

📍 VW Golf I
10008 Gearbox type 020

5 & 6-speed gearbox



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 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, gear lever (Picture C)
- ▶ 1x shift cable holder (Picture D)
- ▶ 1x shift cable (S), 1x selector cable (W) (Picture E, F)



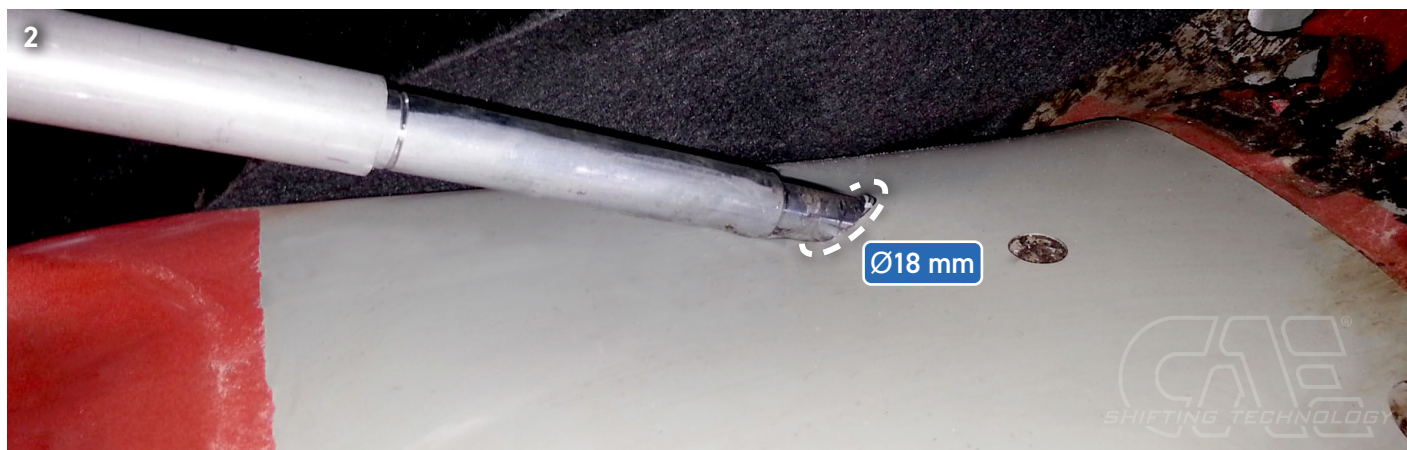
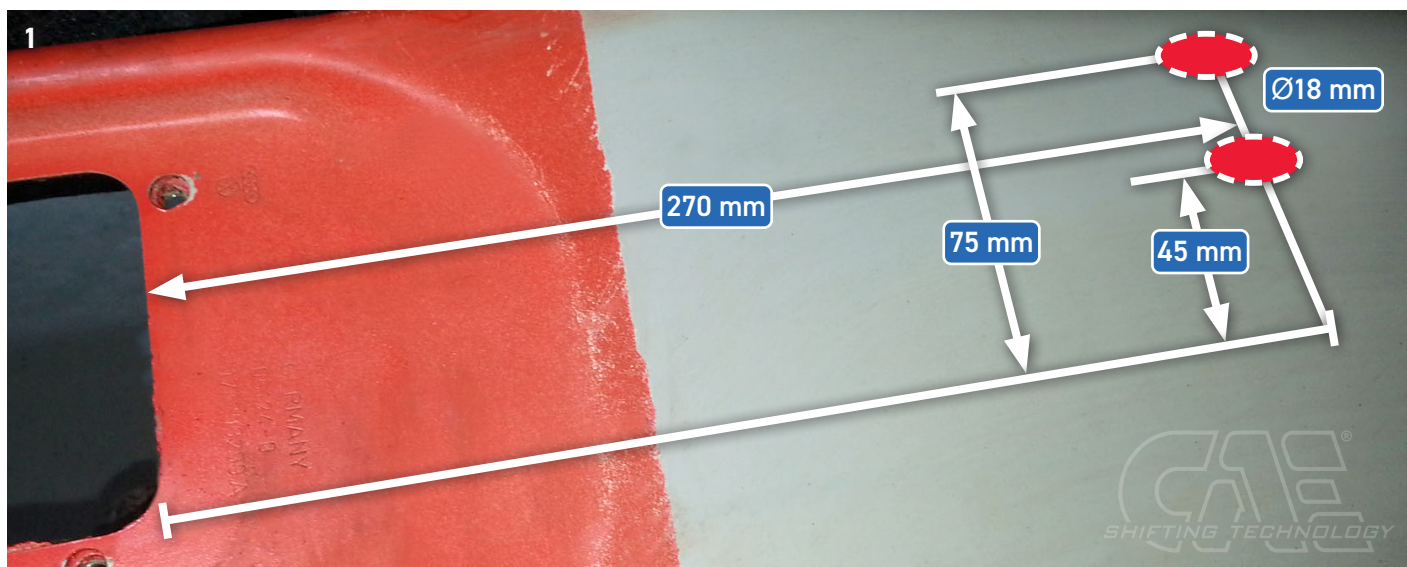
- i** The shifter is designed for racing vehicles without interior equipment. If the center console is installed, it must be removed or cut out until there is sufficient clearance for the shift cables.

