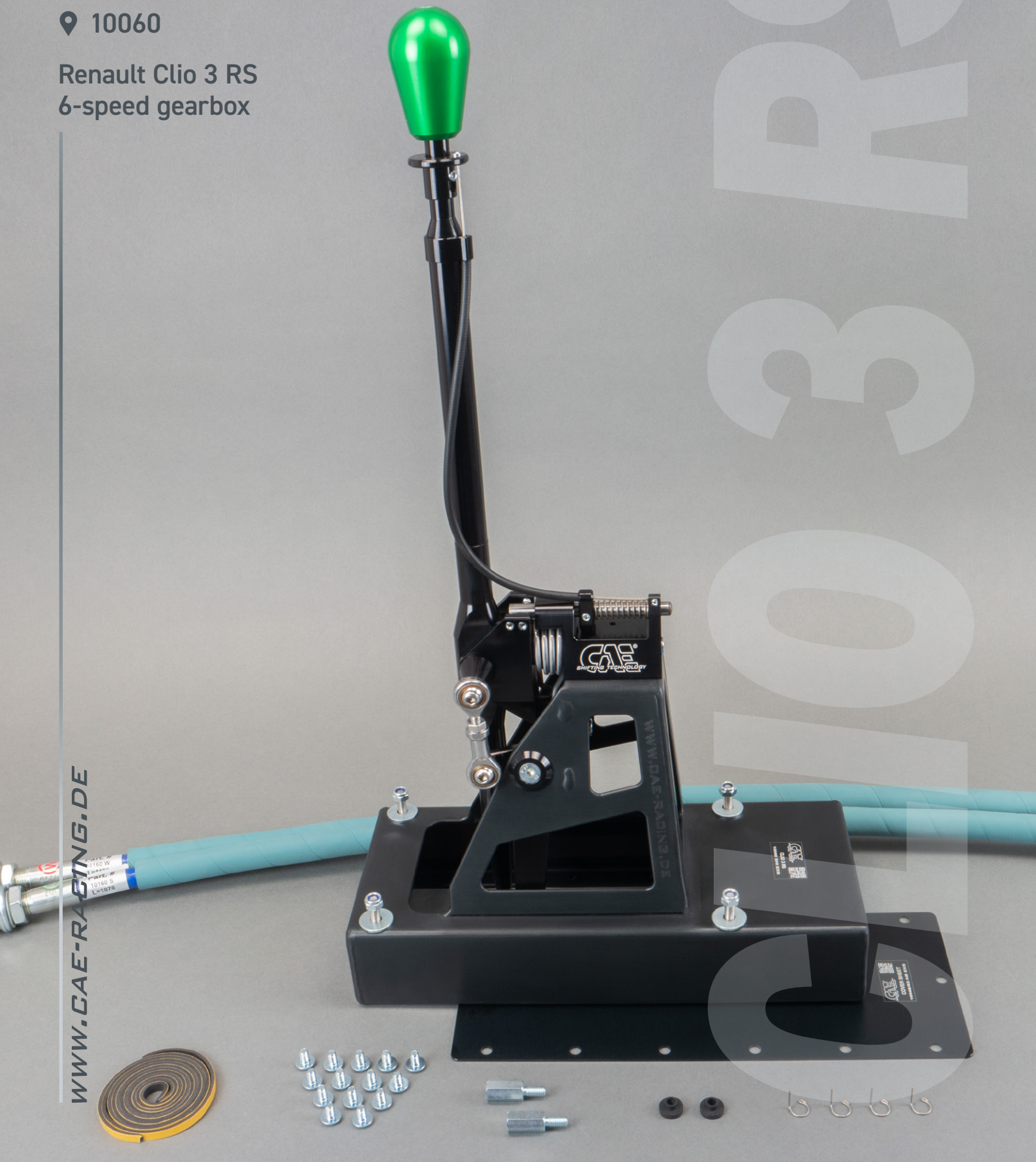
SHIFTING TECHNOLOGY

RACE THE ORIGINAL

Installation Manual

10060

Renault Clio 3 RS
6-speed gearbox



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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!

