SHIFTING TECHNOLOGY

RACE THE ORIGINAL

Installation Manual

10025 CO

Opel Corsa A
F13, F15, F16,
F17, F18, F20

5-speed gearbox



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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 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 Cable Bracket (Picture D)
- 1x shift cable (S), 1x selector cable (W) (Picture E, F)

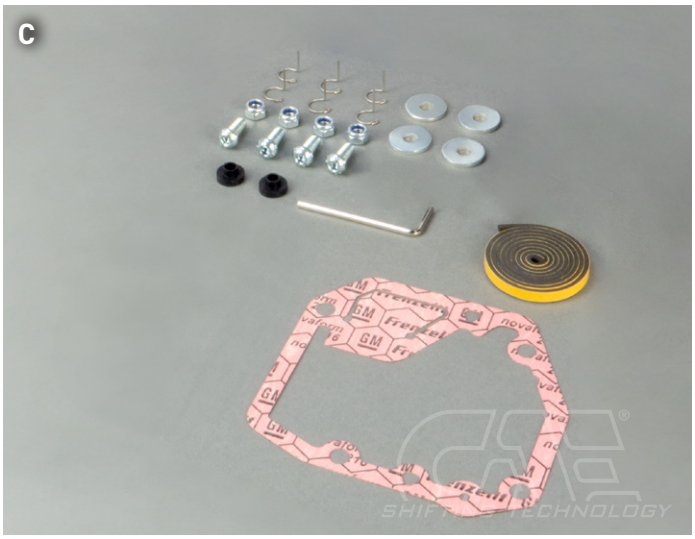
A



B



C



D



E



F



The shifter is designed for vehicles without interior trim. The center console must be removed or cut out enough to ensure adequate clearance.

The shifter mount should be bolted directly to the center tunnel panel; any existing carpet must be cut out.

Installation requires relatively extensive bodywork in the area of the center tunnel! Special tools, such as an angle drill, are required!! Before beginning work, familiarize yourself with how the parts function and their correct placement.

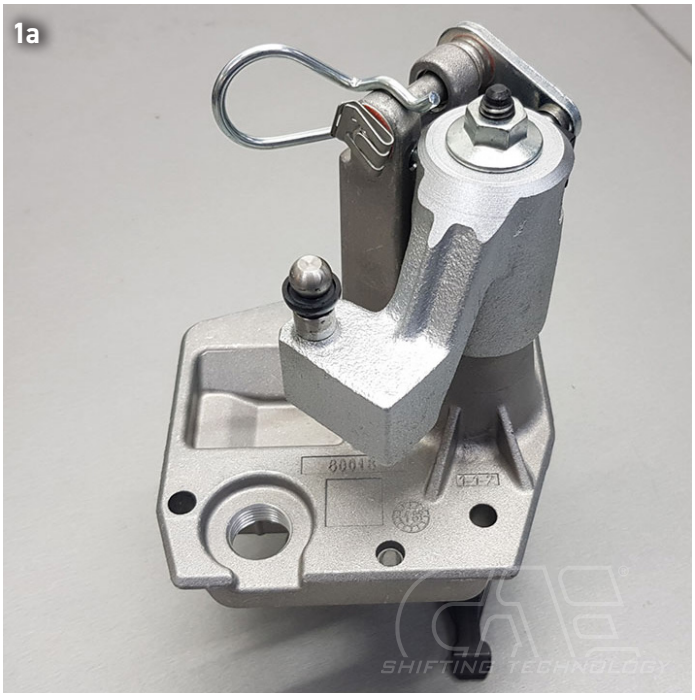
In general, install a sealing sleeve on each ball joint and grease the ball sockets. After the shifter is fully installed, secure the ball joints with the split pins. Apply adhesive to all nuts and bolts during installation! Never kink the shift cables! Lubricate all moving parts occasionally with a good quality spray grease. We recommend using standard rubbing alcohol to clean the aluminum parts.

