

📍 10086

Toyota GR86
from 2022

6-speed gearbox



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!

📍 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.

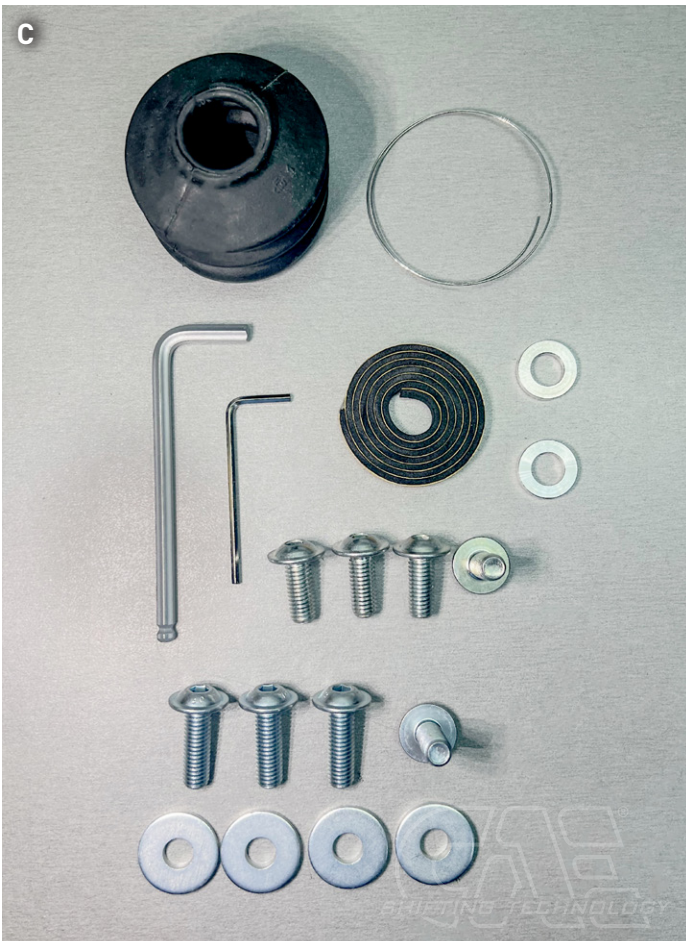
TIPS FOR GEAR SHIFTING

📍 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 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)
- ▶ Cover plate (Picture D)



THE ROTATABLE GEARSHIFT BASE

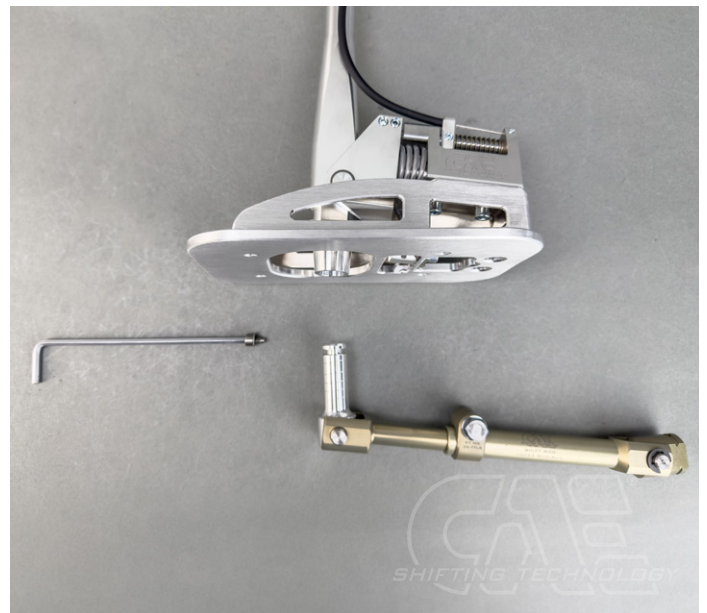
i SHOULD NEVER BE DISASSEMBLED IF POSSIBLE!

The following photos illustrate the principle of the rotatable lower part of the gearshift lever and are for explanatory purposes only!

