

# CAE ULTRA SHIFTER



## Installation instructions

📍 10049

Mitsubishi Lancer  
EVO 9  
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

### ⓘ **DIRT, SANDING DUST OR INSUFFICIENT LUBRICATION IN THE BEARING POINTS LEAD TO FAILURE OF THE SHIFTER WITHIN A VERY SHORT TIME!**

- 📍 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)
- 📍 Regular lubrication (every 6 months) is a prerequisite for long-term problem-free use.

### ⓘ **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 or the bearings 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 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 which 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 it makes faster - but it puts a disproportionately high strain on a transmission and in the worst case causes a fatal wrong shift in gear!

- ❗ The shifter is intended for racing cars without interior equipment. If the center console is installed, it must be removed or cut out until appropriate clearance is ensured
- 📍 All screws / nuts that are not self-locking or are fitted with tooth lock washers, glue in during assembly!
- 📍 Never kink shift cables!
- ❗ **PLEASE NOTE: No lift is required to install this shifter. All work can be carried out in the interior and engine compartment.**

## The removal

- ▶ Remove the center console, then completely remove the original shift lever, the shift cables can remain in the car. (Picture 1)

To loosen the shift cable pan (white) from the shift lever, pull the steel clasp backwards.

Press the shift cable down. Remove the plastic cup from the shift lever ball and press it onto the ball for reinstallation on the CAE shifter.

To disconnect the selector cable, simply pull the end of the cable (black) off the L lever, making sure the rubber grommet remains in the eye

- ▶ The cables are clipped into the front panel of the housing and are pulled out upwards.

## The installation

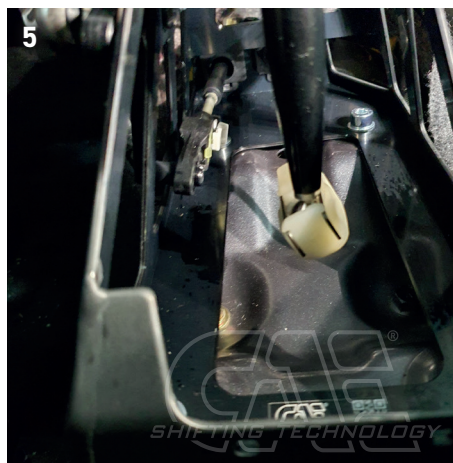
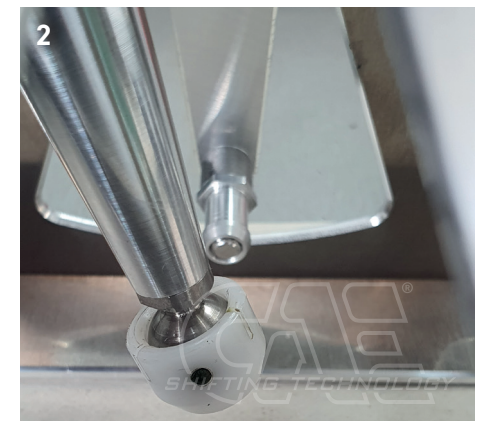
Mount the plastic cup from the lower ball of the original shifter accordingly on the CAE shifter.

(Picture 2, 3)

Place spacer bushings on the rear two threaded holes, they serve as height compensation of the base plate.

Thread the shifter cables into the shifter bracket, fix the shifter on the center tunnel with the delivered screws.

Make sure that the spacers do not slip. Clip in the cables and attach the shift and selector cables to the shift lever or the "L" crank. (Picture 4, 5, 6)

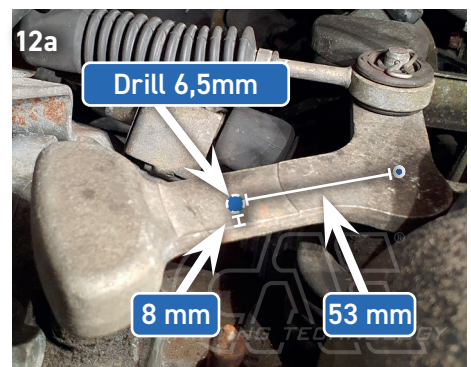


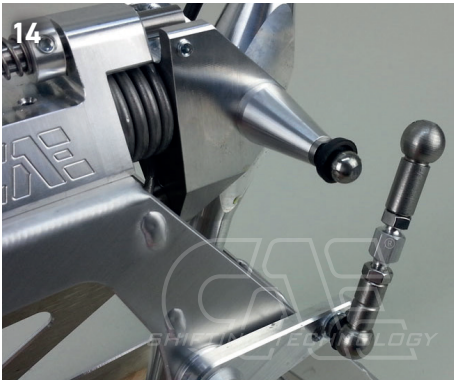
## Modifications to the transmission in the engine compartment

