

20
YEARS EXPERIENCE

CAE
SHIFTING TECHNOLOGY

Installation
instructions

📍 10026 HD

Peugeot 206 RC
GTi 180

5-speed gearbox

RC
GTi 180



WWW.CAE-RACING.DE

PLEASE NOTE

SAFETY FIRST!

- 📍 Raise the vehicle safely with a vehicle lift for installation. Improper lifting can cause damage to the vehicle and/or personal injury or even death!
- 📍 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.
- 📍 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.

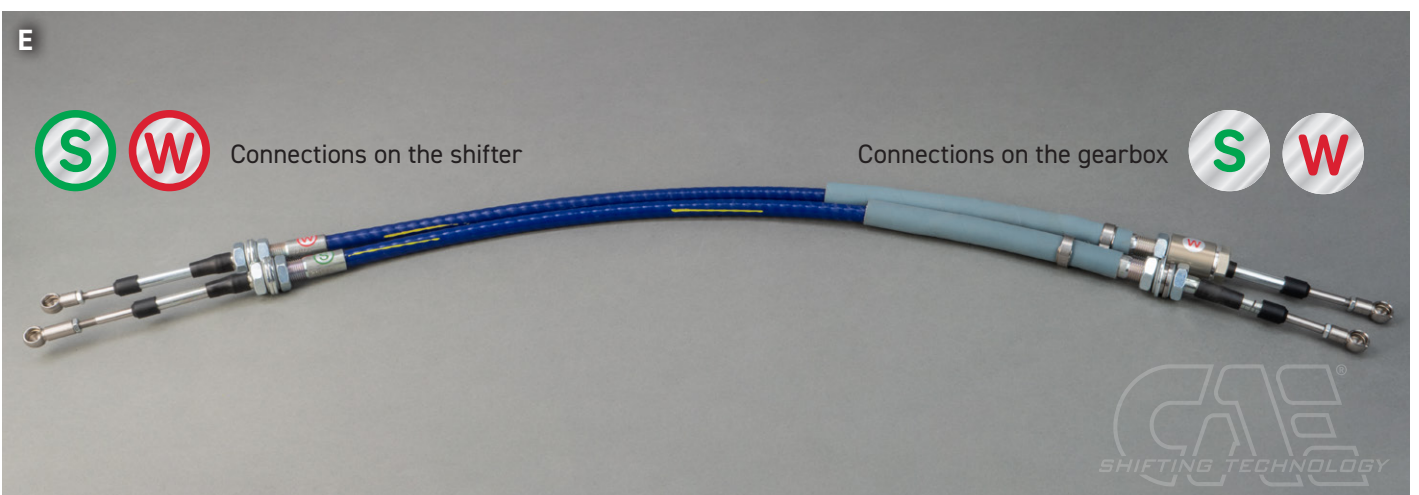
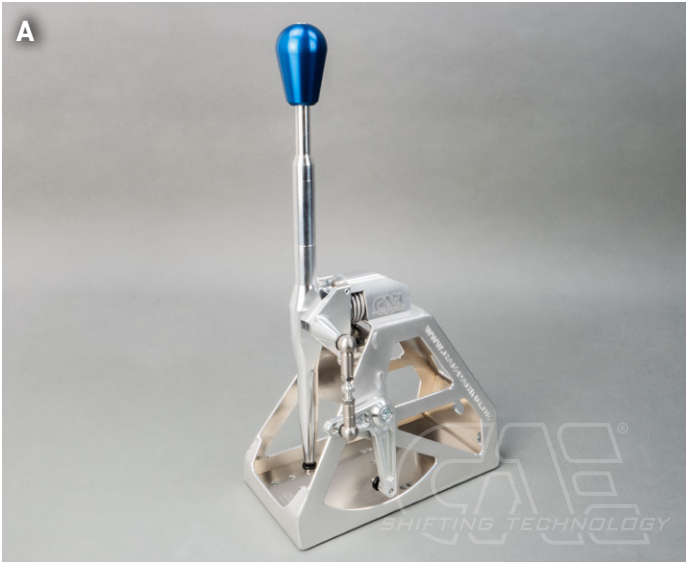
TIPS FOR GEAR SHIFTING