- 📍 The fixing screw engages with the pin in the groove of the lower part of the shift lever and thus fixes it axially.
- 📍 **Familiarize yourself with this principle before installing the shifter!** It must be possible to rotate the lower part of the shift lever without resistance in the shift lever! This is a condition for proper function.
- 📍 If the fixing screw is unscrewed, it is essential to remount it with the pin in the groove and with the associated toothed lock washer. The screw length is designed for mounting with the toothed lock washer, the lower part of the shifter must not be fixed. Be sure to secure the screw with the supplied wire before mounting the shifter!
- 📍 **Regularly spray penetrating oil into the lubrication hole \varnothing 2.5 mm above the fixing screw. This is absolutely necessary for proper functioning! Make absolutely sure that the lubrication hole is clean!**
- 📍 We recommend Würth HHS 2000 for lubrication.

📍 DIRT, GRINDING DUST OR INSUFFICIENT LUBRICATION IN THIS BEARING WILL CAUSE THE SHIFTER TO FAIL WITHIN A VERY SHORT TIME!

The following photos illustrate the principle of the rotatable shift lever base and are only for explanation!



The spring stop

ⓘ NEVER UNSCREW THIS SCREW COMPLETELY!

By loosening (max. 2 turns) the screw on the **spring stop**, the center position of the shifter can be adjusted. (Picture A)

Please **never** unscrew this screw completely, because you can only get the mechanism under the car together again with a total loss of nerve!

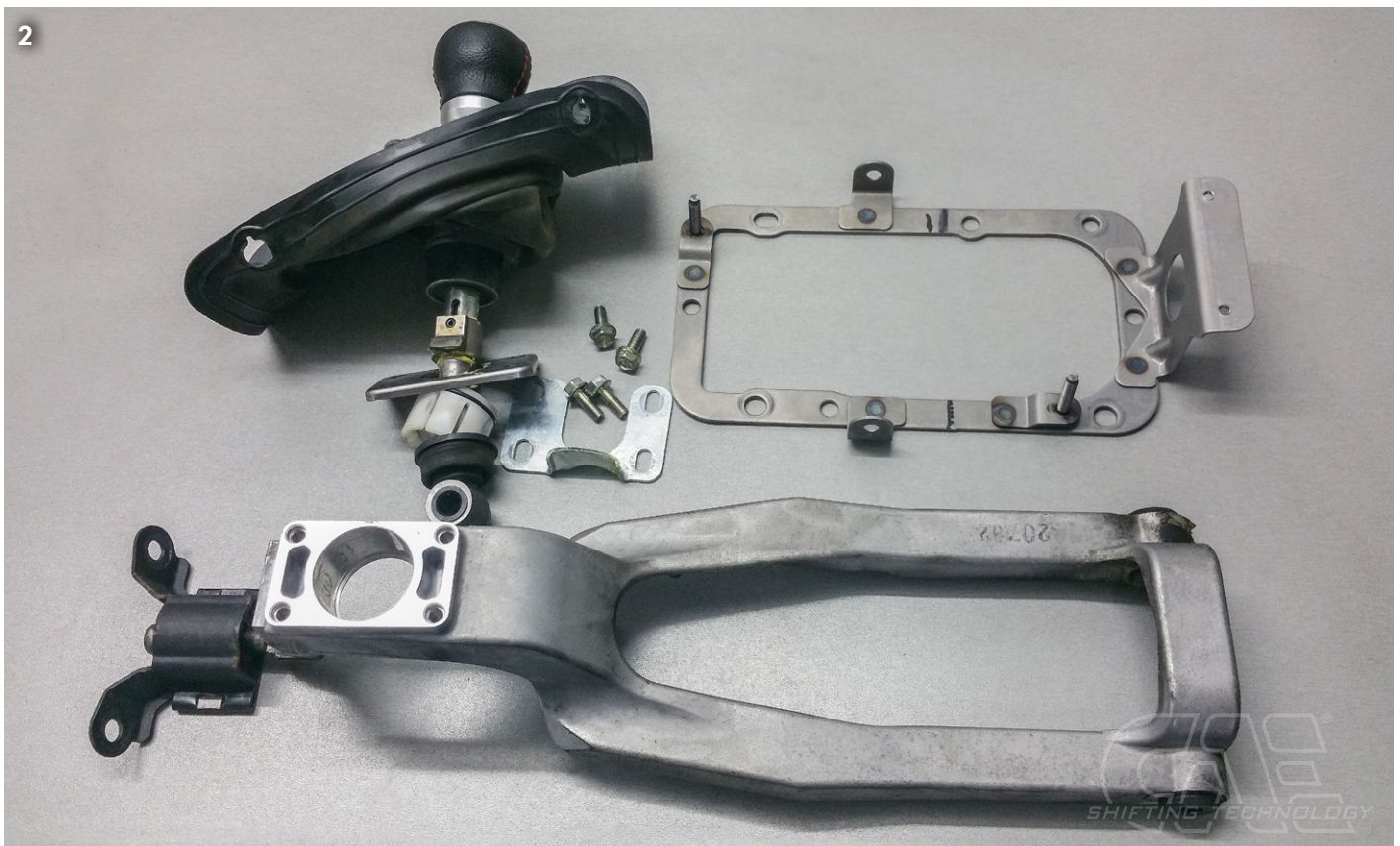
To loosen the screw, use the Allen key supplied in the accessories.