ⓘ 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

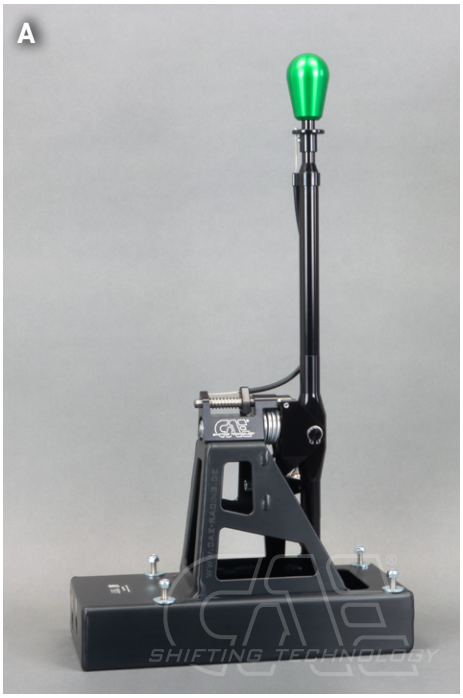
ⓘ FORCE DOESN'T MAKES YOU FASTER – IT ONLY HARMS THE TRANSMISSION

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 puts a disproportionately high strain on a transmission and in the worst case causes a fatal wrong shift in gear!

Included in delivery

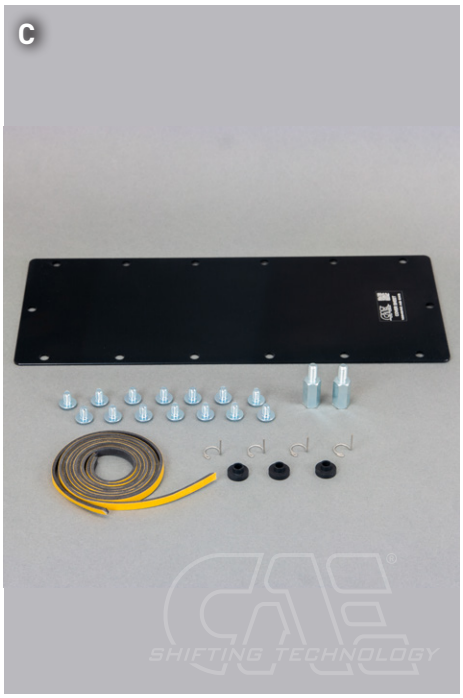
- 1x shiftercompletely monted,
  design depending on ordered variant (Picture A)
- 1x Shift knob incl. counter screw M6x20 V2A,
  design depending on ordered variant (Picture B)
- Accessories package (Bild C)
- 1x shift cable (S), 1x selector cable (W) (Picture D)

A



B

C



D

E

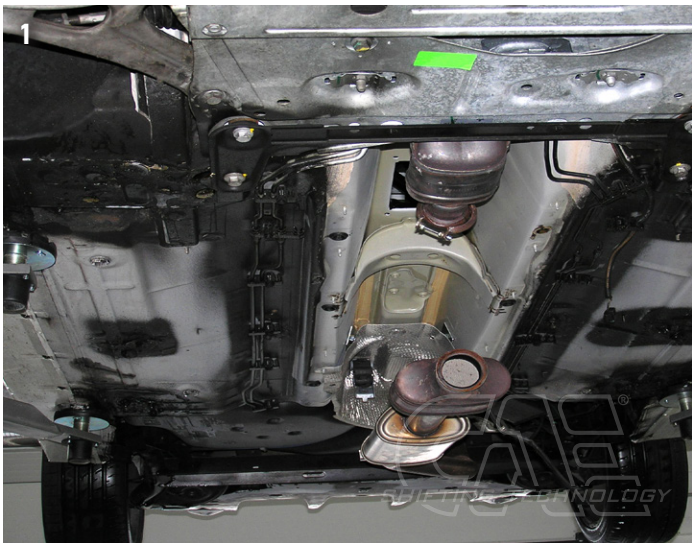
The shifter is intended for vehicles with interior equipment. The center console must be slightly trimmed for the installation until a sufficient clearance for the shifter is ensured.

