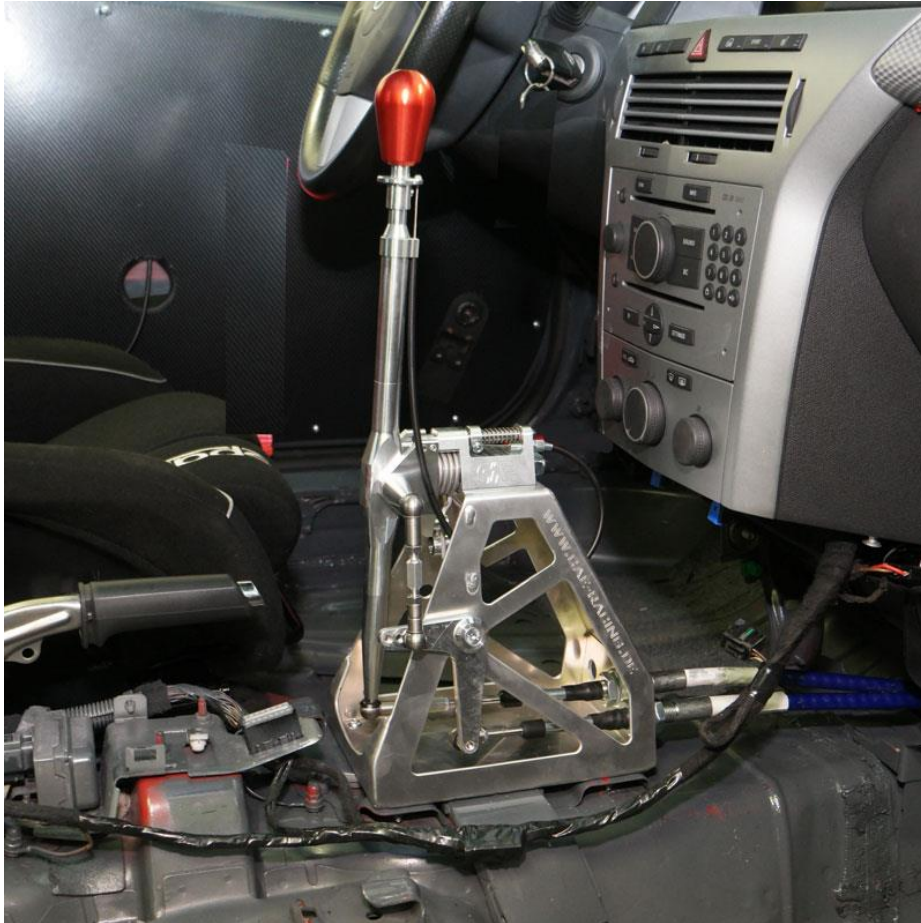


# CAE SHIFTING TECHNOLOGY GMBH

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## INSTALLATION MANUAL CAE ULTRA-SHIFTER ASTRA H - M32 GEARBOX



If center console is mounted, it must be dismantled or modified to achieve an acceptable space for the shifter.

### **WARNING!**

**Due to the design of motor sport and therefore missing rubber damping elements engine and transmission noises and vibrations may transmitted into the interior**

### **Delivery:**

- 1 x Pre-mounted shift unit complete
- 1x Shiftcable (S)length 1240 with mounted ball pans
- 1x Selection (W)cable length 1200 with mounted ball pans( 1Short inner side)
- 2x Rubber caps for Ball Heads
- 6x Cotter pins
- 4x Screws M6x16 & Washer

### **GENERAL INFORMATION**

**Before the assembly of the Balljoints lubricate the seat with good grease. After completing the shifter, secure the Ballstud with a cotter pin. All screws and nuts on the shifter must have Lock-Tite or anything that keeps the screws or nuts from coming loose. Never bend the controller cables! To avoid rust film, clean the steel parts with oil ever so often. To clean the Alu-parts use ethyl alcohol**

## Remount

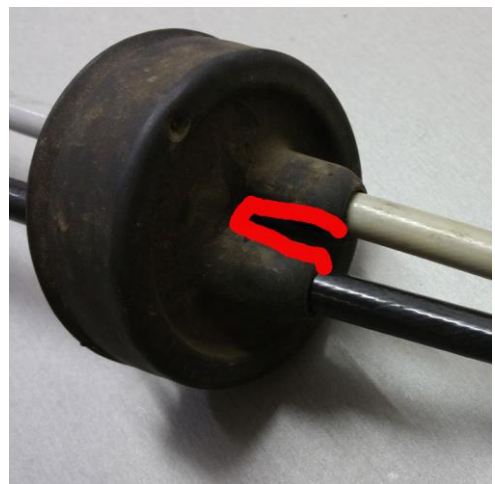
- Remove the original parts of the shifter completely.
- Lift the cap of the Shiftlever with sharp screwdriver or similar tool to reach the nut below
- Remount both levers for modifying