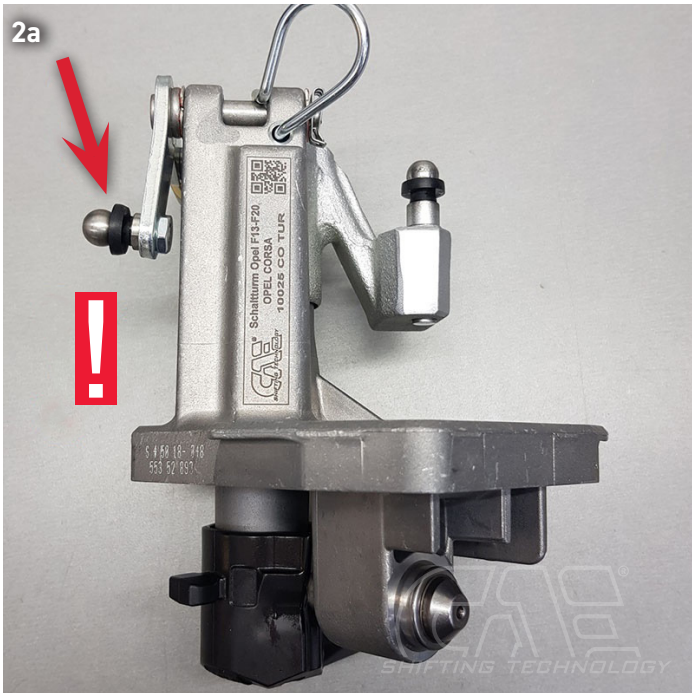
The removal

- Completely remove the original gearshift lever and gearshift cables.
- Unscrew the original gearbox linkage bracket from the gearbox (4 screws SW 11).

Modifying the Transmission Shift Lever

- Modify the transmission shift lever as shown in the pictures (Pictures 1a, 2a)
- Slide the rubber sleeves onto the ball joints.





Sheet metal work

- Cut out the rear edge of the upper center tunnel plate approximately as follows. If necessary, the edge for the cables must be pressed down slightly.
  Alternatively, more of the sheet metal can be cut off (Picture 1, 2).



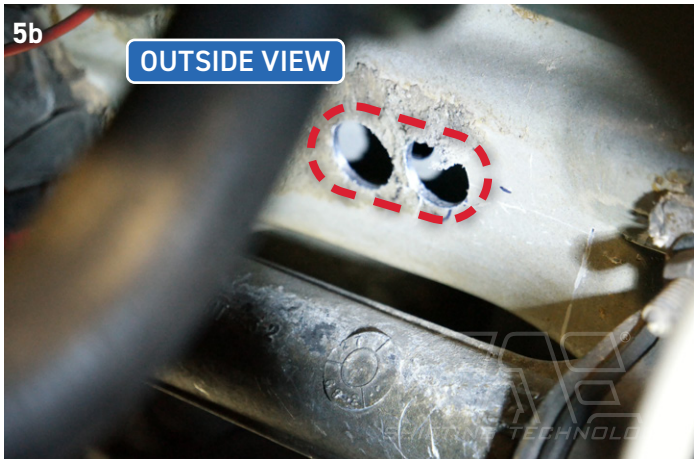


- Drill out the spot welds on the sheet metal housing and remove the housing.
- Place the shifter on the center tunnel and mark 4 mounting holes.
  Drill a 6.5 mm hole at each of these points and deburr them. (Picture 3)
- Deburr the sheet metal parts and seal/paint them to prevent rust.
- To route the shift cables through the firewall into the engine compartment, create a passage as shown in the following pictures.
  The sheet metal is double-walled.
- Note that the cables will later run from the rear right (inside) to the front left. Select the drill hole positions accordingly. The hole diameter should be 20 mm so that the supplied black protective sleeves for the cables fit inside.
- The following photos show the position of the grommet (Picture. 5a, 5b)









Preparing the cables for installation

- Fitting switching ropes (Picture 7, 8)





- Pay attention to the assignment of the cables.
  S W the stickers with border belong to the shifter, the S W stickers without border belong to the gearbox.
- Mount the gearbox holder and shifter on the gearbox.
- Completely remove the ball cups, nuts and washers from the shift cables on the gearbox side. S W
- On the inside, S W remove the ball socket, 1 nut and washer in each case.