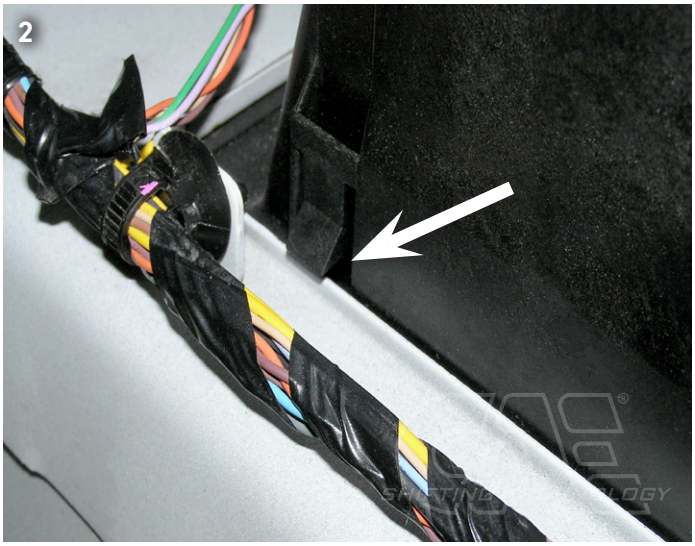
Lubricate all moving parts occasionally with good spray grease, our recommendation: Würth HHS 2000. For this purpose, e.g. touch the rubber caps on the ball heads.
To clean the aluminum parts, we recommend brake cleaner.

The removal

Safely lift the vehicle on a car lift.

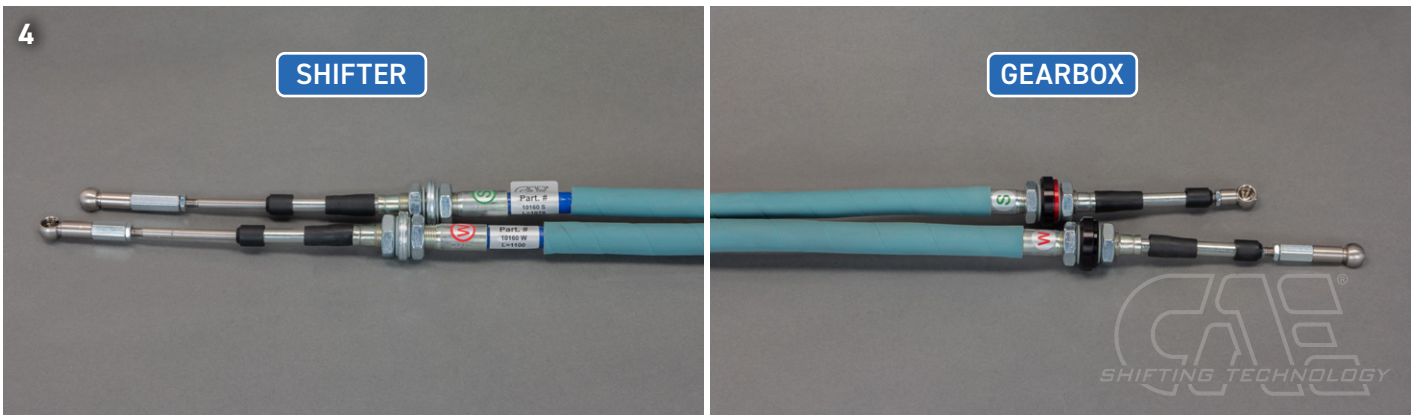
- Disconnect the battery and remove it including the battery carrier.
- Remove air filter
- Remove the ends of the original gearshift cables and unhook the cables from the abutment.
- Remove underfloor panelling and heat shields, unhook/loosen exhaust and let it hang approx. 60cm, secure with rope or wire, make sure that the flex pipe is not overstretched. (Picture 1)
- Remove center console completely.
- Unscrew original gearshift lever and gearshift cables and remove from vehicle downwards. The plastic unit has two retaining tabs on the side, press them together. (Picture 2)
- Stick foam rubber strips on the shifter to ensure gas tightness during assembly, make sure that all holes in the base plate are covered.