- i** The shifter is designed for vehicles with or without center console. For the installation of the center console, it must be processed according to these installation instructions until a corresponding clearance for the shifter is guaranteed.

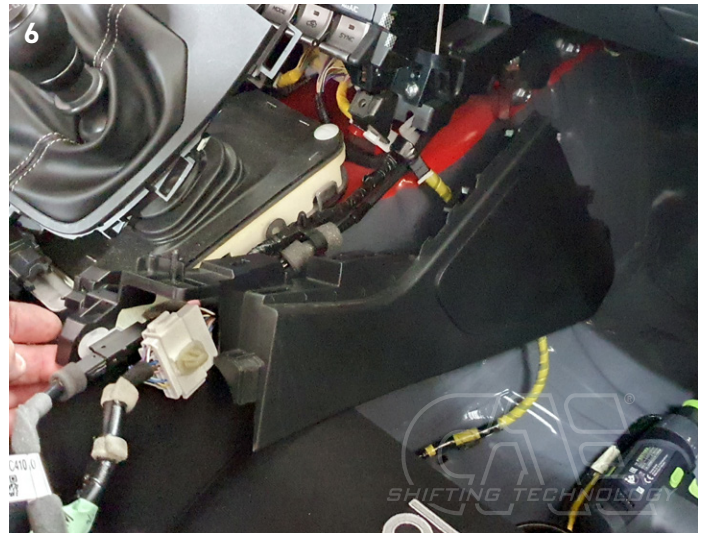
The removal

- ▶ Safely raise the vehicle on a vehicle lift.
Shift the transmission to neutral.