Mounting the shifter

- Glue foam rubber strip to shifter or tunnel plate to achieve gas tightness. (Picture 9)



- Fasten the shift tower to the center tunnel using the Allen screws provided.
  If necessary, seal any remaining holes.
- Thread the cables into the holes in the front plate of the tower. It is essential to ensure the correct assignment of the cables (W) / (S) and the position of the washers and lock washers.
- Insert the shift cable (S) in the middle and the selector cable (W) on the right, (short M6 thread) into the shifter and screw the shifter tight.
- Thread nuts and washers over the cables again and screw tight. Then screw on the ball heads and press them onto the shifter.
  (Will be adjusted later).
- Before attaching the cables to the gearbox, slide the protective hoses onto the cables.
- Cut them at an angle at one end and slide a little brake cleaner over the cables into the holes. (The brake cleaner evaporates and the rubber hoses do not slip).



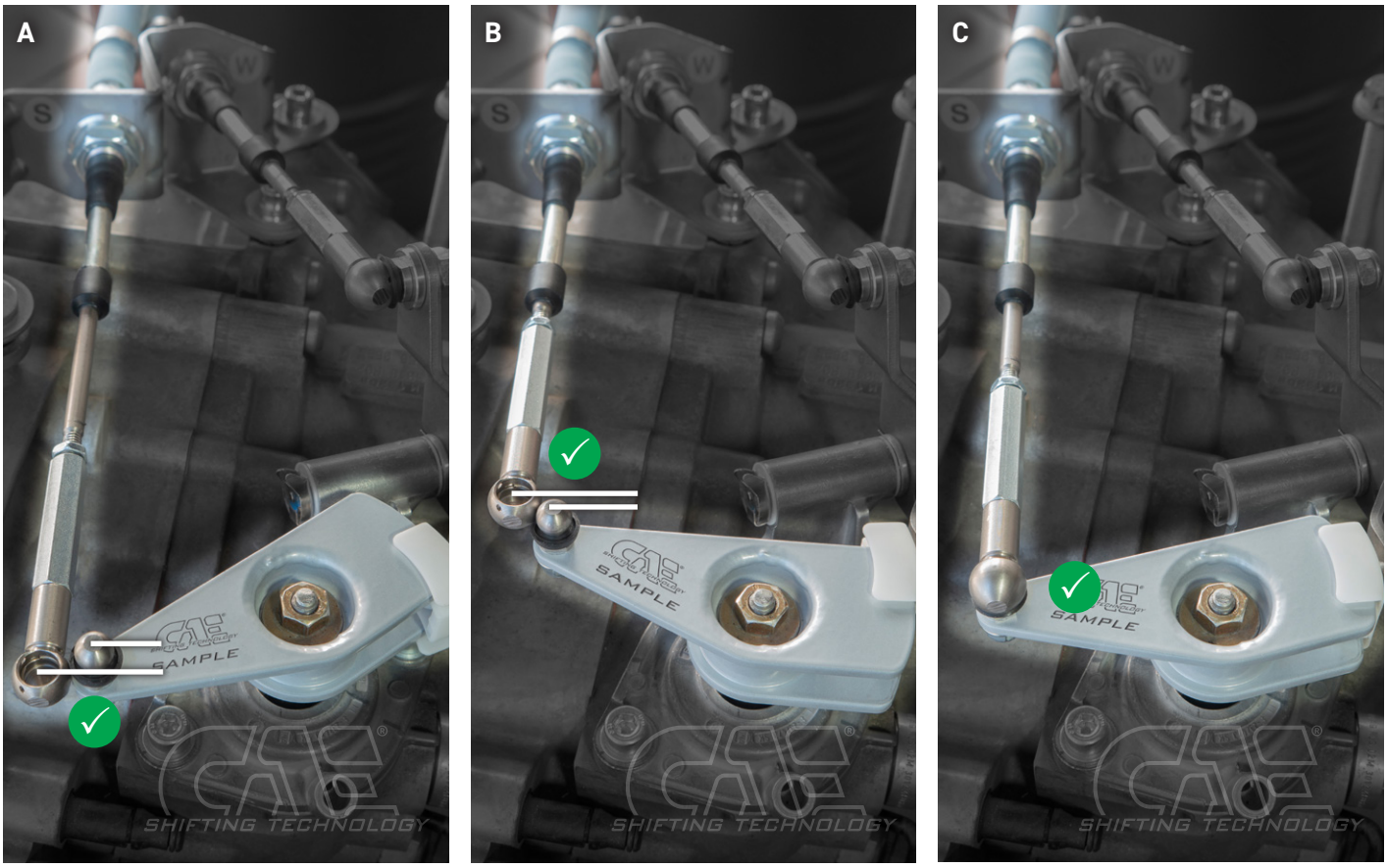
- Fasten the shift cables to the gearbox holder.
  The shift cables must protrude as far as possible from the shift tower; no thread is visible inside the shifter housing. (Picture 10)



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 rope! (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 range 5 speed gearbox

- Unhook the connection rod to the L lever on a ball (Picture 11).

