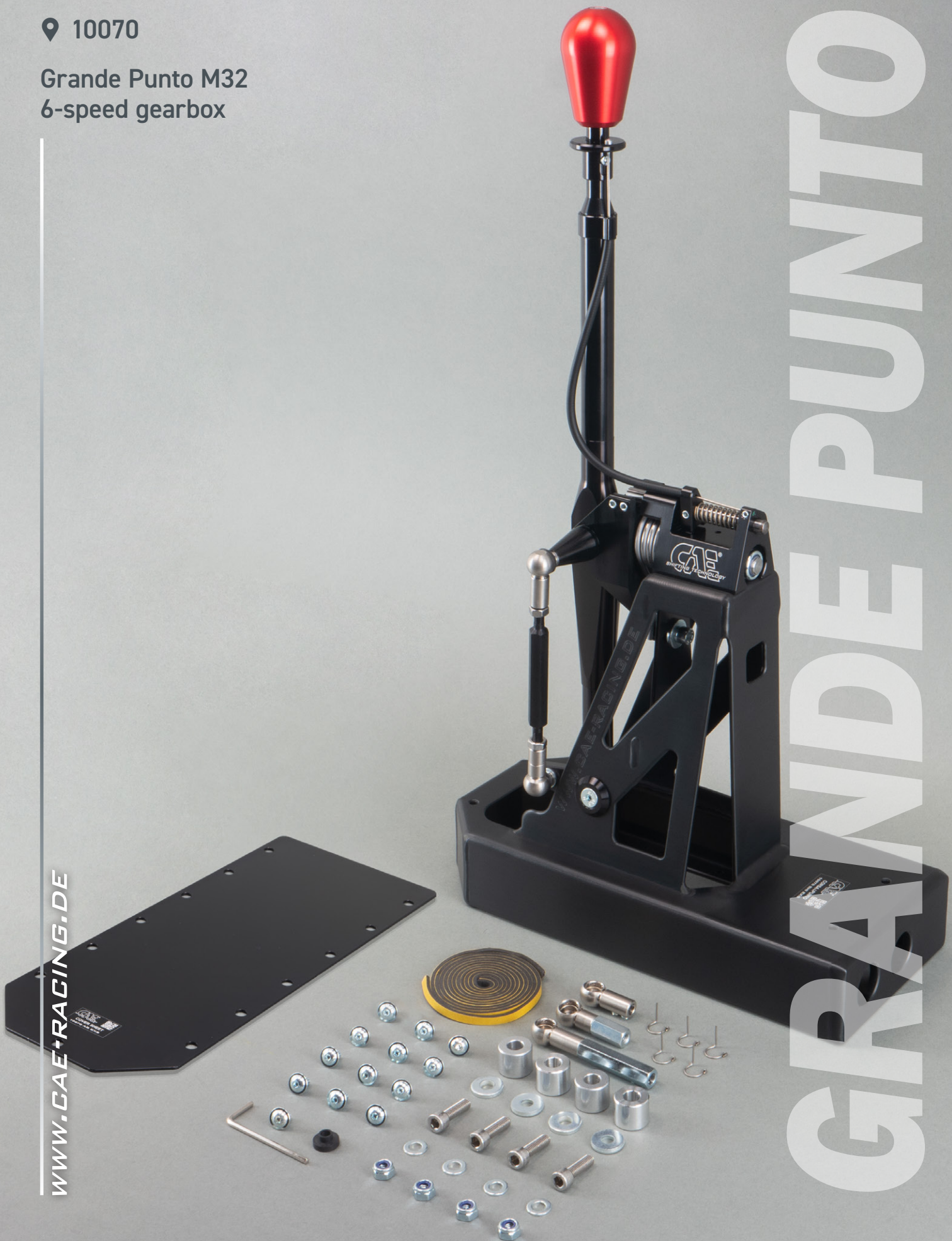
SHIFTING TECHNOLOGY

ULTRA SHIFTER

Installation instructions

10070

Grande Punto M32
6-speed gearbox



GRANDE PUNTO

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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!

ⓘ 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.