The removal

- ▶ Completely remove the original shift lever and shift cables, also remove all deflectors on the steering gear and transmission input lever.

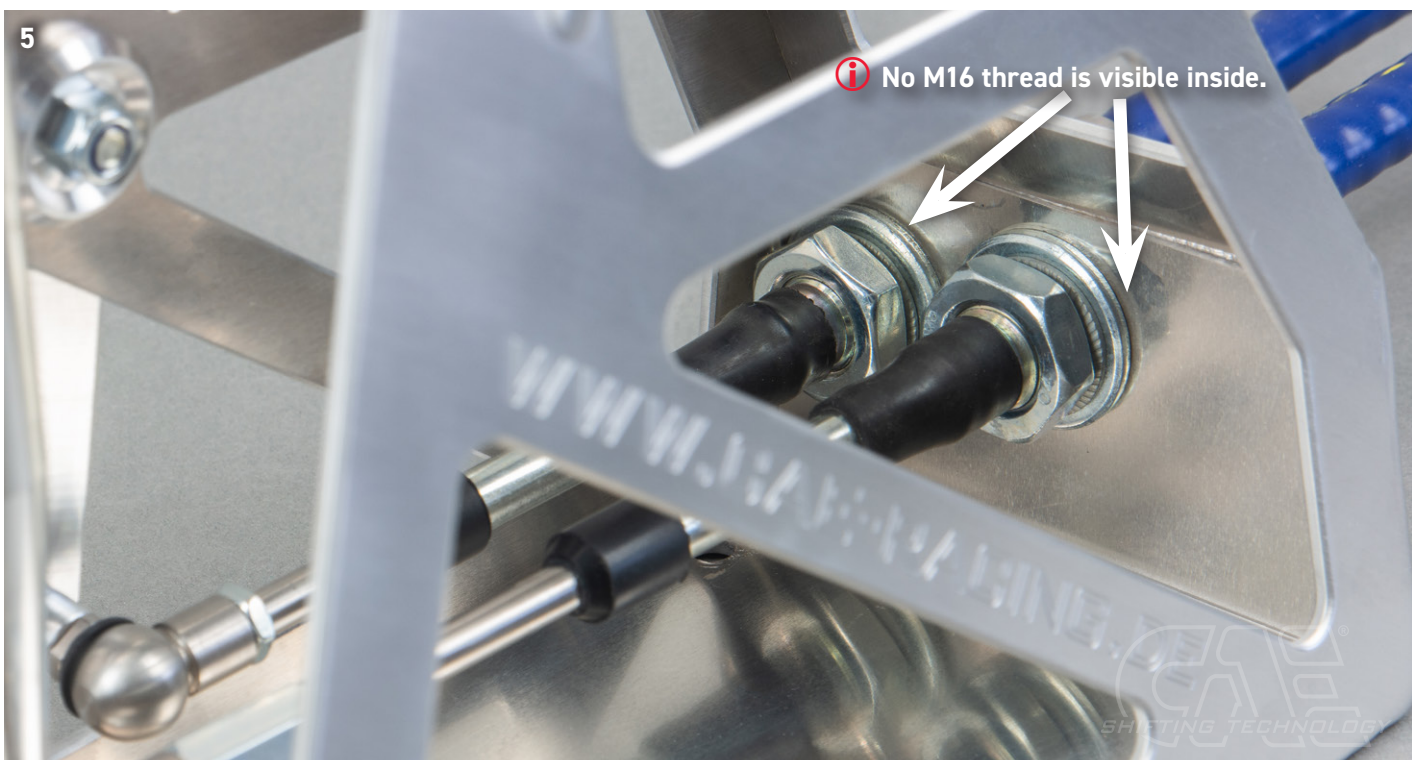
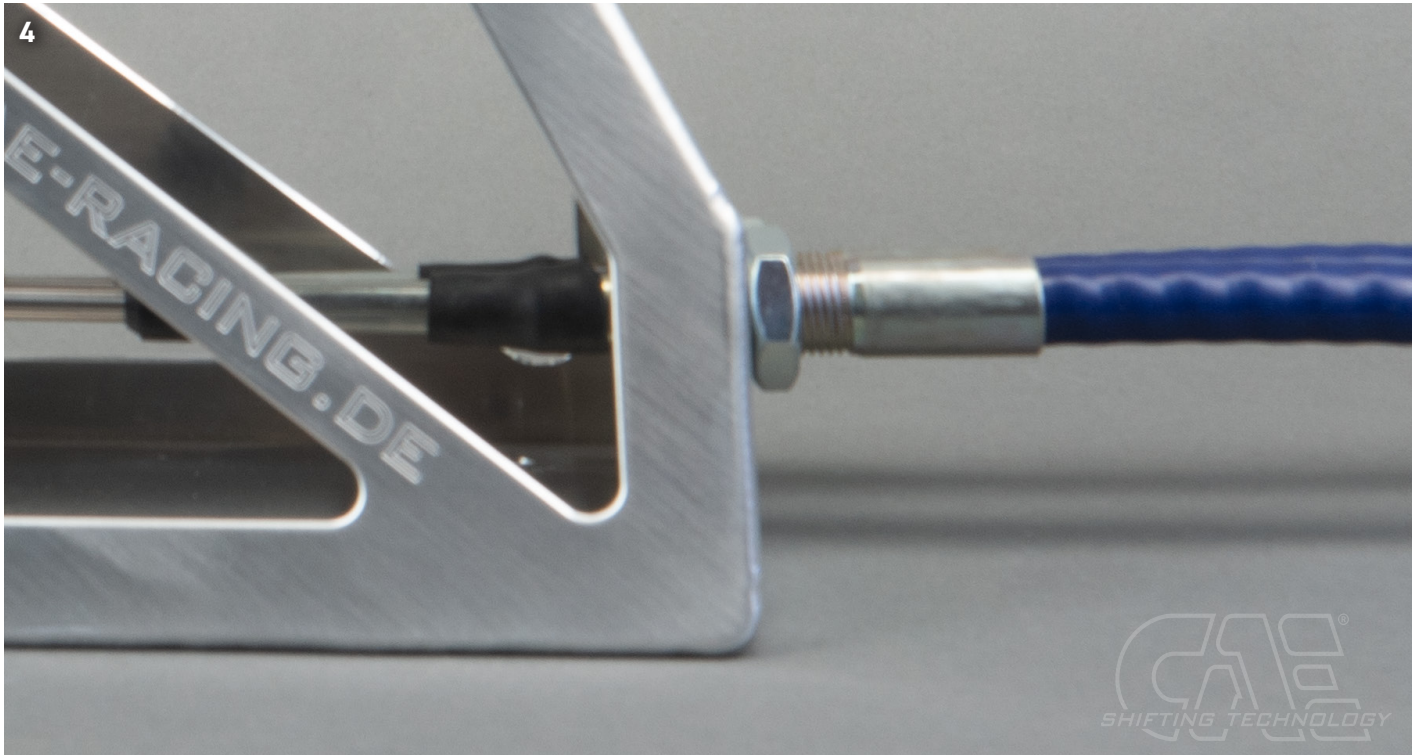
Drilling holes for shift cables