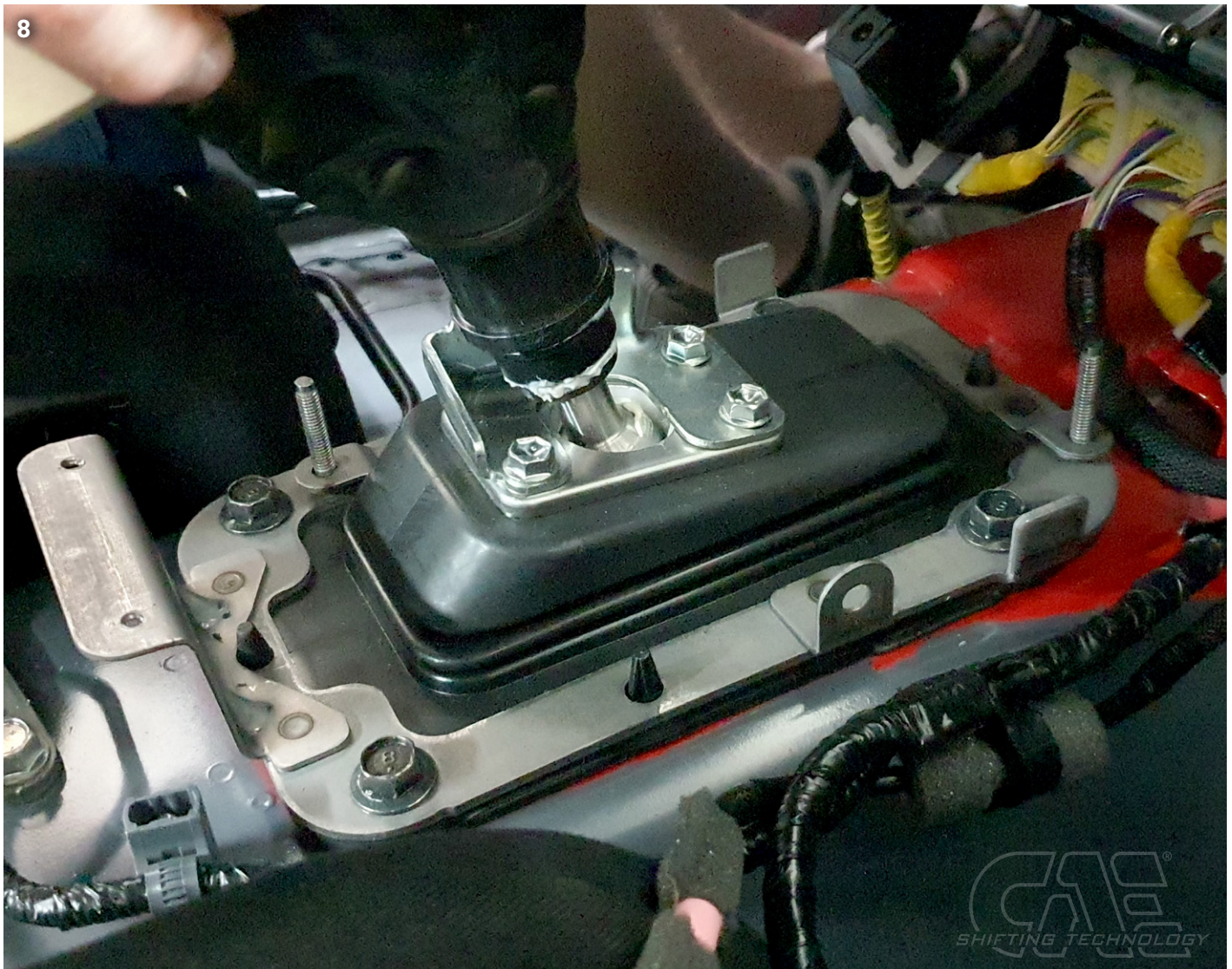
Removal of center console

- ▶ Clip out this panel, unscrew the screws underneath. (Picture 3)
- ▶ Clip out outer frame upwards / backwards.
- ▶ Remove inner frame with shift bag. (Picture 4)
Unscrew the shift knob.
- ▶ Unscrew the center console halves (Picture 5) and pull out the side parts to the rear. (Picture 6)



Under the car

- ▶ Loosen the exhaust, the propshaft center bearing, and the transmission bridge. Be careful not to let the propshaft slip out of the transmission.
- ▶ Support the engine/transmission unit and slowly tilt it back. This makes it much easier to reach the parts to be removed.
- ▶ Detach the shift rod from the shift lever: To do this, pull off the rubber cap, use suitable pliers to remove the circlip from the shaft of the shift rod together with the thrust washer, and unhook the shift rod from the lower part of the shift lever. The thrust washer and the circlip continue to be used.
- ▶ The shift rod itself does not need to be detached from the gear unit!



- ▶ Unscrew the three screws of the bell lever bearing, as well as the 4 fastening screws of the center console support. Then remove the shift lever, rubber and frame. (Picture 8)

- ▶ Unscrew the rear bearing of the aluminum crossmember (2 x M8 screws), push up the two pin clips on the gearbox with a long screwdriver and pull the pins out to the side, then remove the shift lever bearing from the tunnel to the rear.

Simply push the bolt clamps back in and click them on, this saves you the fiddling of taking them out. to take them out.

