

📍 10090

Hyundai i20N  
6-Speed gearbox

WWW.CAE-RACING.DE



# 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.

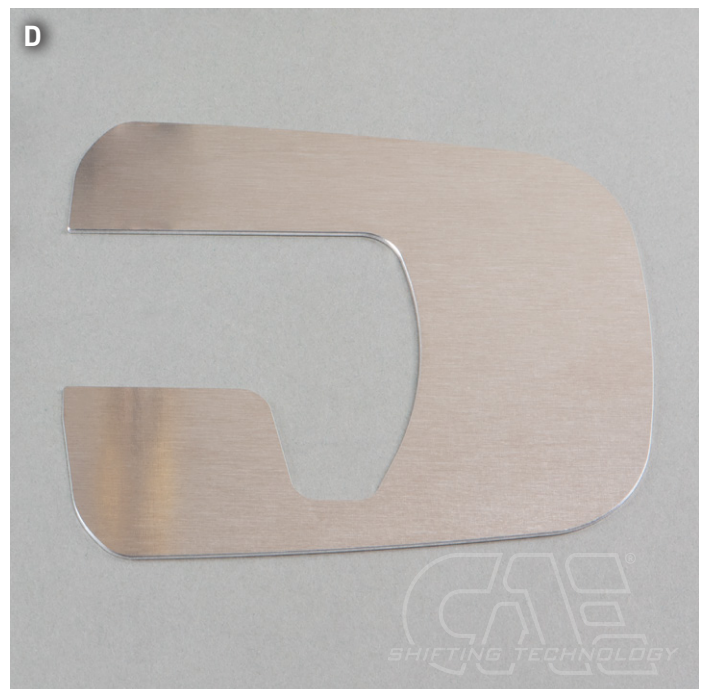
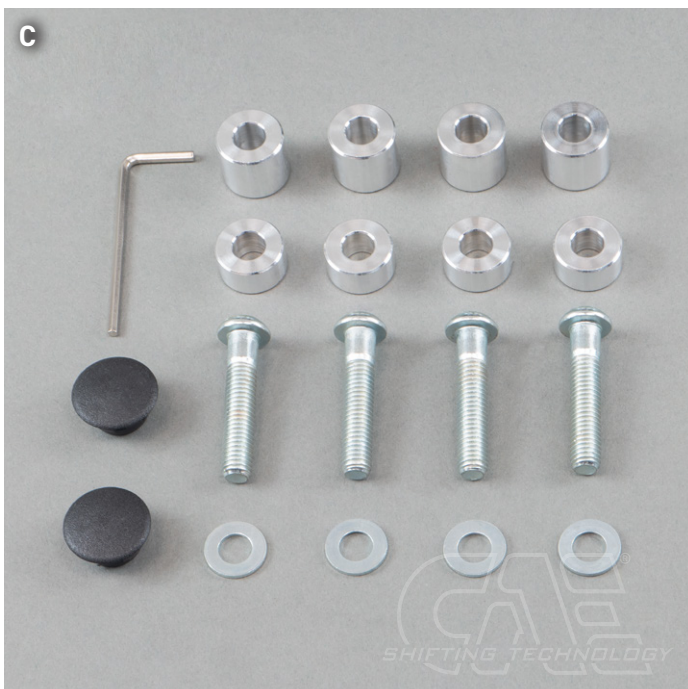
## TIPS FOR GEAR SHIFTING

### **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 (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 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 (Picture C)
- ▶ Cover plate (Picture D)



- i** The shifter is intended for vehicles with interior equipment. The center console must be trimmed slightly for installation until the appropriate clearance for the shifter is ensured. Lubricate all moving parts occasionally with good spray grease, e.g. by touching the rubber caps on the ball heads. For cleaning the aluminum parts we recommend commercial spirit.