- ▶ Disconnect battery terminals
- ▶ Remove battery and battery support plate
- ▶ Remove shift and selector cables: first remove the cotter pins and then pull the cables out of the holder. To do this, bend out the small metal tabs in the thin stainless steel plates with a small screwdriver.
- ▶ Then remove the rope abutment (3 screws M8 sw12mm) (Picture 7)
- ▶ Drill out or grind away the rivets of the shift cable holder (Picture 8).
- ▶ Mount the cable holder on the adapter plate as shown in the picture, tighten the screw with 25Nm and glue it in place. (Picture 9, 10)
- ▶ Then mount the two parts of the rope bearing on the gearbox. make sure that the aluminum sleeves are correctly positioned. (Picture 11)
- ▶ Drill a hole in the gearbox shift lever for an M6 screw 53 mm from the pivot point and 8 mm from the front edge. (Picture 12a) Screw on the sleeve for the shift cable eye. Screw with 8 Nm and glue it in place. (screw from below) (Picture 12b)
- ▶ Mount the shift and selector cables in the holder again, secure the selector cable eye with the split pin and the shift cable eye with the M6 screw.
- ▶ Cut out the battery support plate for the shift cable according to the following photo. (Picture 13)

**ⓘ The Gearshift moves upwards for 1, 2 and R gear !!!  
Check the free movement of all components before reinstalling the battery**

- ▶ Reinstall battery tray and battery.





## Adjusting the shifting travel of the 6-speed transmission

- ▶ On the left of the shifter, pull the connection rod off one of the balls, shift the transmission by hand to 3rd or 4th gear. (Picture 14)

The 3rd and 4th gears are in neutral zero position. To engage them, simply move shift lever forward or backward without load.

Now adjust the central position of the shift lever at the lower spring stop under the Main Unit with a 5mm allen key. Tighten the spring stop. (Picture 15)

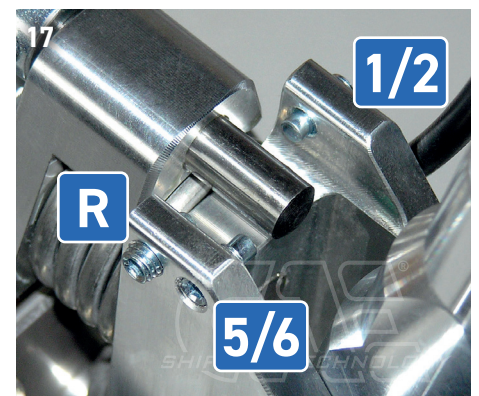
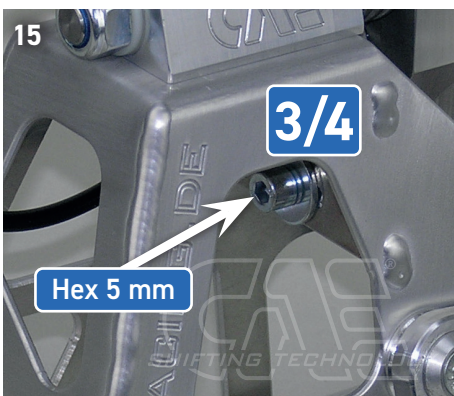
**i** In the center position, the shift lever should be slightly tilted to the left. (approx. 5 degrees)

- ▶ Now press the connection rod back onto the ball on the L lever. Adjust the R/L spindle between the L lever and the side arm so that the shift lever does not move sideways when the ball socket is pressed on. It should now be possible to engage 3rd/4th gear correctly. (Picture 16)

**i** Tighten the nuts on the connection rod only slightly. The cup with the groove turned in has LEFT THREAD. The coupling rod is made of aluminum!!!

**i** CHECK: When the 3rd or 4th gear in engaged , the lateral play on the gear lever must be the same on both sides.

- ▶ Shift gearbox to level 1 / 2 by shift lever and screw in stop screw (1/2) until the gears in level 1 / 2 can be changed clearly. (Picture 17)
- ▶ Now shift gearbox to 5th or 6th gear level using shift lever and screw in stop screw (5/6) until 5th/6th gear can be engaged clearly. (Picture 17)
- ▶ Actuate reverse gear locking pin via cable and shift transmission to reverse gear level (RIGHT). Screw in stop screw (R) until reverse gear can be engaged cleanly. (Picture 17)



**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!**

CAE wishes you a good trip.

## Editing and installation of the center console

► To install the center console, it must be machined, as must the upper cover: (Picture 18, 19, 20, 21, 22, 23)



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