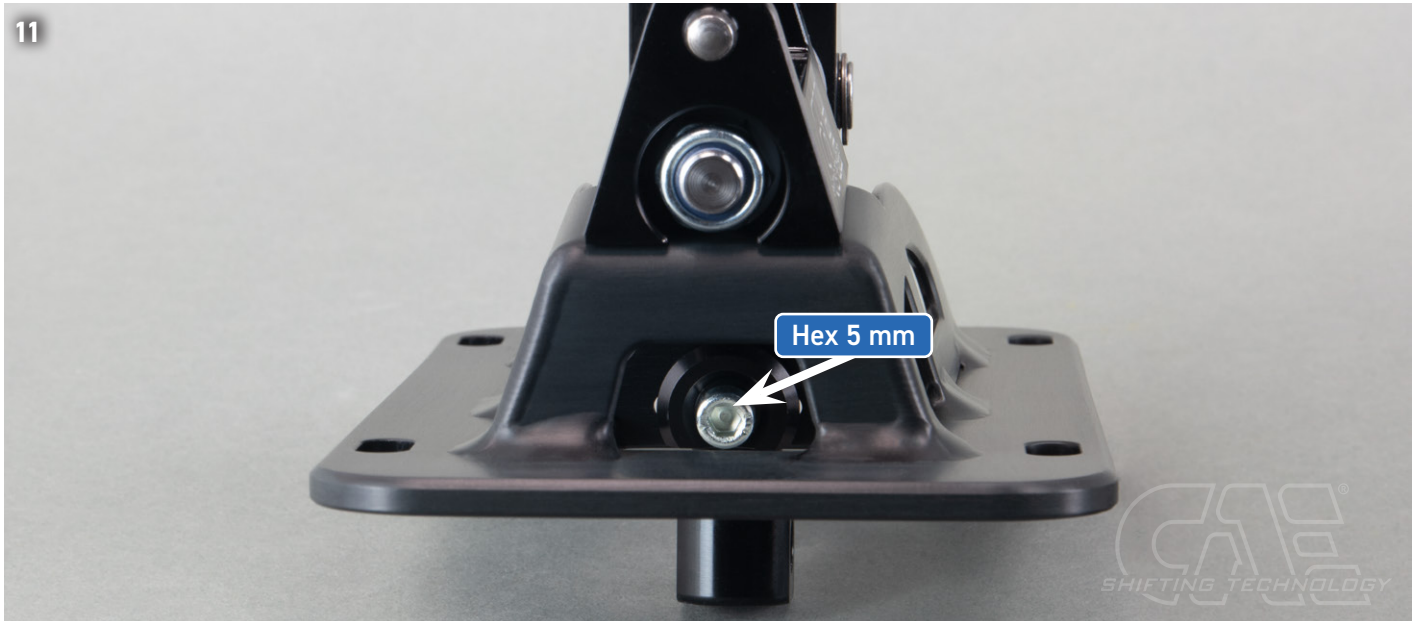


The installation

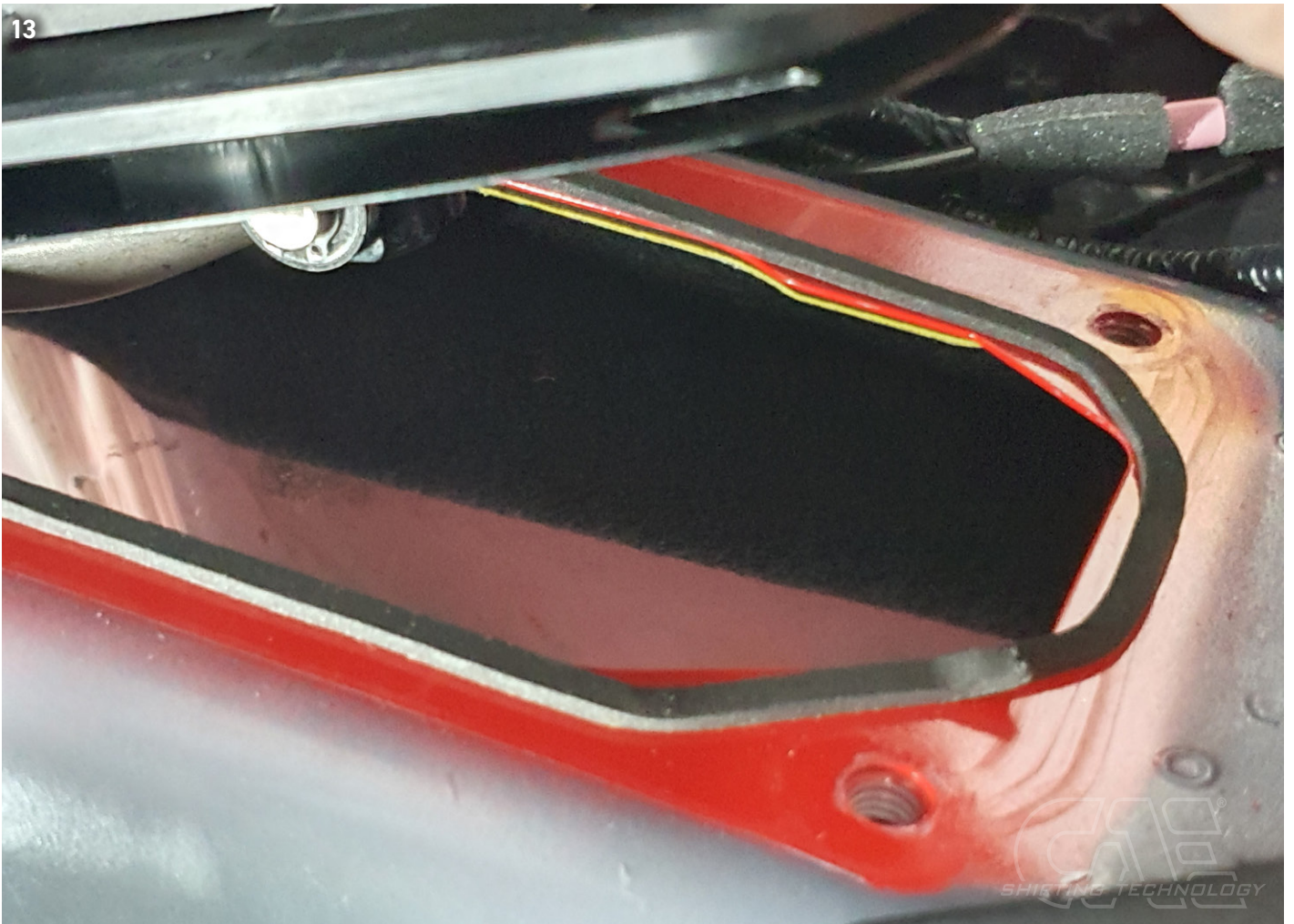
- ▶ Loosen the spring stop (Picture 11) under the gearshift bracket with a 5 mm Allen key until it can be moved sideways, but is not completely loose.

i **Never unscrew the screw of the spring stop completely!** (see information "The spring stop")

- ▶ Stick the supplied foam rubber strip onto the center tunnel so that a closed ring is formed. It serves as a seal against dirt and exhaust gases. (Picture 12, 13)
- ▶ Secure the fixing screw with the wire supplied. (Picture 14)



