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Renault Clio 3RS gear linkage kit

Kit Overview.

This kit replaces the entire gear linkage system, from the gear knob to the gearbox. The kit is designed to remove any free play in the linkage system by replacing the cables and with roller, rod end, ball joint and spherical bearings. The gear knob is placed much higher than standard and farther back to aid quick, accurate shifting. The stroke of the gear linkage is slightly shorter front to rear, but closer left to right than standard so that the synchromesh isn't rushed, but precise and accurate gear selection is achieved.

The kit includes all the parts required to fit the kit.

The only additional materials you will require for fitting is a small amount of silicone sealer and Loctite threadlock or similar.

Fitting.

Pure Motorsport accept no responsibility whatsoever for incorrect fitment of this kit. It is highly recommended that a competent and suitably trained vehicle mechanic fit this kit and have access to the correct tools.

These instructions are offered as a guide only and further information may be required in the form of a workshop manual.

These instructions are based on fitting to a Clio 197, for later models there may be some minor differences.

Jack up car and place on axle stands.

Remove the cat to centre section exhaust clamp, centre section mounting bolt and unplug the lambda sensor then drop the exhaust down.

Remove the 8 heat shield clips.



Pull heat shield towards the back of the car and remove.

In the engine bay:

- Remove the battery cover.
- Disconnect the battery negative terminal first
- Remove the battery
- Remove the battery surround by removing the relays then lift out
- Remove the airbox and air intake pipe
- Remove the battery tray
- Remove the gear selector cables from the front ball joints
- Remove the shifter cables from the bracket by pulling the white clip back and lift out then move the cables to one side ready to pull out.
- Remove the two E torx head bolts and take out the alloy cable bracket – this is no longer required

Inside the car, remove:

- 2 torx screws towards back of centre console
- Unclip the gear gaiter surround by pulling it up and remove further 2 torx screws
- Remove the gear knob by pulling with some force straight up - be careful when pulling not to hit yourself in the face!
- Remove cover under handbrake lever - this just pulls out.
- Lift the console from the back and pull towards the back of the car removing cigarette light wiring when you can get access and if fitted aux wire then place to one side.
- Remove the 4 bolts holding the gear shift tower in place then press the 4 blue tabs in and push the gear stick out through the bottom of the car and remove the complete assembly together while pulling the cables free and making sure they don't pull on the front lambda wires.

Fitting the new tower

Apply a small bead of sealer to the top side of the new tower as shown,



You will need to get a glamorous assistant to help you to fit the tower from underneath the car. Hold the tower in place and push towards the rear of the car as far as it will go, bolt into place with the bolts and washers going in from above and washers and nuts below.

Thread the lower rod down the tunnel and fit the rear mounting bolt from the right hand side of the car. The kink in the gearstick needs to be positioned as shown below.



Now go back to the engine bay and first job is to fit the captive stud. There is a hole in the chassis rail below the ABS modulator. Leaving the nut on the stud, and making sure the castellated washer is fitted underneath the nut, push the stud into the hole, hit the end of the stud with a hammer until it is flush with the end of the thread.

Follow this link for more information: <https://www.blindbolt.co.uk/heavy-duty-bolt/heavy-duty-bolt/>



Remove the nut, making sure not to push the stud into the chassis or you will lose it! The castellated washer should hold it in place.

Remove the ABS modulator bolt (arrowed) and wiggle in the 'A' arm assembly under the clutch pipe. Fit it over the new captive stud and using the new longer bolt, hold the 'A' arm bracket in place in the top hole, put the nut on the bottom and tighten both to 35Nm. You can hold the stud thread on the flats if it starts to turn before it's tight. Fit the A arm bracket on top of the ABS modulator bracket.