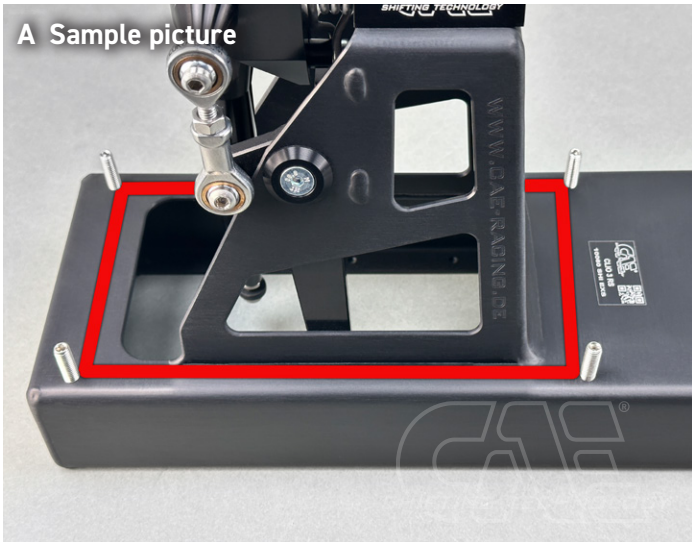
Laying the switching cables

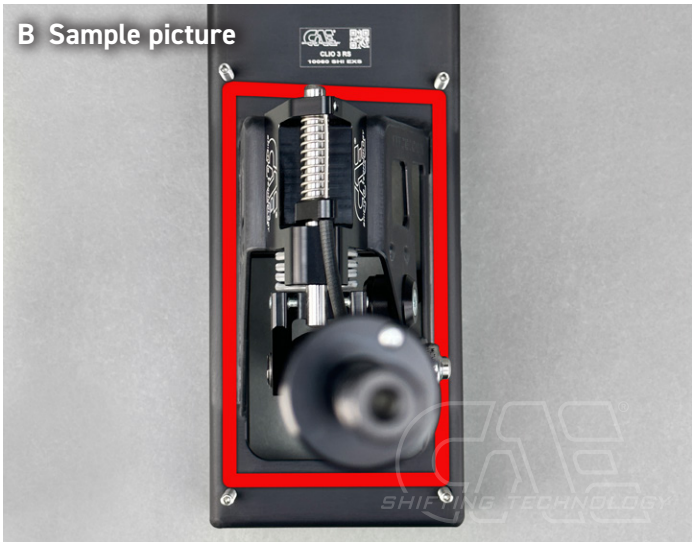
- Assembly of switching cables (Picture 4)



- Pay attention to the assignment of the cables. (Picture 4, 5)
  S W the stickers with border belong to the shifter, S W the stickers without border belong to the gearbox.

- Glue foam rubber strips to the top and bottom of the shifter as shown. Then screw the shifter incl. cover plate as shown and make sure that all holes in the base plate are covered.
  (Picture A, B, C)