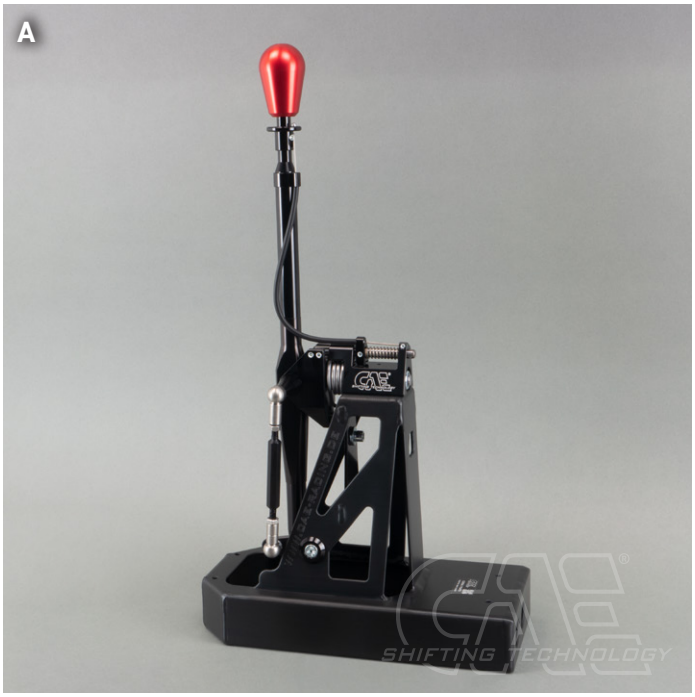
TIPS FOR GEAR SHIFTING

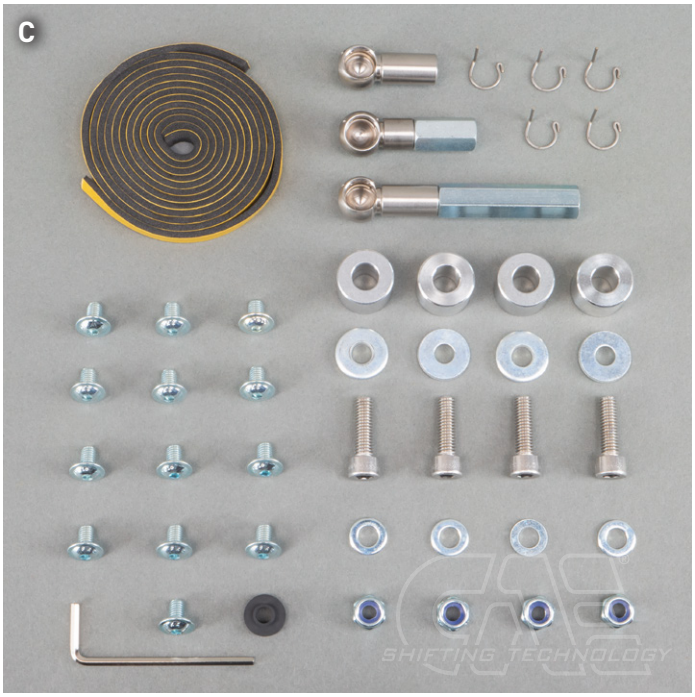
ⓘ FORCE DOESN'T MAKES YOU FASTER – IT ONLY HARMS THE TRANSMISSION

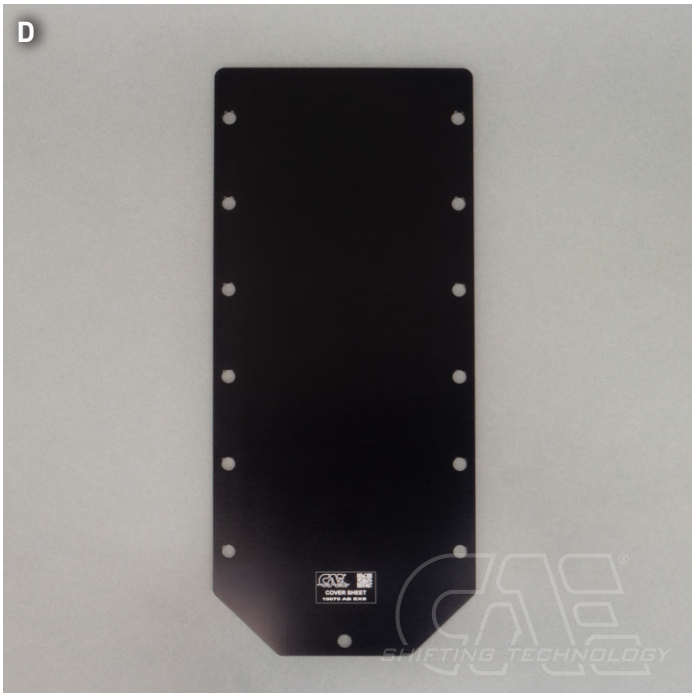
The question arises again and again: "Does a CAE shifter puts more strain on a gearbox than a standard gear lever?" The answer is clear: “No!” The things that are most stressful for a synchronizer ring in a transmission are excessive shifting forces or a wrong shift in gear. Basically, the shift travel 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, 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 sshifter 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)