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 which 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 assembled, design depending on ordered variant (Picture A)
- ▶ 1x Shift knob incl. counter screw M6x20 V2A, design depending on ordered variant (Picture B)
- ▶ Accessories package (Picture C)
- ▶ 1x shift cable (S), 1x selector cable (W) (Picture D)



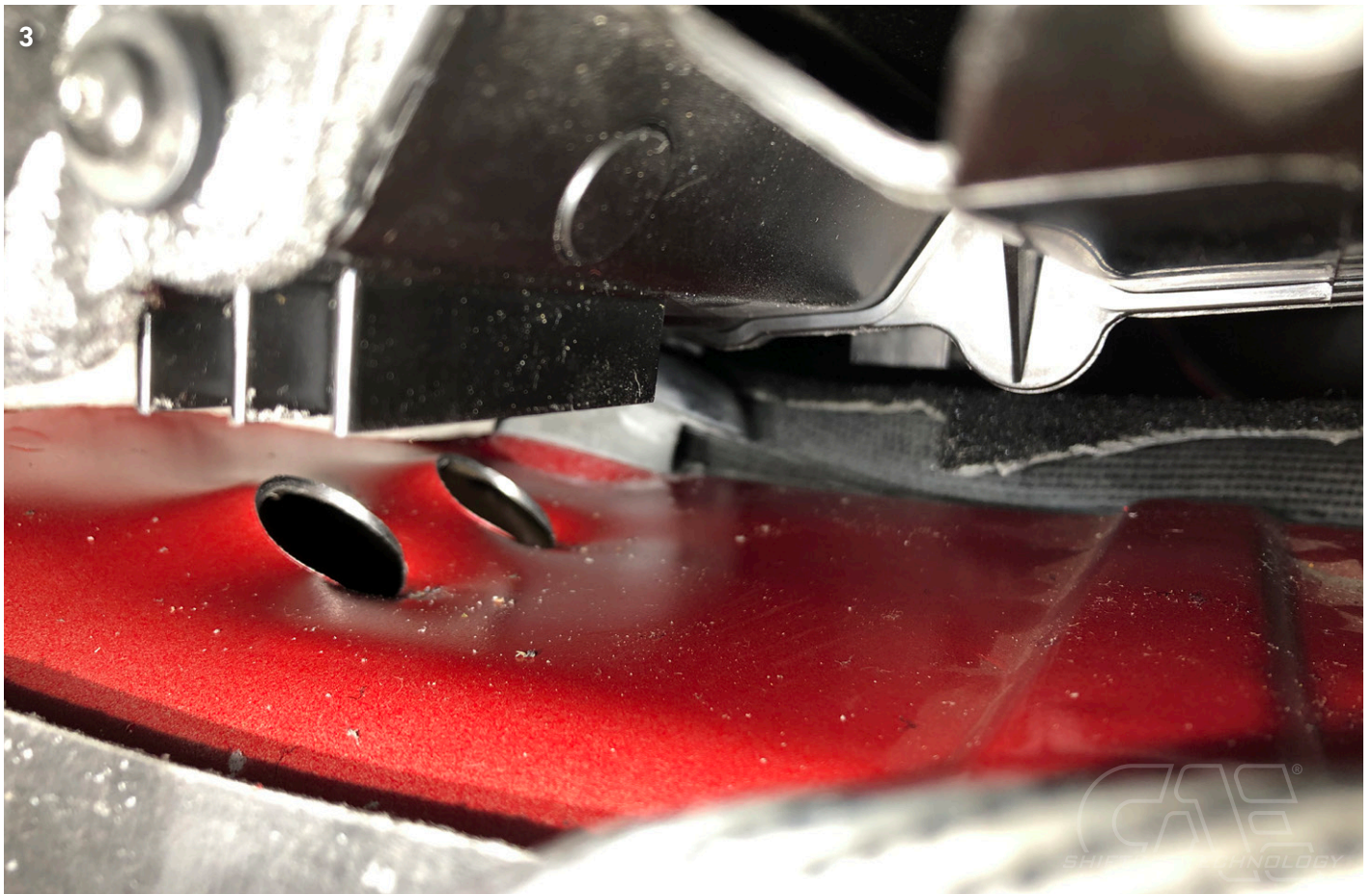
- i** The shifter is intended for vehicles with interior equipment. The center console must be cut out until a suitable clearance for the shifter is ensured.