- ▶ Two 18 mm holes are drilled in the tunnel for the passage of the shift cables to the engine compartment. Attention double sheet metal! The dimensions in the following photo refer to the front edge of the tunnel cutout.
- ▶ Insert a suitable tube or solid material into the holes and fold it over to the rear. This is how the illustrated cable bushings are created:



Installation of the shift cables on the shifter

- ▶ **Shift cable (S) L=1020mm** --long ball socket and M6 thread - from the shifter inside center to the L-shaped lever of the transmission linkage.
- ▶ **Selector cable(W) L1150mm** --Inside& Outside short ball socket and Short M6 thread - from L lever on shifter to lower ball transmission linkage lever. (Left remains left)
- ▶ The M16 threaded side of each is attached to the shifter.
On the M16 threaded side of the cables, remove the ball cups, M6 nuts, sealing caps, and the first M16 nut and washer from each of the shift (S) and selector (W) cables. Short socket = selector cable
- ▶ Fasten the cables to the shifter with M16 nuts, no thread of the M16 thread is visible in the shifter.



ORIENTATION FOR INSTALLATION

Our shift cables are marked with different stickers at the ends. The connection to the shifter comes with a circular contour, the connection to the gearbox is made without a circular contour (S = Shift / W = Select).



Connection shifter

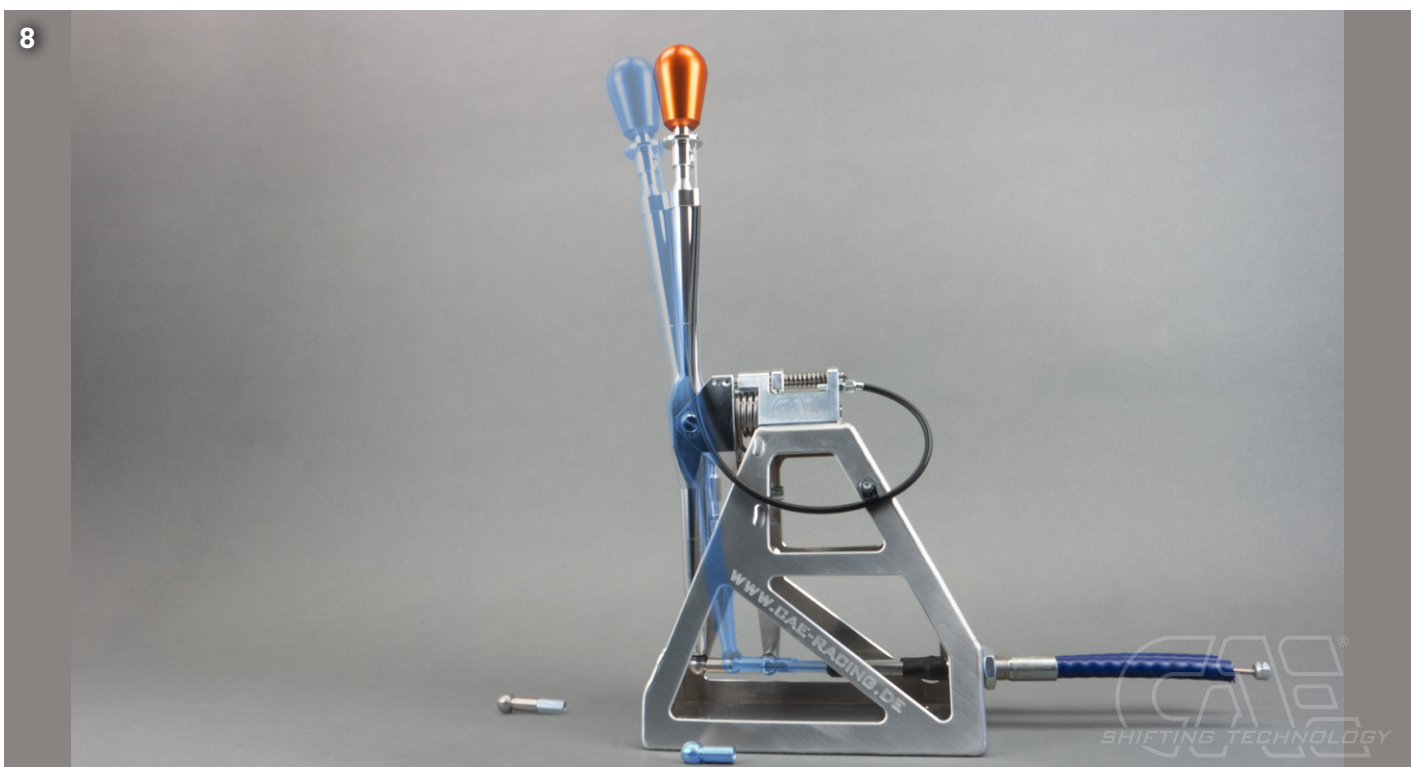


Connection gearbox



