SHIFTING TECHNOLOGY

ULTRA SHIFTER

Installation instructions

10091

Porsche 911 F&G
G50 5-speed transmission

WWW.CAE-RACING.DE

911 G50

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!

ⓘ 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!

The shifter is intended for racing vehicles without interior equipment.
If the center console is installed, it must be removed or cut out until there is sufficient clearance for the shift cables.

The shifter must be screwed directly onto the sheet metal of the center tunnel.

The removal

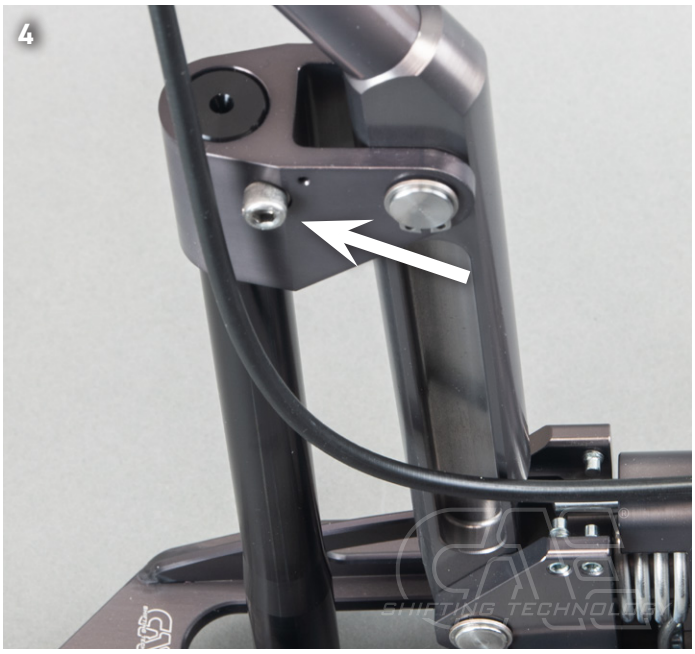
- Completely remove the original gearshift. Remove the shift rod head and degrease the shift rod.

For the shifter to function properly, it is absolutely necessary that the rear shift rod joint and the front bearing of the shift rod are free of any movement.
It is essential to check this and replace the corresponding parts if necessary.

The installation

- Place CAE shift rod end (connection rod) on shift rod and fix with original clamping screw. Additionally clamp with the front grub screw. (Picture 1)
- The shift rod head should now be approximately perpendicular to the center tunnel. If this is not the case, the rear shift rod joint must be reworked. (Picture 2)
- Grease shift rod end and counterpart.
- Now mount the shifter on the center tunnel, inserting the shift rod end into the hole in the fork on the shift lever. (Picture 3)

It is essential to ensure absolute cleanliness. The pin and the bore of the fork must not show any damage.



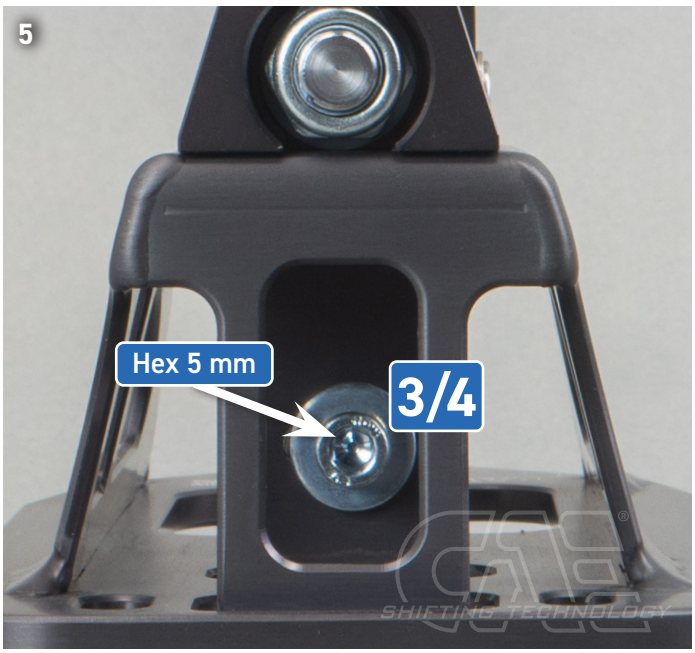
- Insert the fixing screw into the fork and tighten it slightly. It must come out in the groove of the shift rod end. (Picture 4)

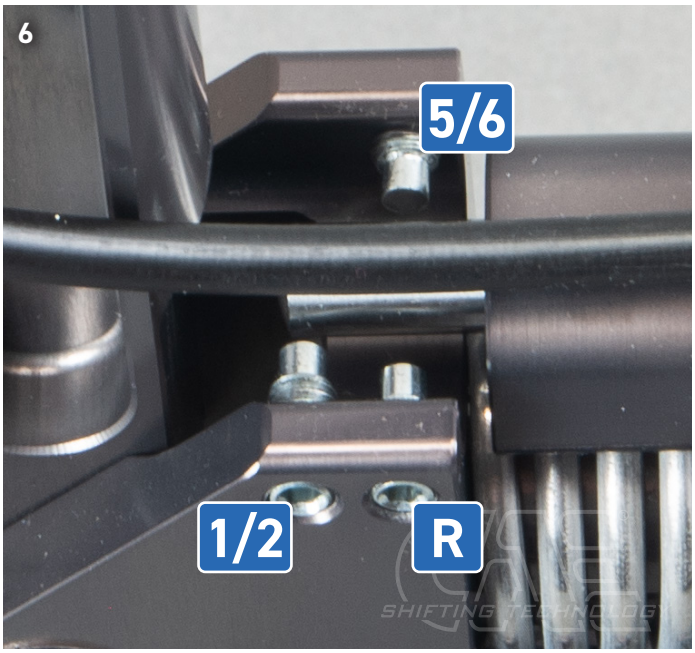
- Secure the fixing screw with binding wire; holes for this are provided in the fork and in the screw head.