The removal

- ▶ Lift the vehicle safely on a lifting platform.
- ▶ Remove the exhaust, the underbody panelling and the heat shield.
- ▶ Completely remove the original shift lever including shift cables.
- ▶ Remove the cable holder and the bell crank from the gearbox.

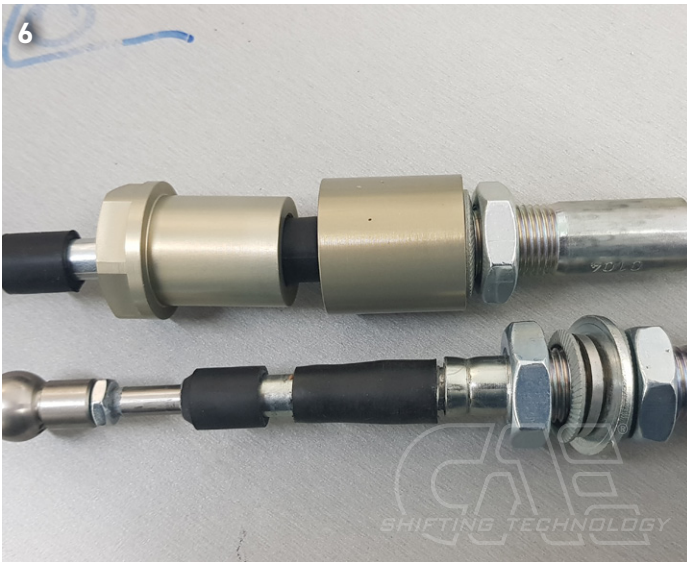
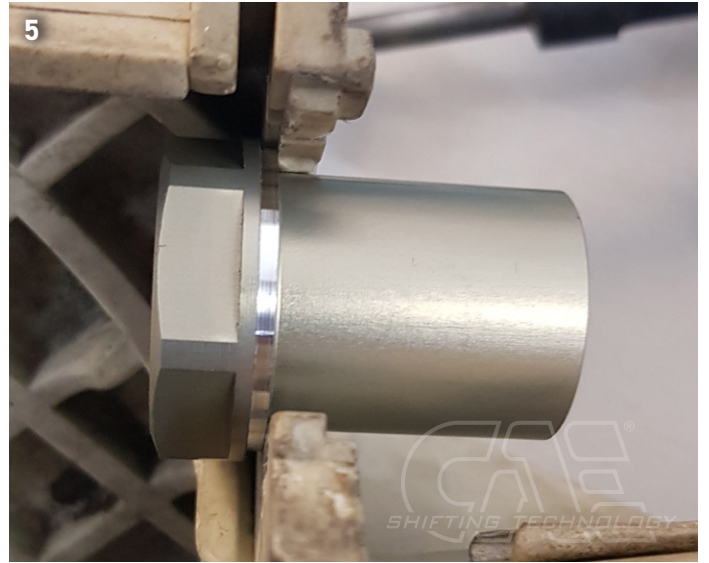
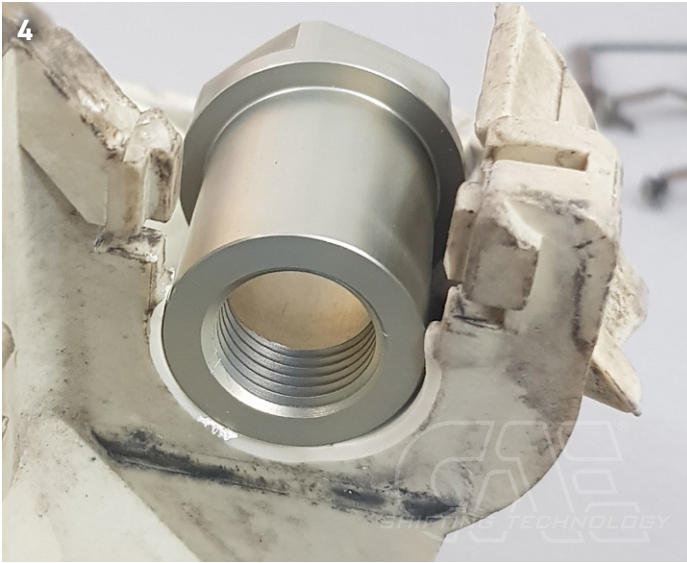
Drill feedthrough switch cables

