling rod to the L lever. (Picture 7)
- ▶ Loosen the spring stop (Picture 8) under the gearshift tower and align the gearshift lever. It should now be exactly vertical. Tighten the spring stop again.
- ▶ Only loosen this screw with Allen key (SW 5 mm) (approx. 2 turns), but never unscrew it completely!
- ▶ Shift the gearbox to 3rd or 4th gear. To do this, move the shift lever forwards or backwards without moving it sideways.
- ▶ Adjust the coupling rod to the L-lever by turning it so that it can be pressed perfectly onto the ball and 3rd and 4th gear can be changed cleanly. Lock the nuts of the coupling rod.

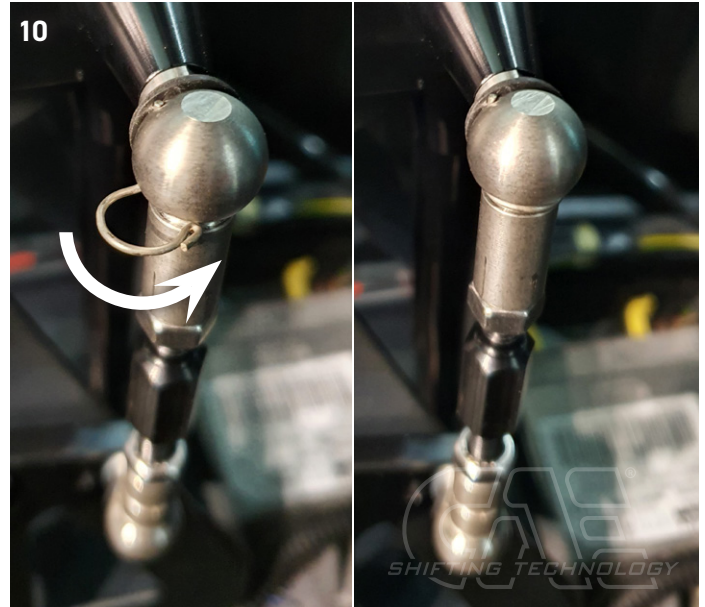
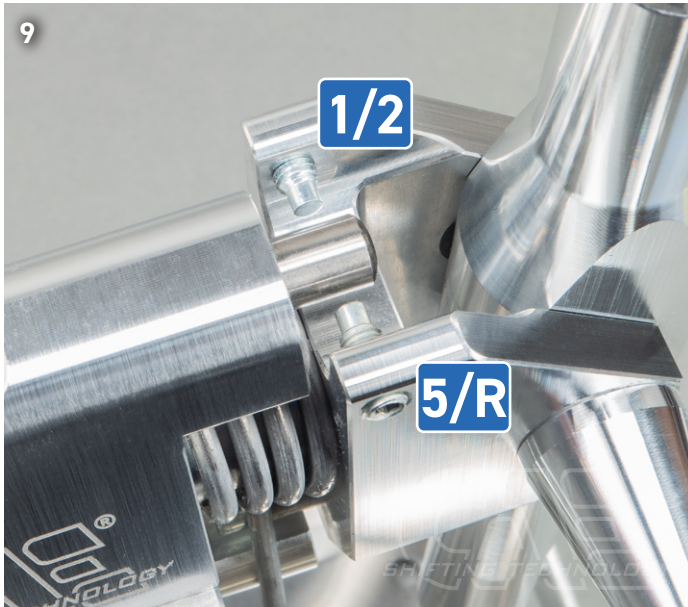
PLEASE NOTE:

! The small double spindle has R/L thread.
At the bottom of the Unibal joint is the left-hand thread. The spindle is made of aluminum!
Tightening torque of the nuts max. 3Nm!

! **CHECK:** When 3rd and 4th gear are engaged, the lateral play at the shift lever must be the same, otherwise readjust at the right coupling rod!



- ▶ 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 9)
- ▶ Now shift gearbox to gear level 5 using shift lever and screw in stop screw, also until gears can be engaged cleanly. (Picture 9)
- ▶ Proceed in exactly the same way with the reverse gear and the corresponding adjusting screw. Please note that the reverse gear can only be shifted from neutral (internal gearbox lock).
- ▶ Mount the retaining clip on all ball cups. (Picture 10)



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.



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