## The removal

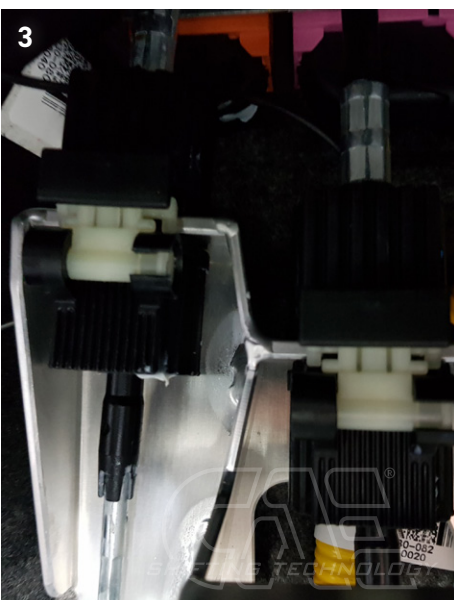
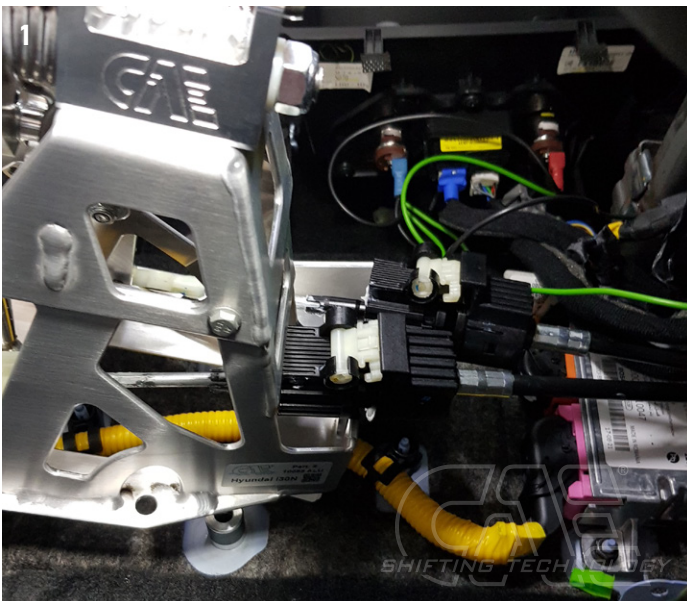
- ▶ Remove the center console completely.
- ▶ Detach the shift cables from the levers and the bulkhead plate.
- ▶ Remove the original shift lever.

## Installation CAE Shifter

- ▶ Place the 4 spacer bushings (24 mm high) on the threads.
- ▶ Then fit CAE shifter, inserting the shift cables into the front housing opening.
- ▶ Screw the shifter on first with the screws provided and then clip the cables to the bulkhead plate.
- ▶ Clip the shift cable with the ball socket onto the ball at the bottom of the shift lever.
- ▶ Clip selector cable onto selector lever bolt and secure with original split pin.

- i** **PLEASE NOTE:** Generally grease each ball socket and bearing bolts & bushings.

Glue all nuts/bolts during assembly! Never kink shift cables!



## Adjusting the gearshift travel 6-speed gearbox

- ▶ Adjust the center position of the shift lever: Loosen the spring stop (Picture 6) under the shift tower and align the shift lever. It should now be exactly straight. Tighten the spring stop again. Only loosen this screw with an Allen key (SW 5 mm) (approx. 2 turns), but never unscrew it completely!
- ▶ Adjust the length of the side coupling rod.
- ▶ Now shift the transmission into 3rd or 4th gear. The 3rd and 4th gears are in neutral zero position. To engage them, simply move the shift lever forward or backward without load.

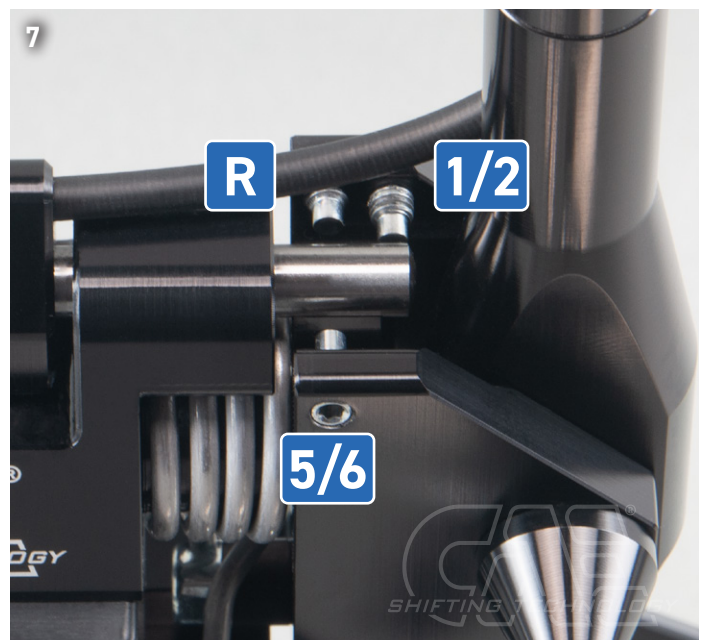
**!** **CHECK:** When 3rd and 4th gear are engaged, the lateral clearance at the shift lever must be the same, otherwise adjust at the coupling rod! (Picture 11)

- ▶ Shift the gearbox to level 1/2 using the shift lever and adjust the stop screw until the gears can be changed cleanly in level 1/2. (Picture 7)
- ▶ Now shift gearbox to 5th/6th gear level using shift lever and screw in stop screw until 5th gear can be engaged cleanly. (Picture 7)
- ▶ Actuate reverse gear lock pin via cable and shift transmission to reverse gear level. Screw in corresponding stop screw until reverse gear can be engaged cleanly. (Picture 7)