- ▶ Drill two 18mm holes in the tunnel from below. (Picture 2)
- ▶ Measure 190 mm forward from the sheet metal seam, the holes must be exactly in line with the shifter.
- ▶ After drilling, insert a suitable round rod into the holes and fold it forward once to allow the cables to pass through. (Picture 3)



Reworking of the gear cable holder

- ▶ The cable holder must be extended for the champhner extension sleeve on the "W" dial cable.
(Picture 4, 5, 6, 7)



Lighten the bell crank

- ▶ Lighten the bell crank according to the following pictures. (Picture 8, 9)



- ▶ Reassemble the cable holder and the bell crank on the gear unit. (Picture 10)
Grease the bearing of the bell crank well.



Installing the shift cables

- ▶ Remove all nuts and bushings from the inside of the shift cables.
You can recognize the inside of the cables by the silver bands with the type designation.
Then thread them from the engine compartment through the holes into the interior.
- ▶ The black slitted hose pieces serve as edge protection in the sheet metal passage.
Brake cleaner works well as a lubricant here.
- ▶ Tighten the cables on the gear cable holder! Do not use screw glue, only until toothed washers on block!

ⓘ PLEASE NOTE: Pay attention to the correct assignment of all bushings , washers and ball cups.



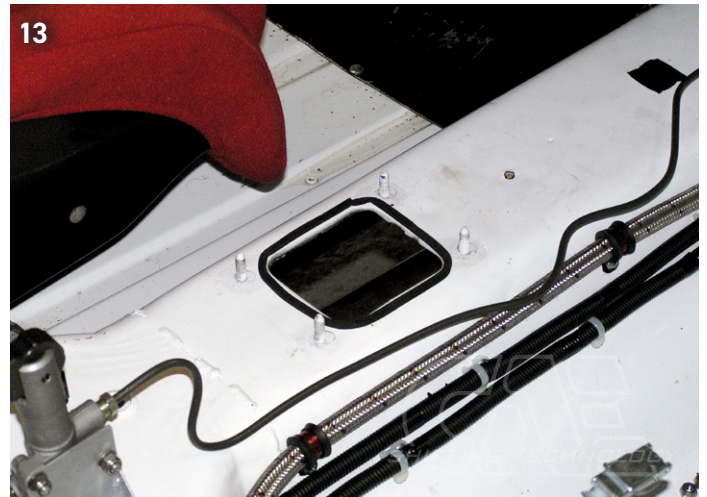
ⓘ Lock all ball cups with the M6 nuts and install locking clips.