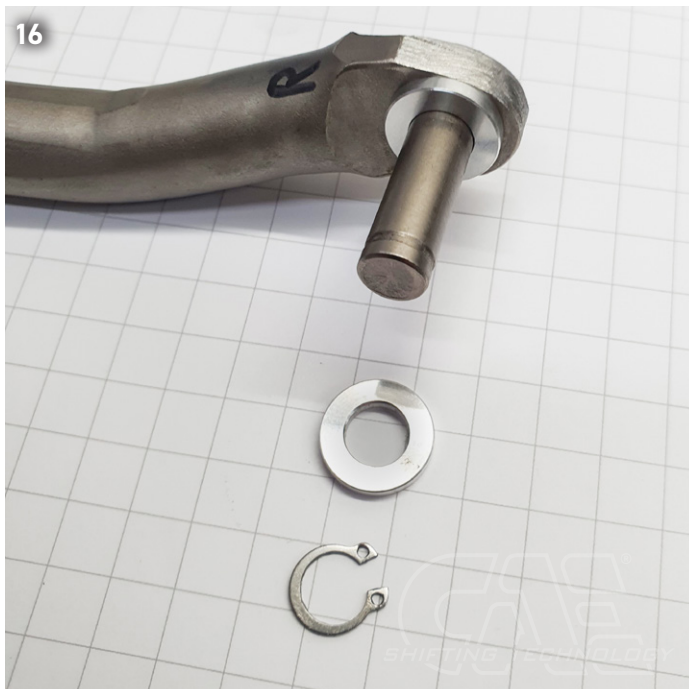
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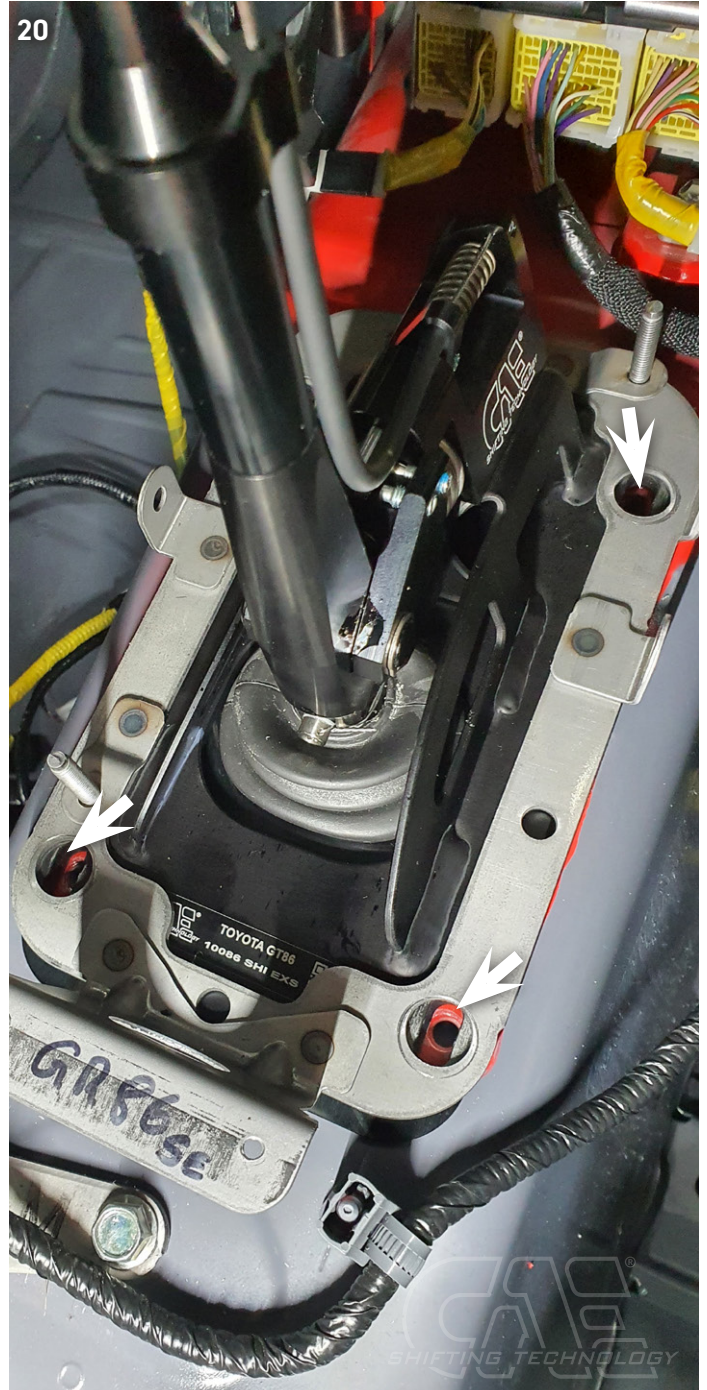
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- ▶ Mount the rubber bellows on the cover plate. (Picture 15)
- ▶ Then mount the cover plate including the rubber bellows on the shifter. The upper bead of the rubber bellows must fit into the circumferential groove on the shifter. (Picture 15)
- ▶ To mount the shift rod in the lower eye of the shift lever, prepare it as follows:
- ▶ Apply plenty of grease to the corresponding components (we recommend Würth HHS 2000) "Stick" one of the aluminum spacers to the bolt with grease. (Picture 16)
- ▶ Place the 2nd washer, the original thrust washer and the shaft retaining ring, plus tools in the vehicle. (Picture 17)
- ▶ Place the shifter on the center tunnel with the front side (Picture 18) and insert the shift rod bolt (well greased) into the eye of the shift lever.