### PLEASE NOTE:

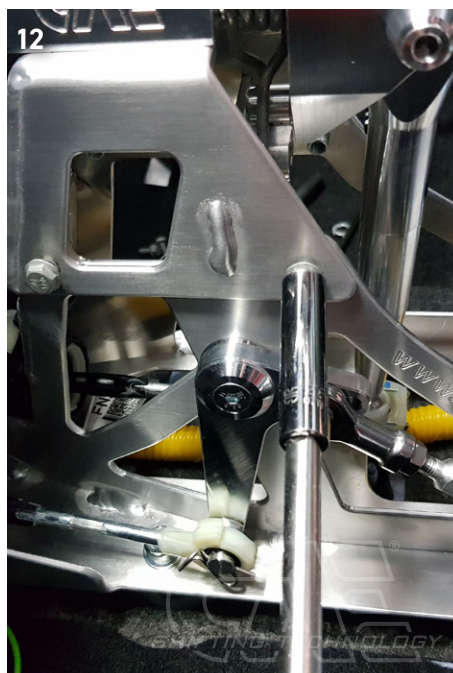
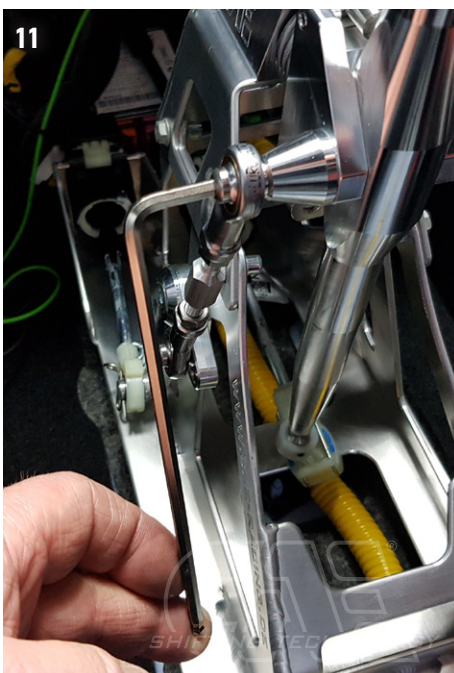
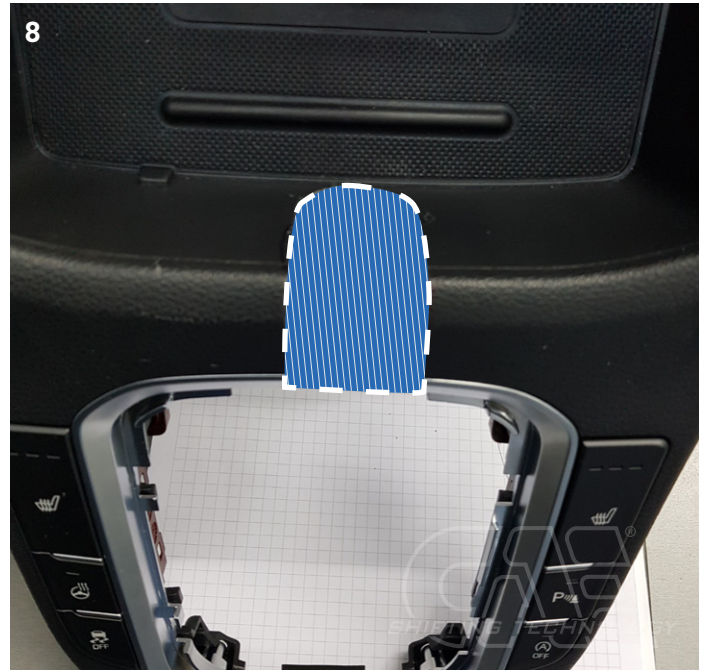
**!** The small double spindle has R/L thread.  
At the bottom of the Unibal joint is the left-hand thread.  
The spindle is made of aluminum!  
Tightening torque of the nuts max. 3Nm!

**!** **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!



## Bearbeitung der Mittelkonsole

- ▶ Process the center console according to the following pictures so that it can be mounted above the shifter. (Picture 8, 9)
- ▶ To do this, remove the ball socket at the bottom of the shifter and unscrew the upper screw of the side coupling rod.
- ▶ Completely remove the upper part of the shifter.
- ▶ Completely install the center console.
- ▶ Replace the upper part of the shifter and, using needle-nose pliers or tweezers, tighten the lateral fastening screws, then tighten the two front screws with an 8 mm open-end wrench. (Picture 10)
- ▶ Tighten the two rear screws with an 8 mm socket wrench through the two holes in the center console.



- ▶ Now screw the upper Unibal back in place, gluing the screw in place with a small drop of Loctite. (Picture 14, 15)
- ▶ Then check all settings again.



- ▶ The cover plate supplied serves as a basis for customer adaptation.
- ▶ We recommend using double-sided adhesive or Velcro tape.
- ▶ The visual adaptation to the vehicle can be achieved by painting or gluing.



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





**RACE THE  
ORIGINAL**



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