- The position of the shift knob can be varied using the hexagonal extensions supplied. Always make sure that the lever does not touch anything in the end position. The following applies: The longer the pan/hexagon, the further the knob moves forward. (Picture 8) This change can be made at any time later, no further adjustment is necessary.

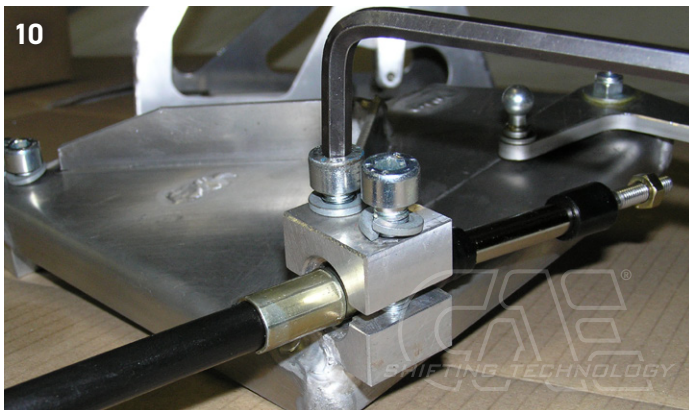
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Installation of the gearshift unit

- ▶ Before screwing the switching tower onto the tunnel, glue the enclosed foam rubber strips onto the tunnel so that they later seal the tunnel opening. Then screw the control tower onto the tunnel.
(Use ball head Allen key)
- ▶ Guide the shift cable (S) from the interior through the right hole in the tunnel.
The selector cable (W) can only be passed from the engine compartment/underneath, Left hole tunnel.
When threading the shift cables, immediately finish routing them above or behind the steering gear.
- ▶ To protect the shift cables, slide the two black hose pieces over the shift cables in the area of the sheet metal bushings.
- ▶ Then screw on the ball heads and press them onto the selector lever and gearshift lever (will be adjusted later) - (picture shows gearshift cable retaining plate with gearshift cables already mounted and the routing of the selector cable behind the steering column).
- ▶ Screw the shift and selector cables into the clamps on the retaining plate.
- ▶ Press all ball cups onto the corresponding balls.