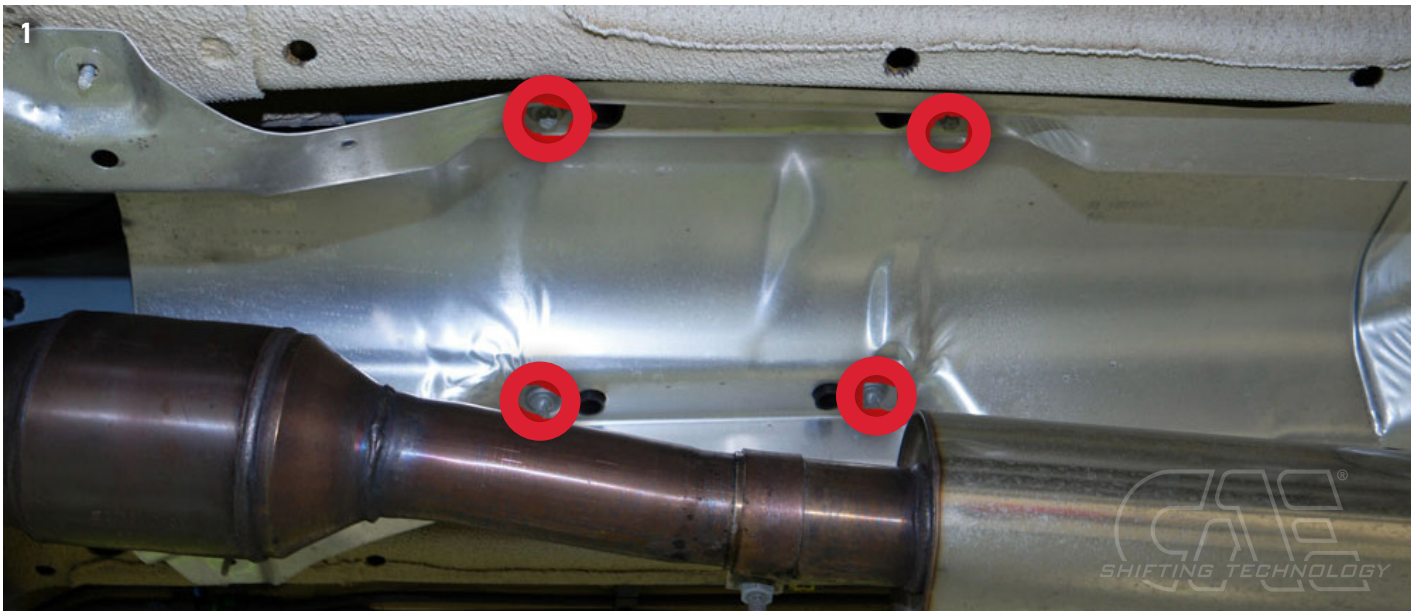




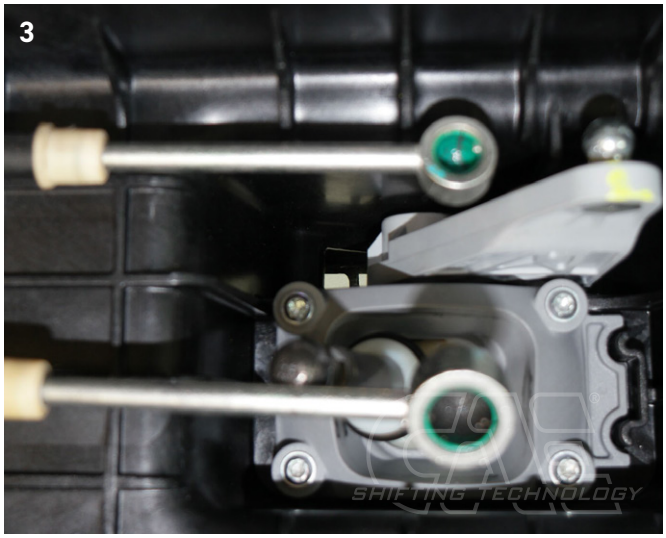
The shifter is designed for vehicles with interior equipment. The center console must be cut out until proper clearance is ensured.

Lubricate all moving parts occasionally with good spray grease. For cleaning the aluminum parts we recommend commercial spirit.

The removal



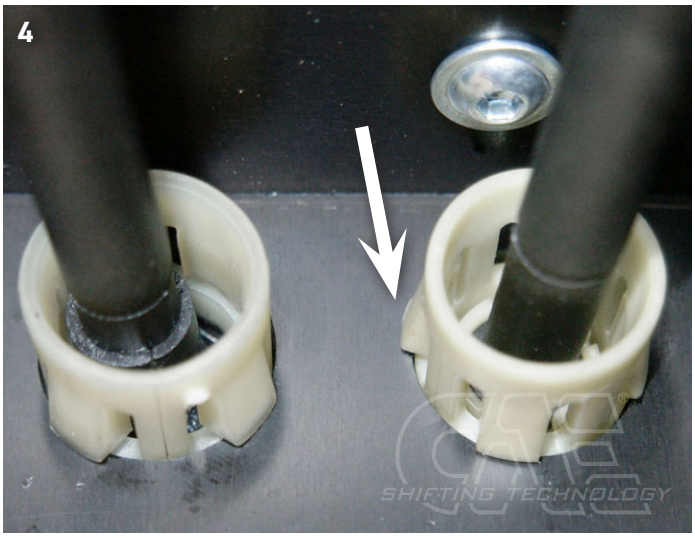
- Lift the vehicle safely on a lifting platform.
- Dismantle the exhaust so that the shifter is accessible from below.
  We recommend separating it in front of the axle and leaving it hanging on the wire or rope for approx. 30 cm.
- Unscrew the sheet metal nuts of the front heat. Unscrew the 4 Torx screws and remove them carefully. The shifter is fixed with these screws. (Picture 1)
- Remove the sheet metal and fix the shifter with 2 screws first.
- Lift up the lower plastic cover of the gearshift housing and remove it. (Picture 2)
- Pull or lever off the ball cups of the shift cables from the levers.
  Use a large screwdriver or nail bar for this purpose. (Picture 3)