- ▶ Install the 2nd aluminum washer, the thrust washer and the shaft retaining ring (Picture 19).
- ▶ Center the shifter with the slotted holes. (Picture 20)
- ▶ Push the cover plate under the shifter all the way forward; it protrudes approx. 5 mm under the shifter at the rear.
- ▶ If no center console is installed, use the short M8x20 screws and tighten the shifter.
- ▶ If the center console is to be installed, align the original sheet metal collar on the shifter and tighten it with the long M8x25 screws and the washers.



Adjusting the gearshift travel

- ▶ Now re-tighten the spring stop with the supplied 5mm Allen key and check lateral clearance (Picture 21).

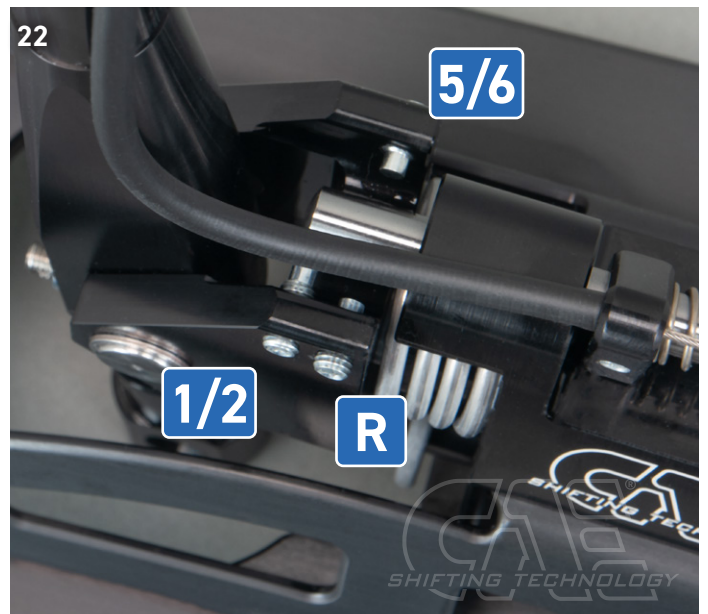


CHECK: When 3rd and 4th gear are engaged, the lateral clearance on the shift lever must be the same. If this is not the case, the spring stop must be readjusted. (0.5 mm is already a lot here).

This is the basic setting of the shifter and should be carried out very precisely. The shift lever is thereby laterally straight or minimally tilted to the right!

The perfectly adjusted center position is a combination of shift rod and spring stop.

- ▶ Reassemble engine/gearbox unit and exhaust properly.
- ▶ Shift gearbox to 3rd or 4th gear. This is the "zero position" of the transmission, to do this simply move the shift lever forward or backward.
- ▶ Shift gearbox to gear level 1/2 using shift lever and screw in stop screw until 1st and 2nd gear can be engaged cleanly (Picture 22).
- ▶ Now shift the gear unit to the 5/6 gear level using the shift lever and screw in the stop screw until the 5th and 6th gears can be engaged cleanly.
- ▶ Operate the locking bolt via the cable and shift the transmission to the reverse gear level. Screw in the stop screw until the reverse gear can be engaged cleanly.



PLEASE NOTE: For gears 1/2 and 5/6, the grub screw must not touch the locking bolt when the gear is engaged!

Approx. 0.3 mm clearance 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!

Machining center console

- ▶ The center console must be machined.
- ▶ The cover frame must be machined for installation according to the photos (Picture 23, Picture 24).



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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