- 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 5mm Allen key. (Picture 12)

ⓘ **CHECK: In the center position, the shift lever should be slightly tilted to the right.**

- Shift the gearbox to 3rd gear. To do this, push the shift lever forward.

- Adjust the length of the connection rod so that it moves can be pressed open without lateral movement of the shift lever.

- Shift gearbox to level 1 / 2 by shift lever and screw in the stop screw until the gears in level 1 / 2 can be changed cleanly.

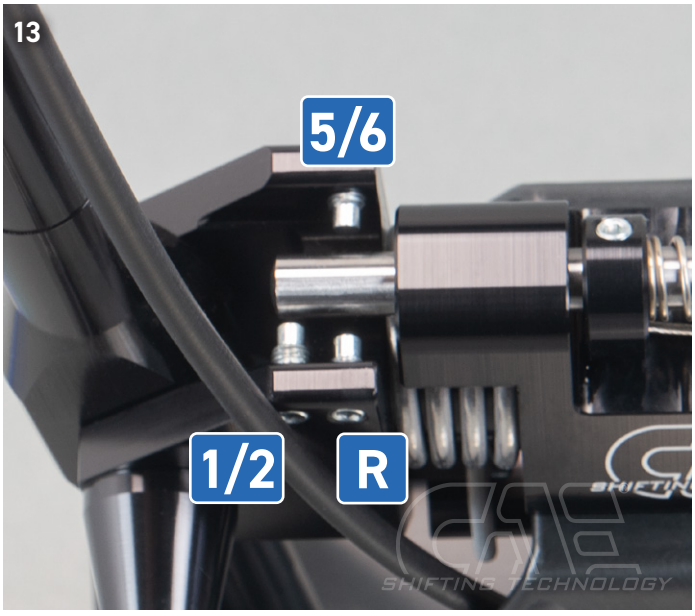
- Now shift gearbox to 5th gear level using shift lever and screw in stop screw until 5th and reverse gears can be engaged cleanly. (Picture 13)

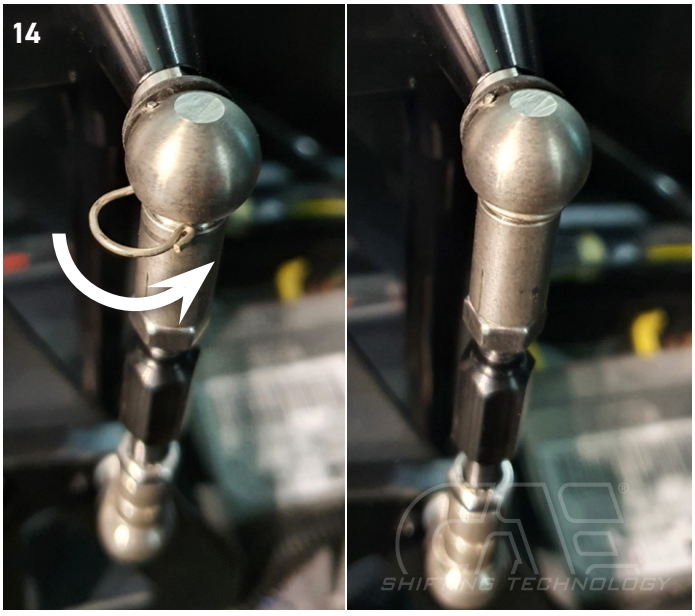
- Actuate locking pin via cable and shift transmission to reverse gear level. Screw in stop screw "R" until reverse gear can be engaged cleanly. (Picture 13)

- Install retaining clip on all ball cups. (Picture 14)









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.

CAE wishes you a good trip.



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