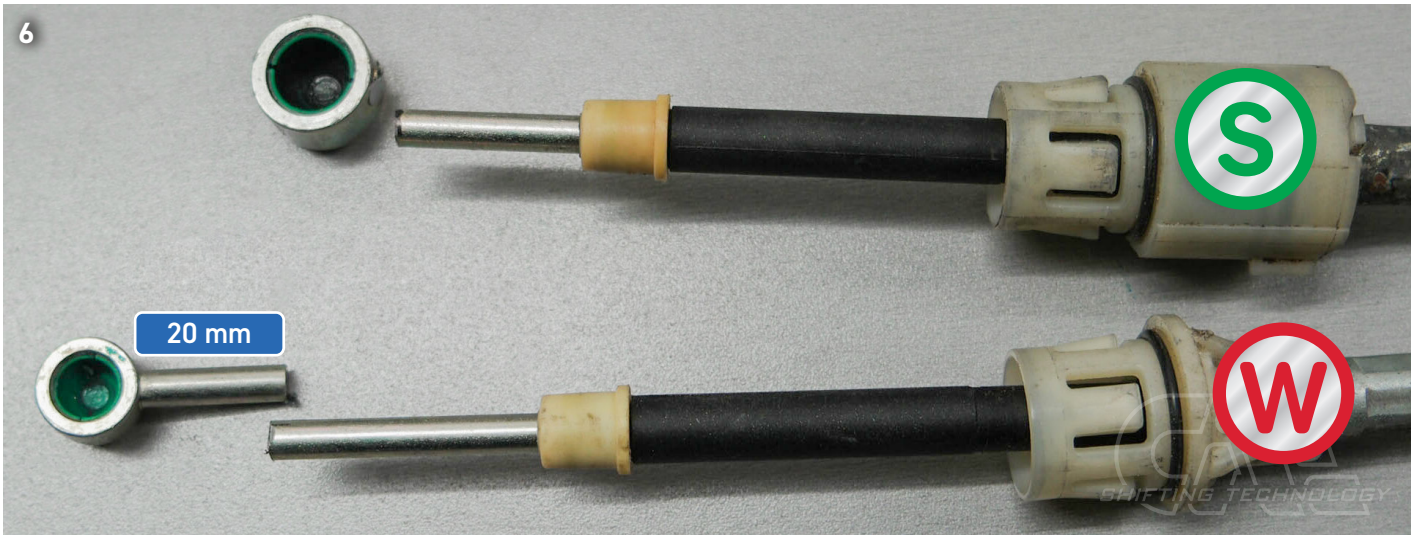
- Push back each of the 4 lugs on the shift cable sleeve, (the sleeves can be rotated) The lugs must not be damaged; then the cables can be pulled out of the housing individually. (Picture 4)
- Now completely remove the original shifter. The shift knob and shift boot can remain on the shift lever and are removed with it facing downward.

Do not completely remove the shift cables.

- Hold the CAE shifter from below in the tunnel and mark the drill holes.



- Drill the 4 7mm holes, deburr and seal them.
- To achieve gas tightness, glue the supplied foam rubber strip around the tunnel cutout. (Picture 5)
- Cut off the shift cable heads:
  Mark the shift cables with S (Shift; Large pan) and W Select; Small pan). The large socket must be cut flush, the small socket with 20mm core. Deburr the ends of the cores. (Picture 6)