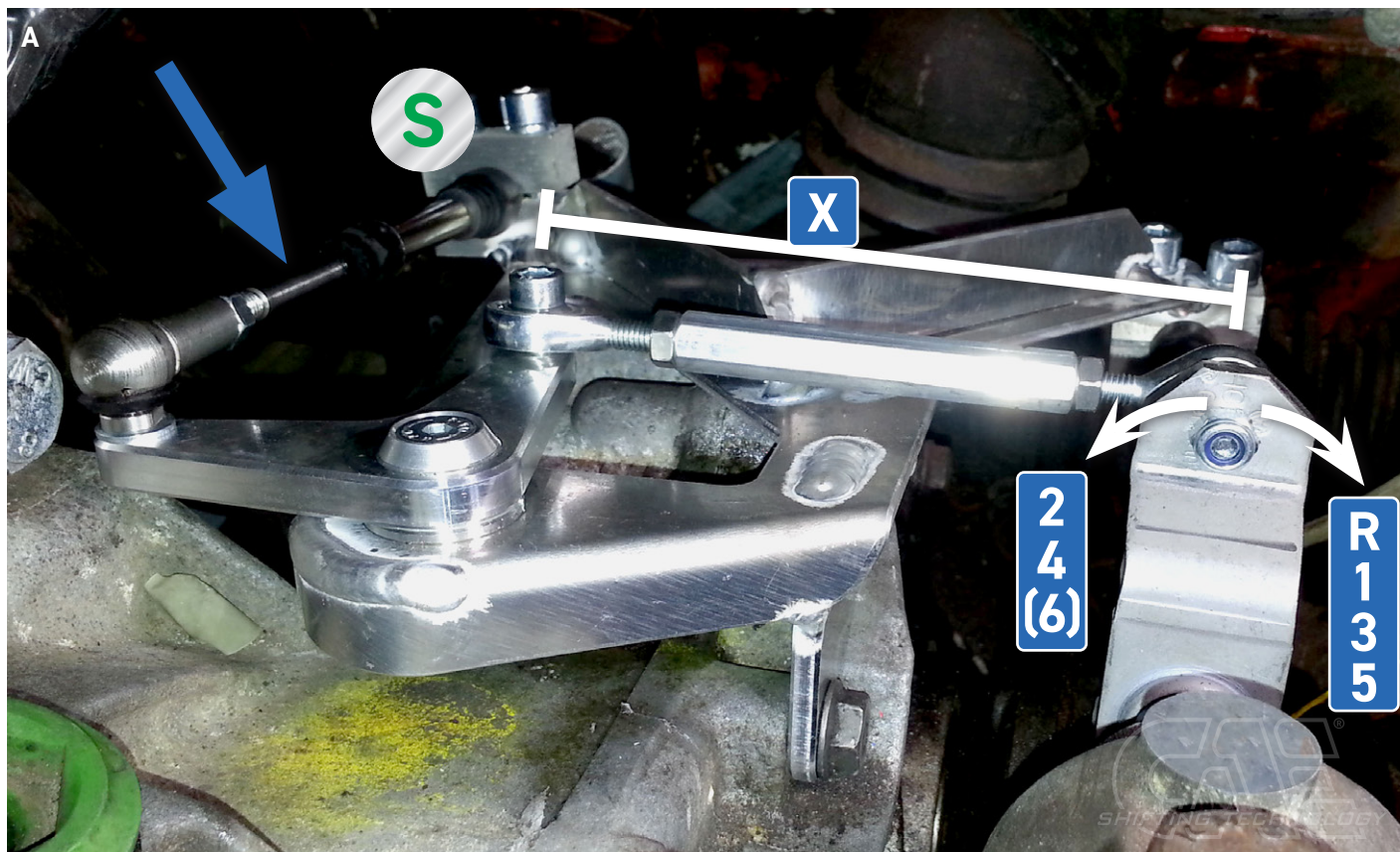




CHECK THE END POSITIONS OF THE SWITCHING CABLES

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!

Sample pictures:



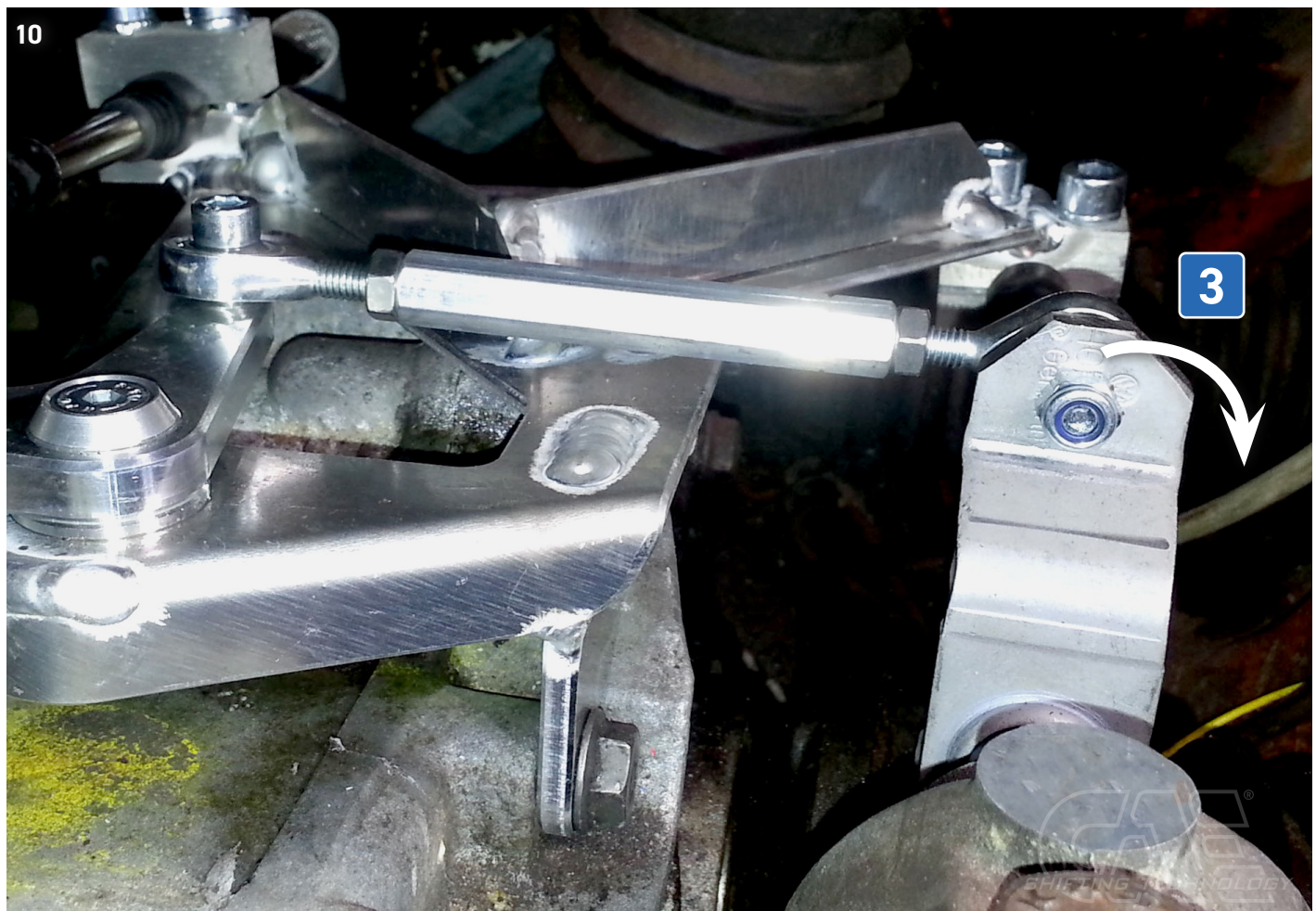
CHECK: With the gear engaged, pull the ball cup off the gearshift lever and check whether the shift cable can still be moved at least 3 mm. This applies to the "front" gears R-1-3-5 with the cable retracted and to the "rear" gears 2-4 (6) with the cable extended.

- ▶ If the shift cable (blue arrow) reaches its inner end position when the gear is engaged, the coupling rod must be extended by turning the hexagon (R/L thread, length X). The end position can also be corrected by screwing the ball cups in or out on the M6 thread of the cables.
- ▶ After checking and adjusting, reassemble the ball cups from the shift cable.