Installation of CAE shifter

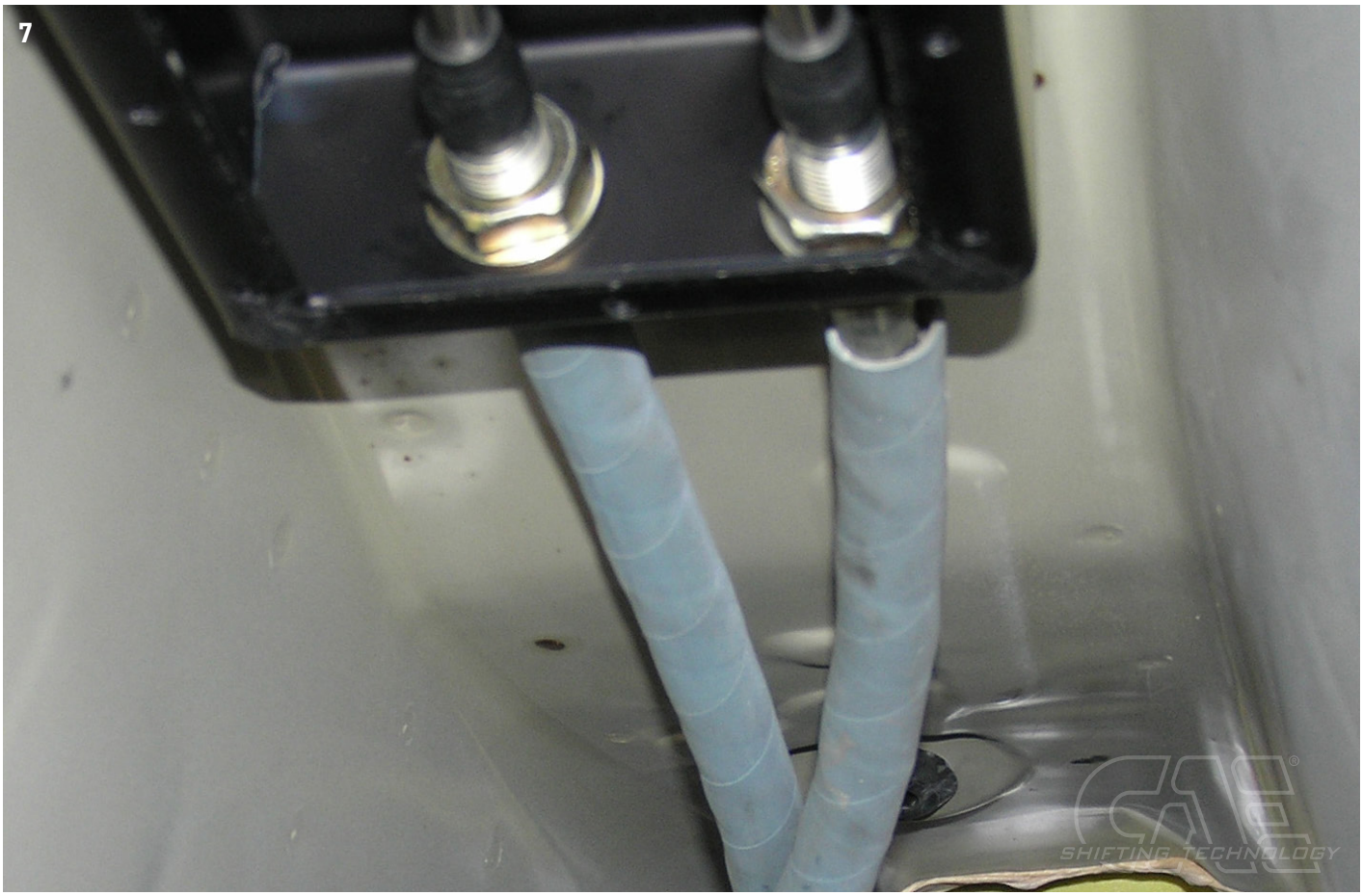
Generally install a sealing collar on each ball and grease ball cups and sealing caps. After complete assembly of the shifter, secure the ball heads with the cotter pin clips. Glue in all nuts / screws during assembly! Never kink the shift cables!

- Insert the shifter into the tunnel from below according to the series part and fasten it with the 4 nuts and washers supplied (Picture 5).

Mounting the shift cables on the shifter

- The linkage levers on the gearbox side do not need to be dismantled. On the shifter side, remove all attachments except for 1 washer and nut to be able to attach the cables to the tower. The shorter rope (S) L=1070mm is attached to the center of the gear tower, correspondingly the longer selector rope (W) L= 1100mm on the right. (Picture 6, 7)

- The shift cables should be attached to the box as shown here.
  Immediately route ropes toward engine compartment above transmission when installing.
  Tighten the M16 nuts until the pulleys are on block. !! DO NOT GLUE !!!