### Preparing the Parts:

- Cut of the weigth of the shiftelever
- Clean both levers, mount the sealing caps for the pans and remount the lever to the gearbox
- Grease the groove and the shoe in the lever



- Modify the sealing rubber of the shiftcables for enough space for the CAE shiftcables

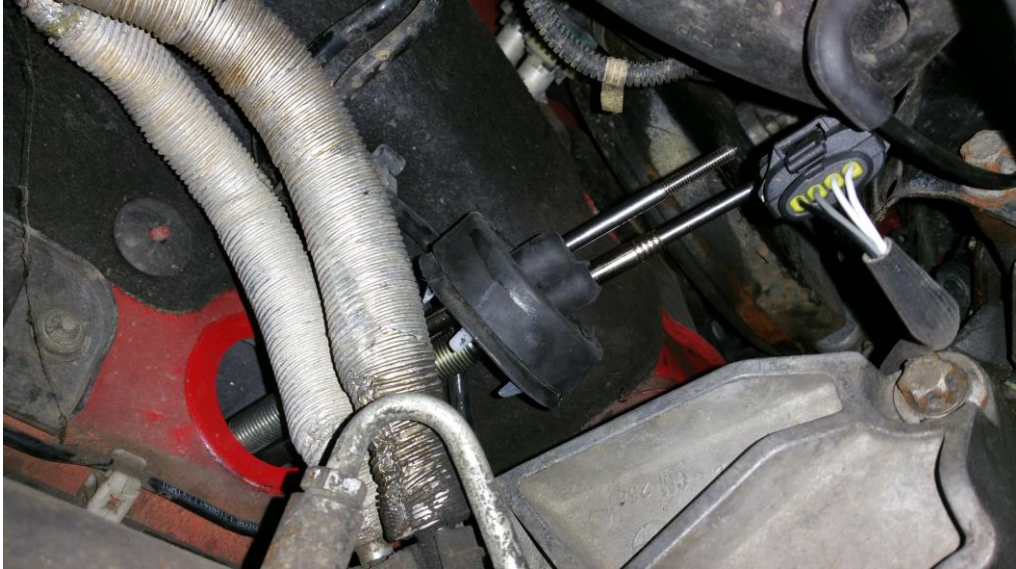


## Preparing of the shift cables:

Note the assignment of the cables, they are marked with "S"-Shift and "W" Selection Side with circle around the letters is the Shifter side  
Remount at Shifterside the Pans, M16 nuts and Washers

### Installation of the cables to the gearbox

- Introduce the cables from the inside through the original hole in the firewall and fit the cables already to the top of the gearbox, mount also the prepared sealing rubber.



### Installation of the Shifter

- stand the Shifter to the Middle tunnel and fit in the cables already into the Shifter !!! Note (S) & (W) !!!
- screw the shifter with delivered screws, use the delivered ball nose inbus screwdriver
- Mount the M16 Nuts and washers to the cables inside the shifter. The M 16 of the cables has to stand out as much as possible out of the case, inside the shifter is no thread to see:
- After this, mount the balls and press on the levers
- **Pull off the coupling rod at the side of the shifter**
- (adjustment follows later)





## **mounting the shift cables to the gearbox bracket**

Fit the cables to the Gearbox bracketed :



Shiftcables gearbox side

The collar of the aluminium washer grabs behind the nose of the cablebracket.

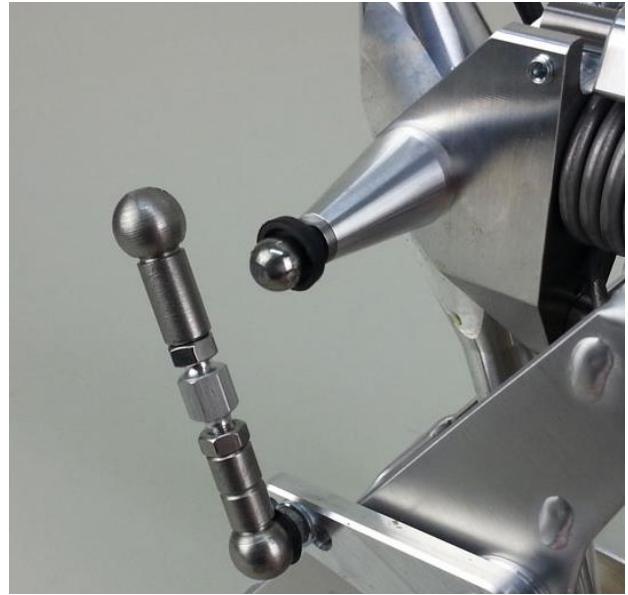
Mount the modified Gearbox lever and push the ballpans to the balls