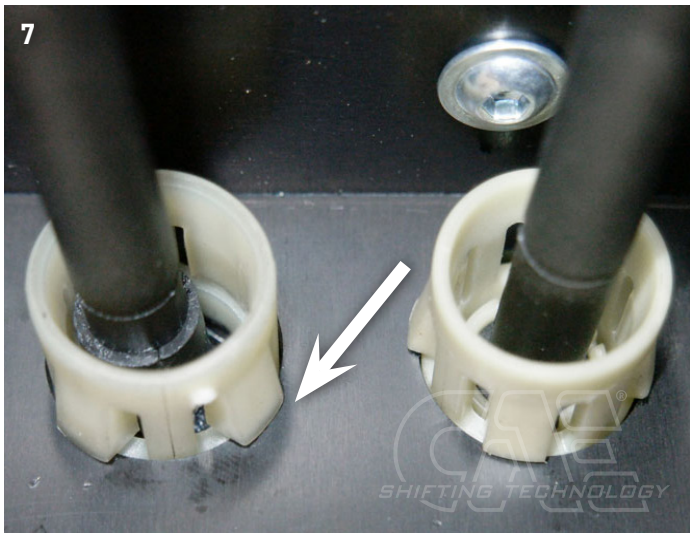
The installation

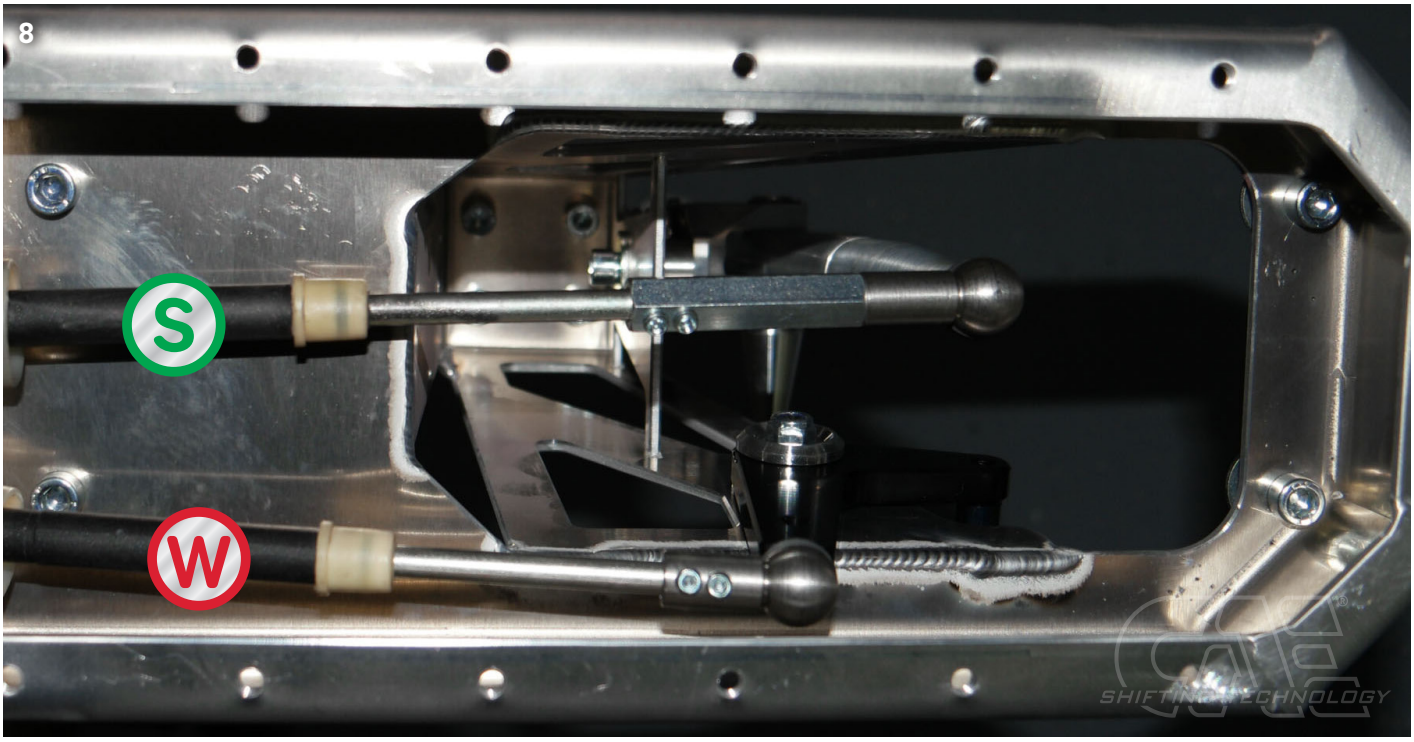
- Insert the shifter into the center tunnel from below and tighten with the 4 screws, nuts and washers supplied.

- Insert the shift cables into the front panel holes, press the cables firmly into the housing and check that all 4 lugs on the inside of both shift cables are hooked in. (Picture 7)

- Grease the ball sockets of the cable ends and push them completely onto the sockets, press them onto the corresponding balls on the shifter and tighten the grub screws, be sure to glue them with threadlocker. Long socket = (S) Short socket = (W) (Picture 8)

- Secure the ball cups with the locking pins.