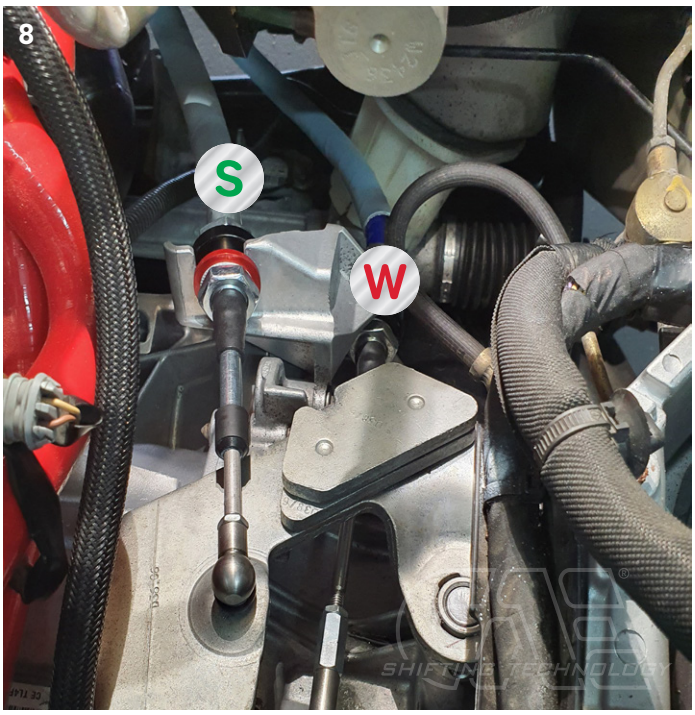
HEAT PROTECTION FOR SHIFT CABLES (FOR ALL VEHICLES WITH CAE SHIFT CABLES)

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!

- Attach the cables to the gearbox abutment as shown in this picture. The large black aluminum collar washers hook behind the gates of the abutment and prevent the cables from slipping out. (Picture 8, 9)

8



9

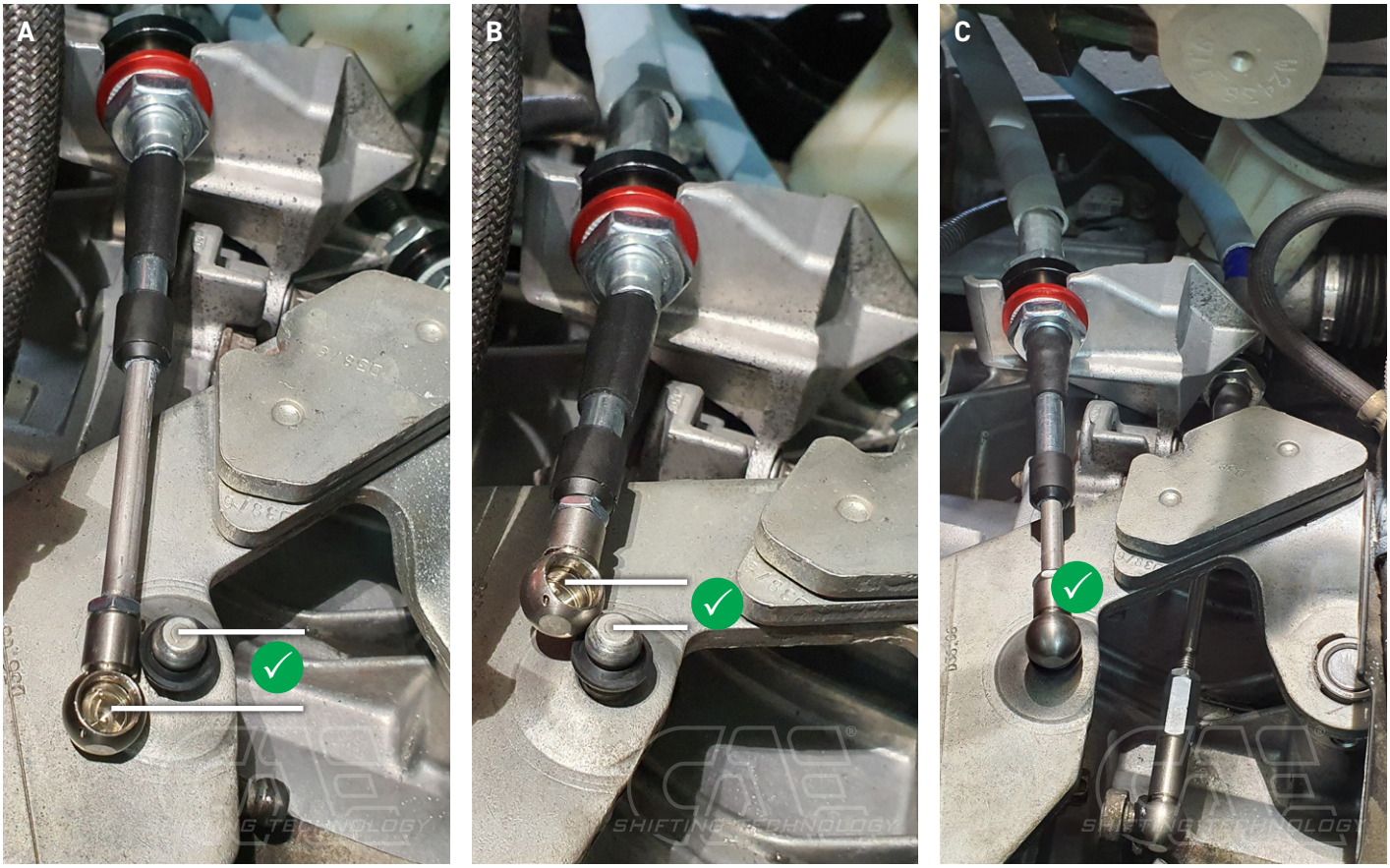
- Tighten the M16 nuts and make sure that there is no tension on the cables. Glue the nuts in place!