Installation CAE Shifter

- ▶ Glue the supplied foam rubber strip around the original shift lever hole. (Picture 13)

i **ATTENTION!!** The shifter has a double mounting hole pattern!!! We recommend to screw the shifter in the left position for left-hand drive, correspondingly for right-hand drive.



Increase shifter

- ▶ If the airbag control unit is installed in the vehicle on the tunnel, the shifter must be installed in a raised position.
- ▶ The supplied sheet metal then serves to cover the opening in the center tunnel.
- ▶ Additionally mount the 6mm spacers. (Picture 14, 14a)



- ▶ Schaltseile entsprechend der folgenden Bilder die Muttern und Büchsen an den Schaltseilen vormontieren (Nur die äußeren Teile) (Bild 15)



- ▶ Place the shifter and thread the shift cables into the holes of the shifter. Screw the shifter tight.
- ▶ Screw the bushing of the selector cable from the inside approx. 8mm onto the M16 thread of the selector cable, fasten (tricky) and press on ball heads inside and outside. (Picture 16)
- ▶ The control dimension is XX mm. (Picture 17) Screw nut, toothed washer and U washer on the selector cable and tighten the nuts SW24.

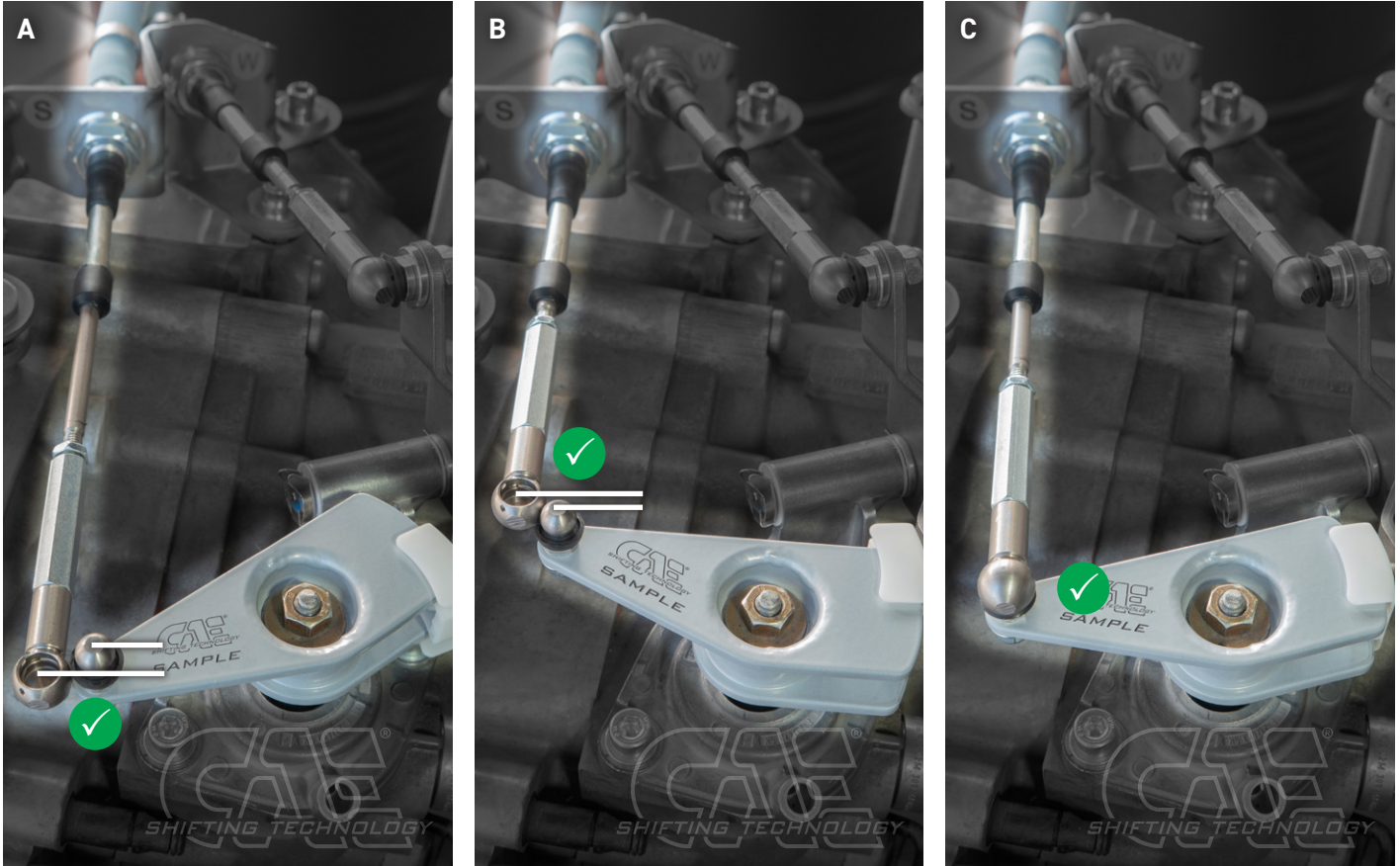
❗ NO THREAD M16 MUST BE VISIBLE ON THE INSIDE!