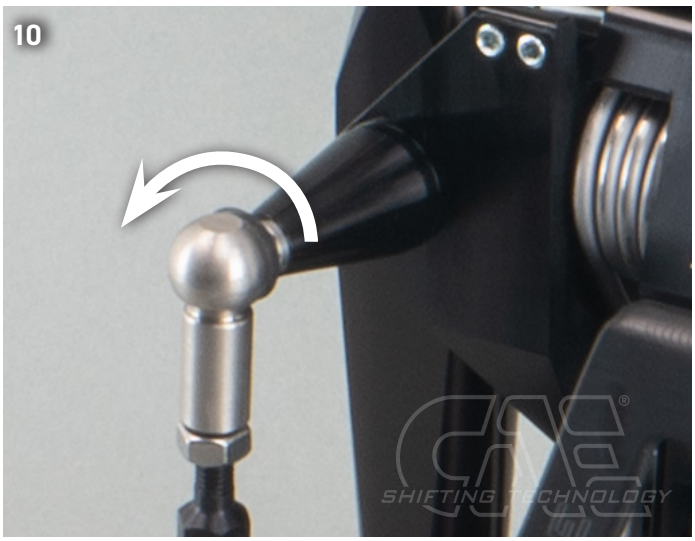


- Replace the rubber cup on the gear unit with the supplied ball socket with M6 thread, making sure that the length is set correctly. (Picture 9)
  Fit the rubber sleeve on the ball head on the gearbox lever, grease the ball socket well and secure it with the retaining clip.

ATTENTION: Some years of manufacture have permanently installed ball cups on the gearbox side, in which case these steps are not necessary!

Adjusting the shift travel of the 6-speed gearbox

Pull off the side coupling rod to the L lever. (Picture 10, 11)



- Find the center position of the shift lever. In the center position, the shift lever should be exactly vertical to slightly inclined (approx. 3 degrees) to the right. This can be adjusted under the gearshift bracket with a 5 mm Allen key by moving the lower spring stop. (Picture 12, 13)

- Shift the gearbox to 3rd or 4th gear by moving the shift lever forwards or backwards.

NOW MOUNT THE COUPLING ROD.

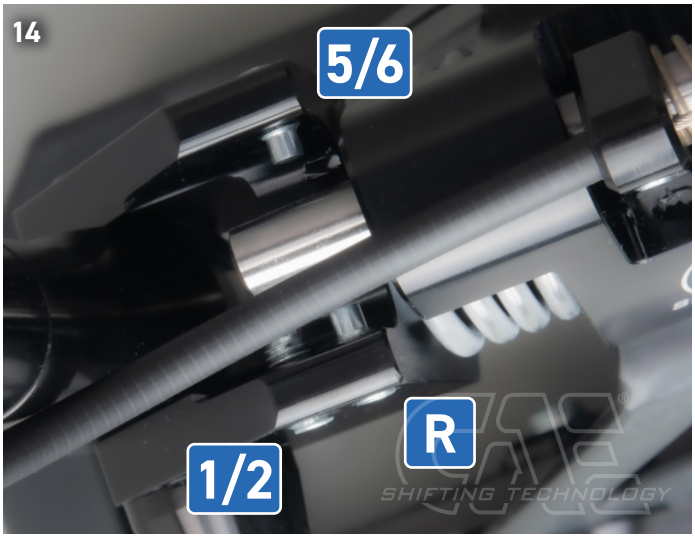
- Adjust the length of the R/L spindle between the L lever and the side arm so that it can be pressed perfectly onto the ball heads. Now 3rd & 4th gear must still engage properly. Lock the nuts of the spindle, left-hand thread can be recognized by the groove on the shaft.

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 must be carried out very precisely.

- Then shift the gearbox to level 1 / 2 using the shift lever and adjust the stop screw until the gears in level (1/2) can be changed cleanly. The adjusting screw should have a play of approx. 0.5 mm. (Picture 14)

- Now shift gearbox to (5/6) gear level using shift lever and screw in stop screw until 5th /6th gear can be engaged cleanly. Screw has approx. 0.5 mm clearance (Picture 14).

- Actuate reverse gear locking pin via pull and shift transmission to reverse gear level.(R) Screw in corresponding stop screw until reverse gear can be engaged cleanly. (Picture 14)



ⓘ **CHECK: If the total lateral travel to one side is not sufficient to reach all gear levels (lower part of the shifter abuts), the center position must be readjusted again. Repeat all other adjustments accordingly.**

- Reinstall the heat shields and exhaust.

- When the center console is reassembled, the ventilation ducts must be removed and the cover frames machined accordingly to ensure enough clearance for all moving parts of the circuit.

- Screw on the cover plate with 13 pieces M5x 8, also here before glue on the foam rubber strip all around.

- Process and install the cover frame / storage tray according to these pictures.

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 the center console

- Process the center console according to the following pictures so that it can be mounted above the shifter. (Picture 15, 16)

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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