- Check shift and selector cable for "end position free travel".
  When the gear is engaged, there must still be a residual travel available on the cable!

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)

ATTEINTION: 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 6 speed gearbox

- Determine the center position of the shift lever. In the center position, the shift lever should be slightly inclined (approx. 5 degrees) to the right. This can be adjusted under the gearshift bracket with a 5 mm Allen key by moving the lower spring stop. (Bild 10)

- Shift transmission to 3rd or 4th gear. The 3rd and 4th gears are in neutral zero position. To engage them, simply move shift lever forward or backward without load. (Picture 10a)

- Adjust the length of the ball socket at the end of the selector cable (W) so that the lateral play on the shift lever is the same when 3rd/4th gear is engaged; it must be possible to press the ball socket onto the ball of the L lever without changing the length.

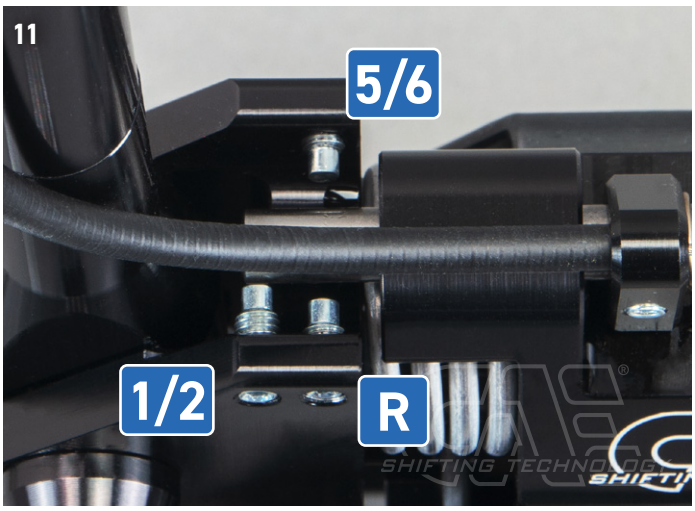
- Shift the gearbox to level 1 / 2 using the shift lever and screw in the stop screw until the gears in level 1 / 2 can be changed cleanly. (Picture 11)

- Now shift gearbox to 5th/6th gear level using shift lever and screw in stop screw until 5th gear can be engaged cleanly. (Picture 11)

- Actuate reverse gear locking pin via cable and shift transmission to reverse gear level. Screw in stop screw until reverse gear can be engaged cleanly (Picture 11).

- Install all clamps on the ball cups in the shifter.

- To reinstall the center console, it must be machined accordingly. (Picture 12, 13, 14)



Reinstalling the center console

- To do this, the shifter must be loosened again and lowered (Fig. 15).
  Place the center console over the shifter and screw the shifter back in place using the center console bracket (Picture 16).

- Screw cover plate under shifter box and again seal with foam rubber strip, glue screws in place, reinstall heat plates , exhaust , underbody trim , battery tray and battery and air filter.

- 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. (Fig. 17) This change can be made at any time later, no further adjustment is necessary.

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.

SHIFTING TECHNOLOGY

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