The pin MUST remain permanently rotatable in the fork for the proper function of the shifter. Therefore, this connection must be kept clean and occasionally relubricated. We recommend Würth HHS 2000.

Adjustment of the shift travel 5 gear Porsche 915 transmission

- Loosen the spring stop in the shifter slightly with a 5mm Allen key so that it can be moved sideways. (Picture 5)
- Shift the gearbox to 3rd or 4th gear. (Middle gear level)
- Now tighten the spring stop again. The gear change in this aisle must now work properly, otherwise readjust again.
- **Check:** With 3rd or 4th gear engaged, the lateral play must be the same.
- Shift the gearbox to the left level (1 / 2) using the shift lever.
- Adjust the stop screw until the gears can be changed cleanly in this plane. The screw must not be tight against the bolt, approx. 0.5mm air is OK. (Picture 6)
- Now shift to 5th gear using the shift lever and screw in stop screw a until 5th gear can be engaged cleanly. Here, too, the screw must not touch the bolt. (Picture 6)
- RW Pull up lock on shift lever and swivel to the left in the swivel to the left in reverse gear level. Also adjust this screw accordingly.
- The adjustment is now complete.



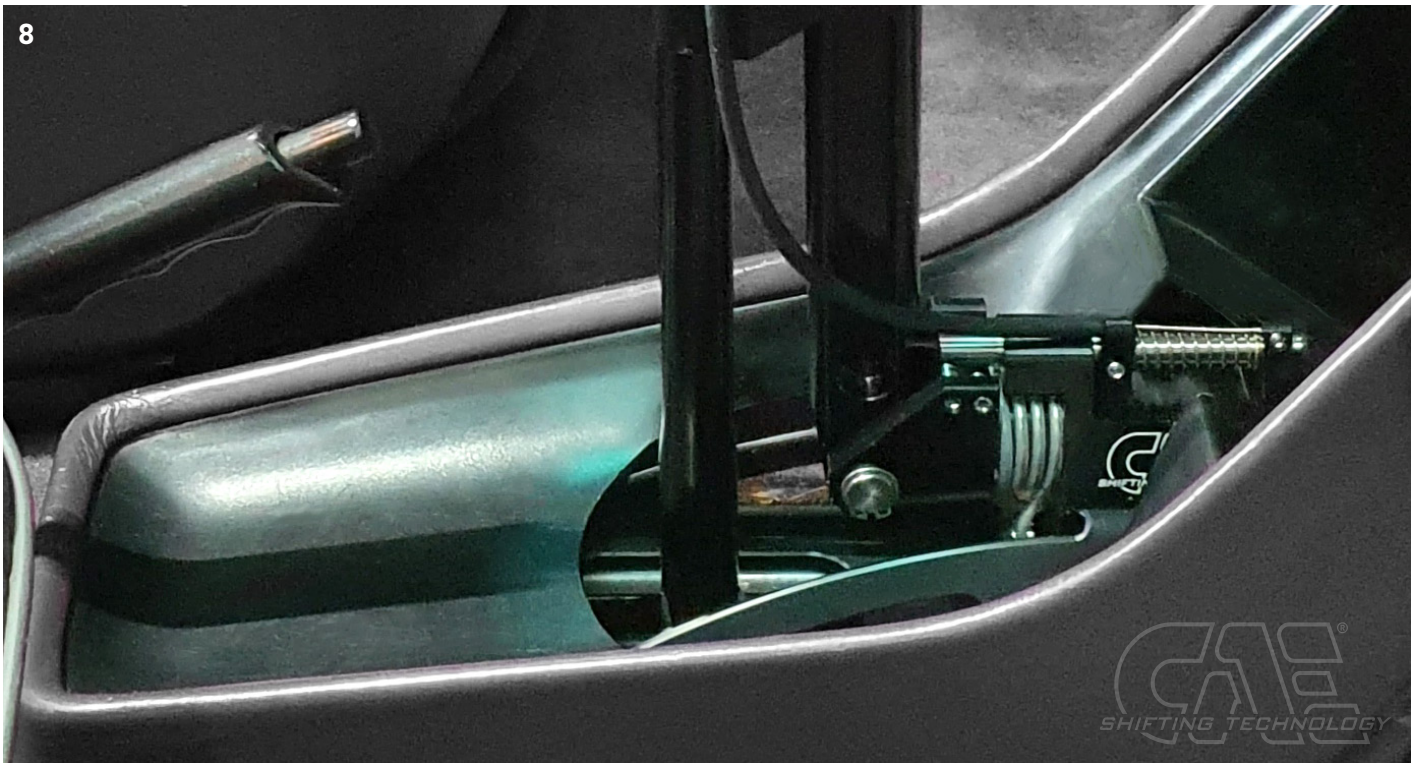


FINALLY! Check all functions and settings during the test drive and readjust if necessary!

Incorrect or inaccurate settings can cause damage to the gear box and consequential damage!

Machining and installation of the center console

- The center console must be cut out in the front area for the installation of the shifter.
  For the installation of the center console, the shifter must be completely detached again and both must be reassembled together.



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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