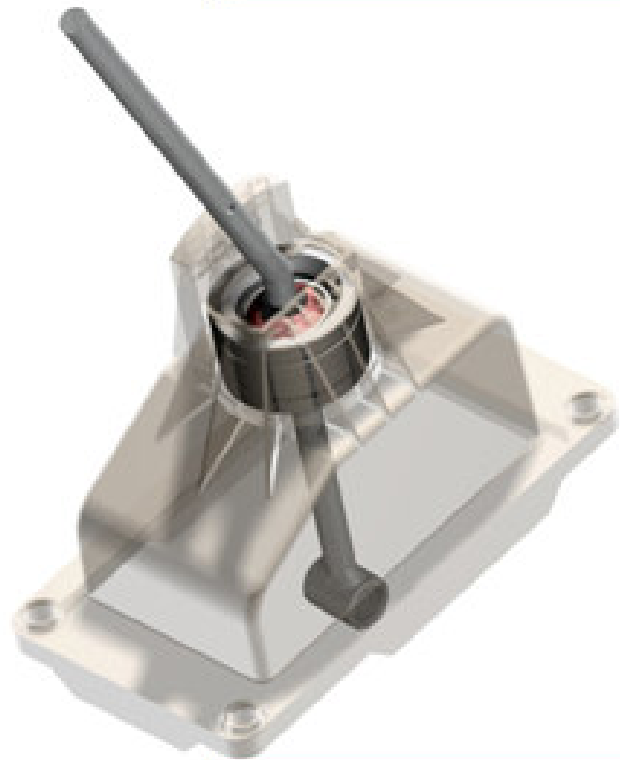


# Stiff Shift

[ for better shift ]



Required tools, materials:

- socket wrench (10, 11 and 13) (longer type suggested)
- vernier caliper
- needle-nosed (circlip) pliers
- screwdriver
- hammer
- silicone grease or heat-resistant grease (suggested: lithium based)
- degreaser
- emery paper
- cloth
- plastic-metal glue

Estimated assembly time: 2 hour

**Immaculate engine mountings are needed for the perfect operating!**

This assembly guide is written for plastic and alloy Stiff Shift and the pictures show the assembly of Clio Mk1 gear stick and gear stick housing with plastic Stiff Shift. There are differences between R5, Clio, Mégane and R19 assembly, these differences are highlighted where needed.

## Demounting of the gear stick housing

- It depends on vehicle type: necessity of the heat shield stripping, extent of exhaust system disassembly
- Identical: no need to remove the gear-knob and the gear-stick gaiter, the gear-stick housing (along with the gear-stick & gear-knob etc.) may be pulled through the hole in the chassis (Clio Mk1 & Clio Mk2)
- **Important: do not rotate the gear stick until the circlip is replaced because it may damage the lower gear stick gaiter!**
- Unhook the spring of the gear linkage (R5, Clio Mk1, Mégane and R19) or disconnect the spring at the gearbox (Clio Mk2)
- Unscrew the nylock nut (13 / M8 ) to disengage the gear lever and the gear linkage (Clio Mk1 & 2) or disassemble the gear linkage / riveted gear stick fork (R5 and R19)
- Snap out the plastic frame of the upper gear stick gaiter from the centre box
- Unscrew the nuts (4 pcs) of the gear stick housing

- Remove the gaiterframe diagonally through the hole in the chassis. The whole gear stick housing may be pulled out from the car after having unscrewed the centre exhaust joint and pulled apart both halves:



Taking apart the gear stick

- Remove the rubber ring from the gaiter
- Remove the circlip with a needle-nosed pliers
- Carefully turn inside-out the lower gear stick gaiter



- Remove the pin from the lower slider
- Pull up the spring from the reverse lock slider:



- Carefully remove the lower (turned out) gaiter from the gear stick
- Carefully snap apart the slider with a screw-driver
- Remove the lower inner-ring (the white plastic one) from the rubber housing
- Pull the lower ring through the spring and the gear stick (with a slight hammerbeat if needed):



- Check the type of the gear stick ball. Some newer Renault models use a “non-split” type ball. This type consists of a solid black plastic insert covered by a white shell. **The shell made of one piece and cannot be split. Do not try to open it!** If you have this ball type, please jump to Page 7.
- If you have other ball type, take apart it. It consists of 2 ball shells and a flexible rubber insert and can be split easily by a screwdriver.
- Pull down the rubber housing and the upper ring from the gear stick and remove the ring from the rubber housing:

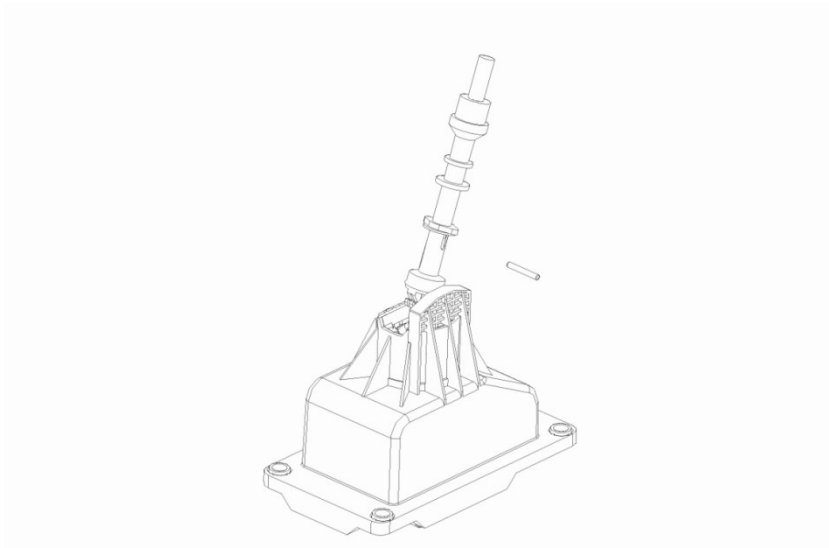


## Removing the gear-knob without damage

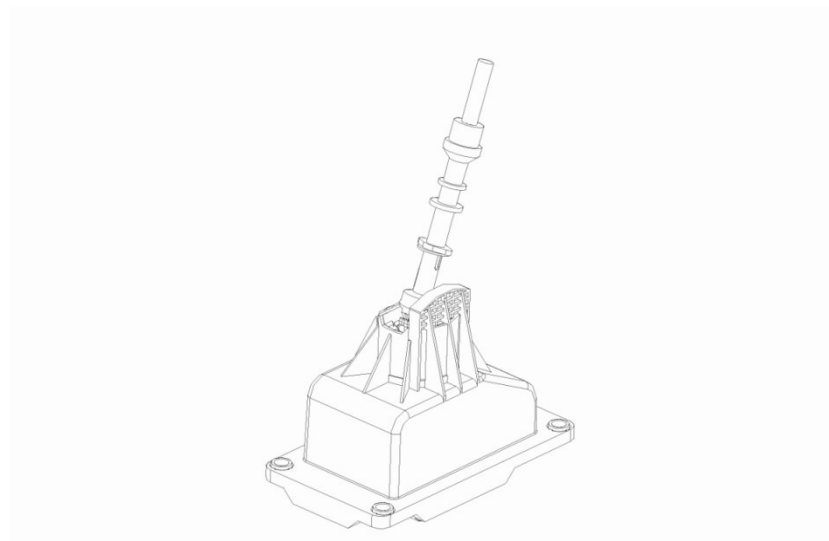
The following steps are if you have the "non-split" gear stick ball type. This ball cannot be removed from the gear lever therefore you have to remove the gear-knob. **Skip the following steps if your gear stick ball consists of 2 ball shells and a flexible black rubber insert!**

(the gearstick gaiter and the gearknob are not plotted on the drawings towards the better perspicuity):

- Knock out the pin of the reverse-lock sleeve:



- Push down the sleeve to the ball joint:



- Fix the gearknob in a clamp, held in a cloth, as shown in this picture. (Do not compress the sleeve!):



- Insert a rod into the bore of the gear stick and rotate three or four times, this will soften the contact between the gear stick and gear knob. (the lower gearstick gaiter has already been taken off in this picture):





- **Modify the grip: the clamp must now chock up against the gearknob as shown in this picture. Do not compress the sleeve!**

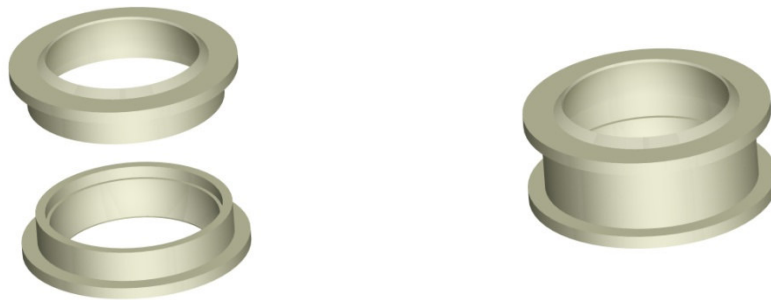


- **Hit five or six times the rod in the bore, away from the direction of the gear stick. If the knob cannot be released after six beats, try again to soften the contact as was described above (after three or four beats it should be removed without any deformation).**
- **Remove the reverse-lock sleeve when the gear knob is removed**

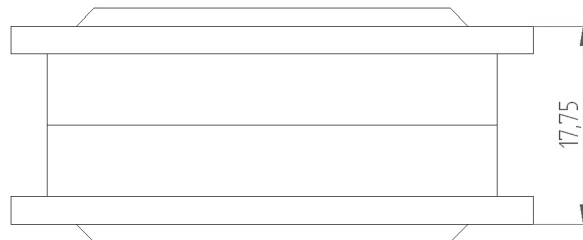
## Checking the Stiff Shift

Check the height of the OEM white plastic rings:

- The height of the rings may be different, in some cases (particularly Clio Mk II) they may be too high. If they are too high, the Stiff Shift cannot be joined properly. Fit the surfaces of the rings to each other as shown on the following figures:



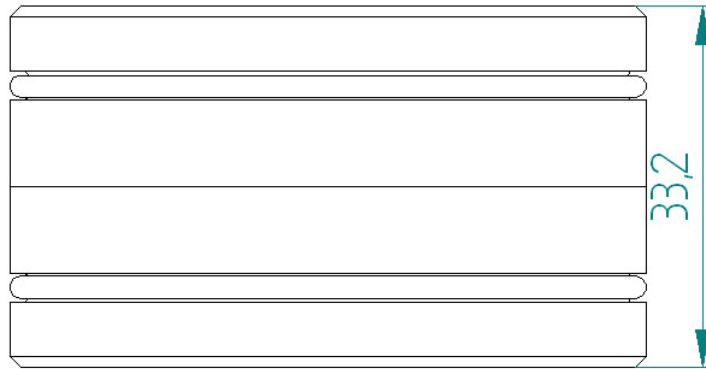
- Measure the height of the joint rings:



The distance between those surfaces which will contact with Stiff Shift must be **17.75 mm maximum** (or less). In that case if the rings are higher than desired you must sand them with emery paper on the marked surface (red in the diagram) until reaching the proper height:



- Join the collars of the Stiff Shift. The height of the collars is no more than 33.20 mm:



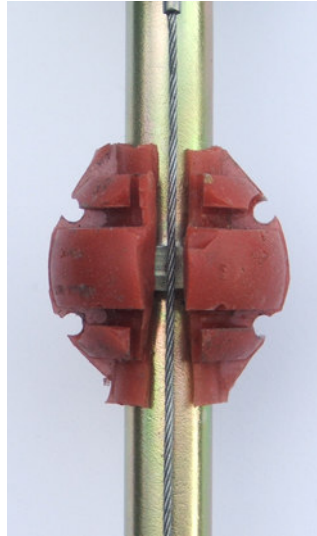
- Try it again with inserted plastic rings. The height of the Stiff Shift must be the same with inner rings as without rings (no more than 33.20 mm).
- If the rings are too tight and cannot fit into the collars, you must sand them on the marked (red) surface with emery paper (this may occur with Clio Mk1 and Mk2 rings) until they fit into the collars perfectly:



When the rings fit perfectly, join again the collars of the Stiff Shift and check it's height.

### Checking the stiffer ball insert

- skip these steps if you have a "non-split" type gear stick ball
- place the stiffer ball insert onto the gear stick. Pay attention to the cable: the cable must go through where the insert is cut off (note: some older R5 models do not use a cable).



- place the ball shells onto the ball insert. First place the one which does not cover the cable / cable hole. Now place the other one which covers the cable / cable hole:



- disassemble the ball

## Assembly of the ball joint with Stiff Shift

- Pull the upper collar on the gear stick (it's the "higher" collar):

Upper collar:



Note: if you have a "non-split" type gear ball, place the white ring into the upper collar before fitting it to the gear lever

- Fit the ring (the white one) onto the gear stick and put it into the upper collar
- Fit the whole ball (ball insert + ball shells) to the gear lever as described earlier. Pay attention for the cable! The spring must be under the ball!

Note: skip this step if you have a "non-split" type gear stick ball

- Fit the other ring and the lower collar of the Stiff Shift to the gear lever. Put the ring into the cup
- Grease well the ball with silicone grease or heat-resistant grease
- Join the collars of the Stiff Shift
- Fit the lower slider onto the gear stick. Pay attention for the cable!
- Pull the spring onto the slider and replace the pin. Check the movement of the system (lift-up reverse)!
- Push the Stiff Shift into the gear stick housing hole. It should fit tightly (vehicle type dependent).
- Fit the gaiter onto the gear stick. Be careful as it can snap easily. Place its collar into the gear stick housing hole.
- Fix with the circlip: put the circlip into the gear stick housing hole and snap it into its groove with slight hammerbeat if needed. The circlip gives an axial preload for the whole system, therefore it'll connect tightly (it has a 0.1-0.2 mm overlap). Note: the collar of the gaiter must be under the circlip (between the circlip and Stiff Shift)
- Replace the rubber ring onto the gaiter
- Mount the gear stick housing into the car
- Connect the gear stick with the gear linkage
- If you have a "non-split" gear stick ball: replace the upper reverse-lock sleeve onto the gear lever, push it down to the ball joint and hook the cable.

- Pull up until its groove overlaps with the hole of the gear stick and replace the pin
- Glue the knob onto the gear stick. Pay attention for the glue, do not fix the sleeve, only the knob!



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