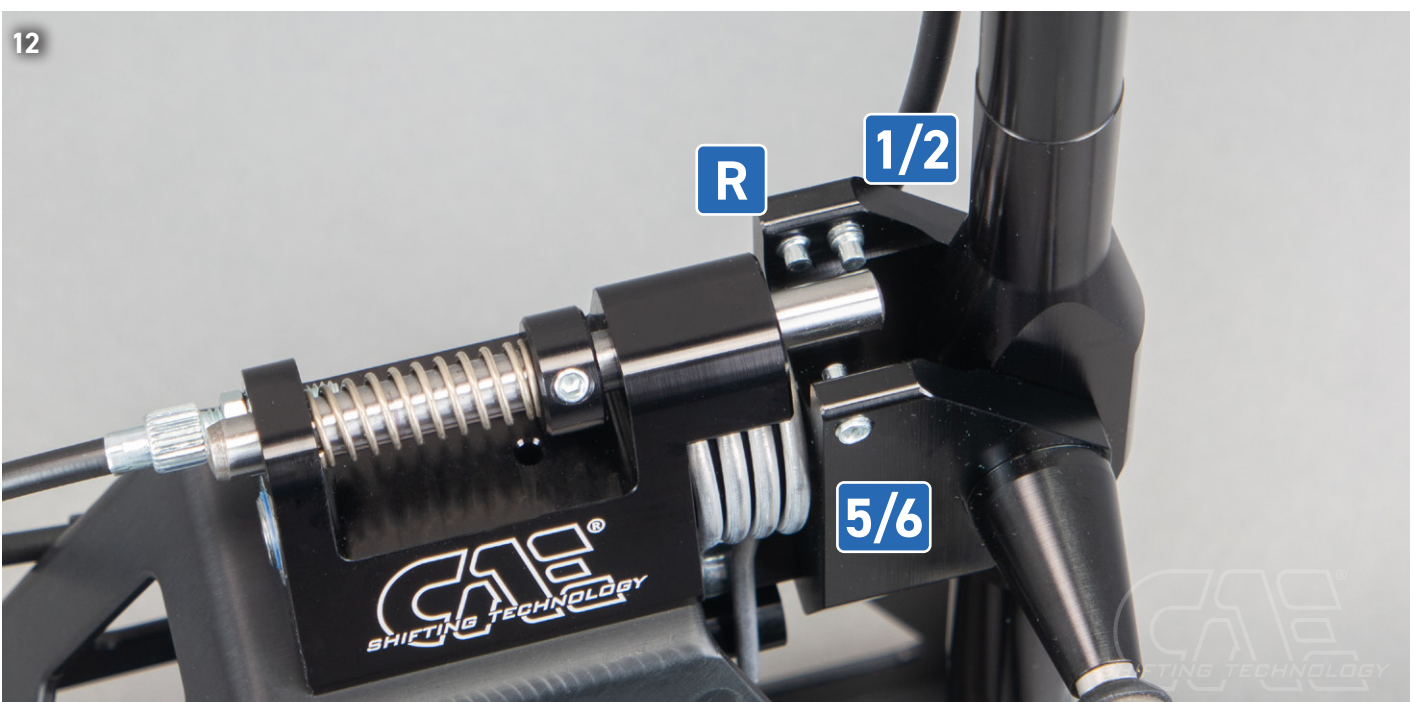
ATTENTION: THIS CONTROL IS VERY IMPORTANT FOR THE FUNCTION OF THE SHIFTER !!!
If the remaining travel on the shift cable is missing, there is an immediate risk of damage to the gearbox. !!!!!

Adjusting the shifting travel of the 5 & 6-speed gearbox

- ▶ Remove the side coupling rod on the shifter from one of the balls.
- ▶ Shift the gearbox to 3rd gear by hand using the bell crank. The 3rd gear is on the left as seen in the direction of travel. To engage it, simply swing the gearbox input lever to the left without load.
- ▶ Now first adjust the length of the coupling rod at the gearbox:
- ▶ Now adjust the center position of the shift lever on the shifter. Tighten the lower spring stop under the gearshift bracket with an Allen key.
- ▶ In the center position, the shift lever should be slightly inclined to the left; however, it is mainly important that all selector gates are reached without the lower part of the shift lever colliding with the ball head of the L lever in the shift unit. (5th gear level)



- ▶ Then adjust the side coupling rod so that it can be pressed onto the ball without changing its length. It must now be possible to change gears 3 / 4 without problems. When 3rd or 4th gear is engaged, check the lateral clearance on the shift lever; it must be the same to the right and left, otherwise correct it on the coupling rod.
- ▶ Shift gearbox to level 1 / 2 using gearshift lever and screw in stop screw until gears can be changed cleanly in level 1 / 2.
- ▶ Now shift gearbox to 5th gear level using shift lever and screw in stop screw until 5th gear can be engaged cleanly.
- ▶ Actuate locking pin via cable and shift gearbox to reverse gear level. Screw in stop screw until reverse gear can be engaged cleanly.
- ▶ Lock all ball cups and install retaining clips Check settings during test drive and readjust if necessary; incorrect or inaccurate settings can lead to gearbox damage.





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!**

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



**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!**



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