## Adjusting Shift Range

- Pull off the connection rod :

Loosen the spring stop under the Shifter:



- Select the 3<sup>rd</sup> or 4<sup>th</sup> gear now, for that pull or push the Shift Lever forward or backwards, the Selection cable (W) is inactive while this !!!
- In neutral position the lever should stand slightly to the right for reaching all ranges from R to 5<sup>th</sup> gear, then fix the spring stop again
  - Now tune the length of side coupling rod that it fits perfect to the L-Lever Ball and the Ball at the Shiftlever expositor Ball
  - Now 3<sup>rd</sup> and 4<sup>th</sup> gear have to be changed perfect by Gearlever now, otherwise readjust once more.

### Check:

At selected 3./4. gear the play at the Shiftlever has to be equal to both sides. For fine tuning adjust the sidely connection rod then tighten the nuts at all pans and the connection rod

### Checking Cables for End position.

At selected gear the cables don't have to go into the end position. Required are about 3mm space in each gear

***A hard metallic noise while entering the gear is ever a bad signal for missing rest way.***



### ***You have to check:***

While selected 3rd or 4th gear pull off the pan from the Gearbox lever and check that the cable is not in end position.

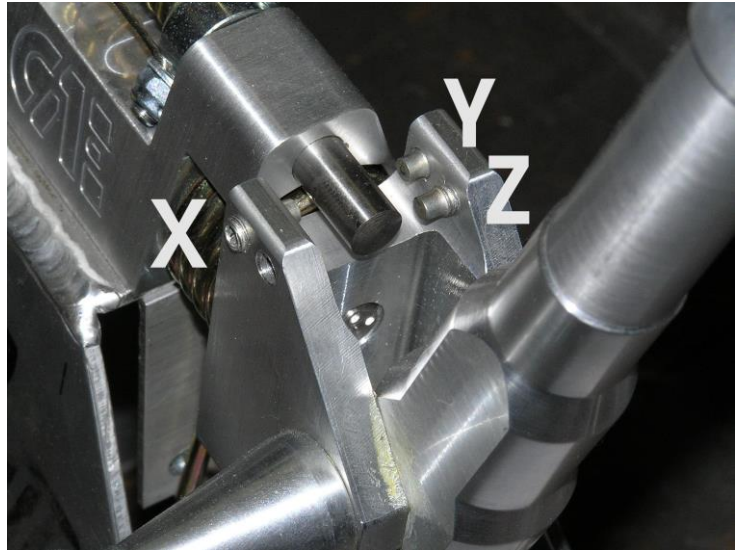
Do it for the „front“ gears R,1,3,5 with retracted cable and also for the „rear“ gears 2,4 with extended cable.

If necessary adjust it by screwing the pans at the cables.

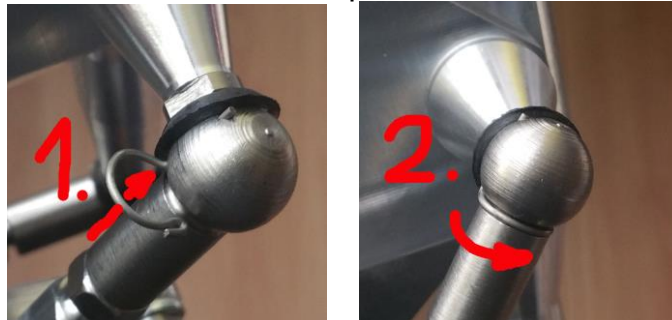
Select level 1 / 2 with shiftlever and turn stop screw Z until the gears 1 and 2 can be selected well

- Gear 1/ 2 have to be changed perfectly by shiftlever now, otherwise readjust once more

THE ADJUSTMENT SCREWS CAN BE TURNED STRONG FOR NO LOOSEN WHILE OPERATION  
USE HD 2.5mm INBUS



- Now search 5th gear by Shiftlever and turn stop screw **X** until these gear can be selected clearly.
- Pull the Reverse lock and search the Reverse gear by lever turn stop screw **Y** until these gear can be selected clearly.
- Secure all pans with the delivered pins :



**After complete installation, check all the essential functions of the Shifter while driving and adjust once more if necessary.**

**Wrong adjustment will destroy your gearbox**

**If shifter don't work "smooth" readjust the whole unit**

CAE wishes having a good trip