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. !!!!!

Adjusting the shifting range 5-speed gearbox

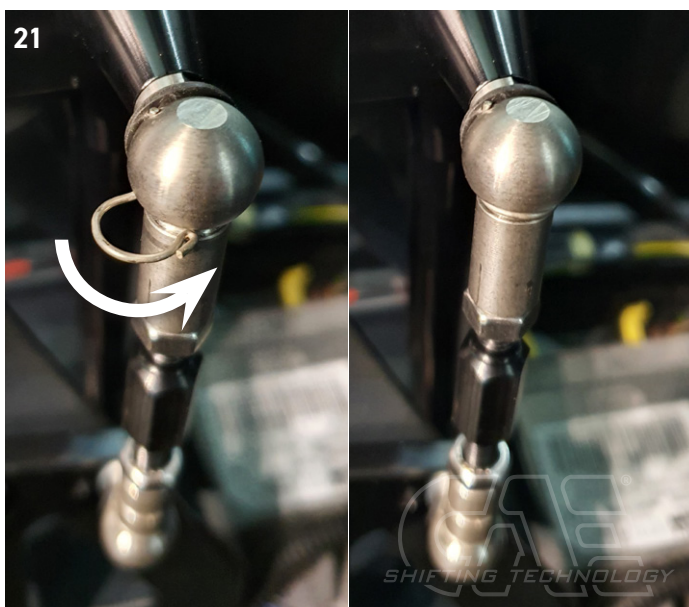
- ▶ Unhook coupling rod to L lever on a ball.
(Picture 18)
- ▶ Now adjust the center position (3rd/4th gear) of the shift lever. To do this, adjust the lower spring stop under the gearshift bracket using a 5 mm Allen key.
(Picture 19)

❗ CHECK: The shift lever should be exactly vertical in the center position.

- ▶ Shift gearbox to 3rd gear. To do this, push the shift lever forward.
- ▶ Adjust the length of the coupling rod so that it can be pressed on without lateral movement of the shift lever.

❗ CHECK: When 3rd/4th gear is engaged, the lateral play on the shift lever must be the same on both sides, otherwise readjust the spring stop again.
(Picture 19)

- ▶ Shift the gearbox to level 1 / 2 using the shift lever and screw in the stop screw until the gears in level 1 / 2 can be changed cleanly. (Picture 20)
- ▶ Now shift gearbox to 5th gear level using shift lever and screw in stop screw until 5th and reverse gears can be engaged cleanly.
- ▶ Note that reverse gear can only be engaged from neutral (internal gearbox lock).
- ▶ Mount retaining clip on all ball cups.
(Picture 21)





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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