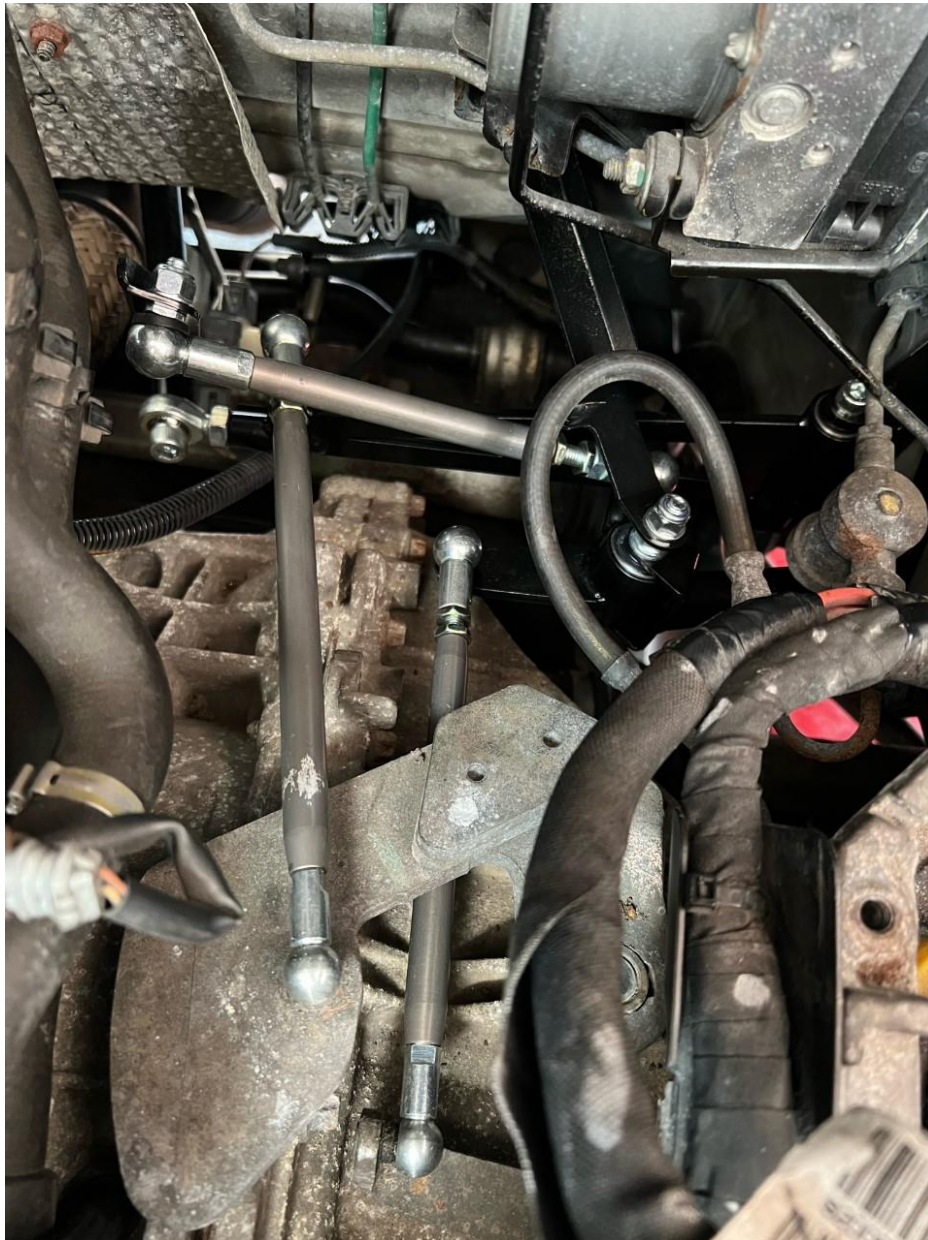


Using Loctite on the M10 bolt, fit the lower rod to the M10 rod end on the 'A' arm and tighten with the help of someone holding onto the gearstick inside the car.

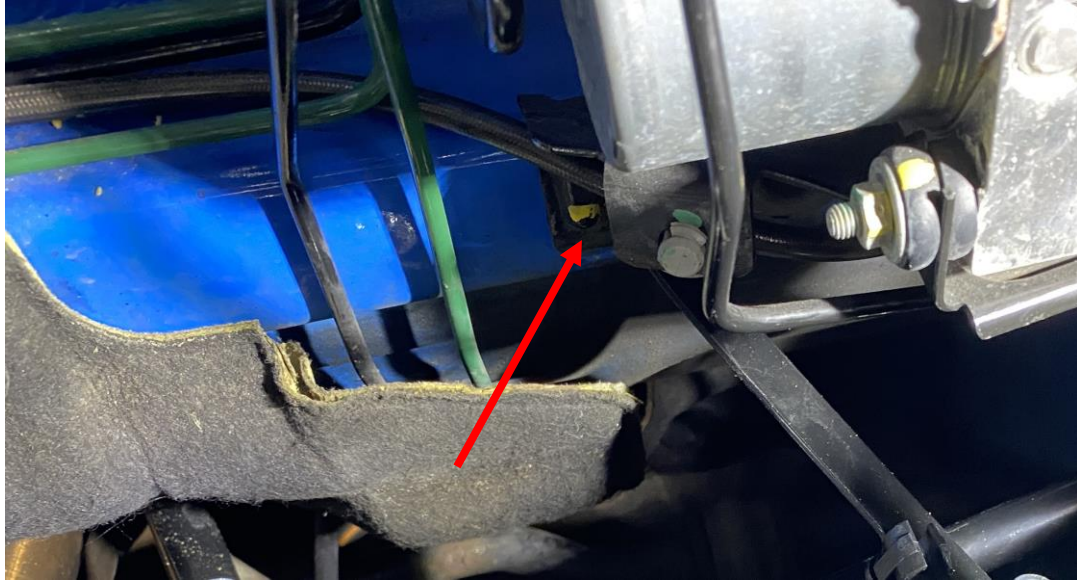


Then fit all of the linkage rods at the front as shown below. When fitting the ball joints remove the clips before pushing on and fit them after you have finished setting the linkage up – do not lose the clips as they aren't available separately and you will need to purchase a new ball joint!

Double M8 ball joint link goes across the car from lower rod to bellcrank.
Long rod with M6 ball joint goes from top of 'A' arm to gearbox.
Short rod with M6 ball joint goes from bellcrank to gearbox.



Finally remove the bolt at the bulkhead side, underneath the ABS modulator and fit the strap from the bellcrank bolt to here, reuse the original bolt. Fit the clutch pipe into the supplied clip.



Make sure everything is tightened up except the lock nuts on the front two linkage rods.

Setting up

Please note all arms are pre-set and should be pretty close to optimal position.

For reference, the rod lengths from centre to centre of the ball joints are:

Cross rod: 188mm

Long front rod: 242mm

Short front rod: 207mm

First of all make sure that the 'A' arm will travel forwards and backwards freely and is clear of the heater pipework.

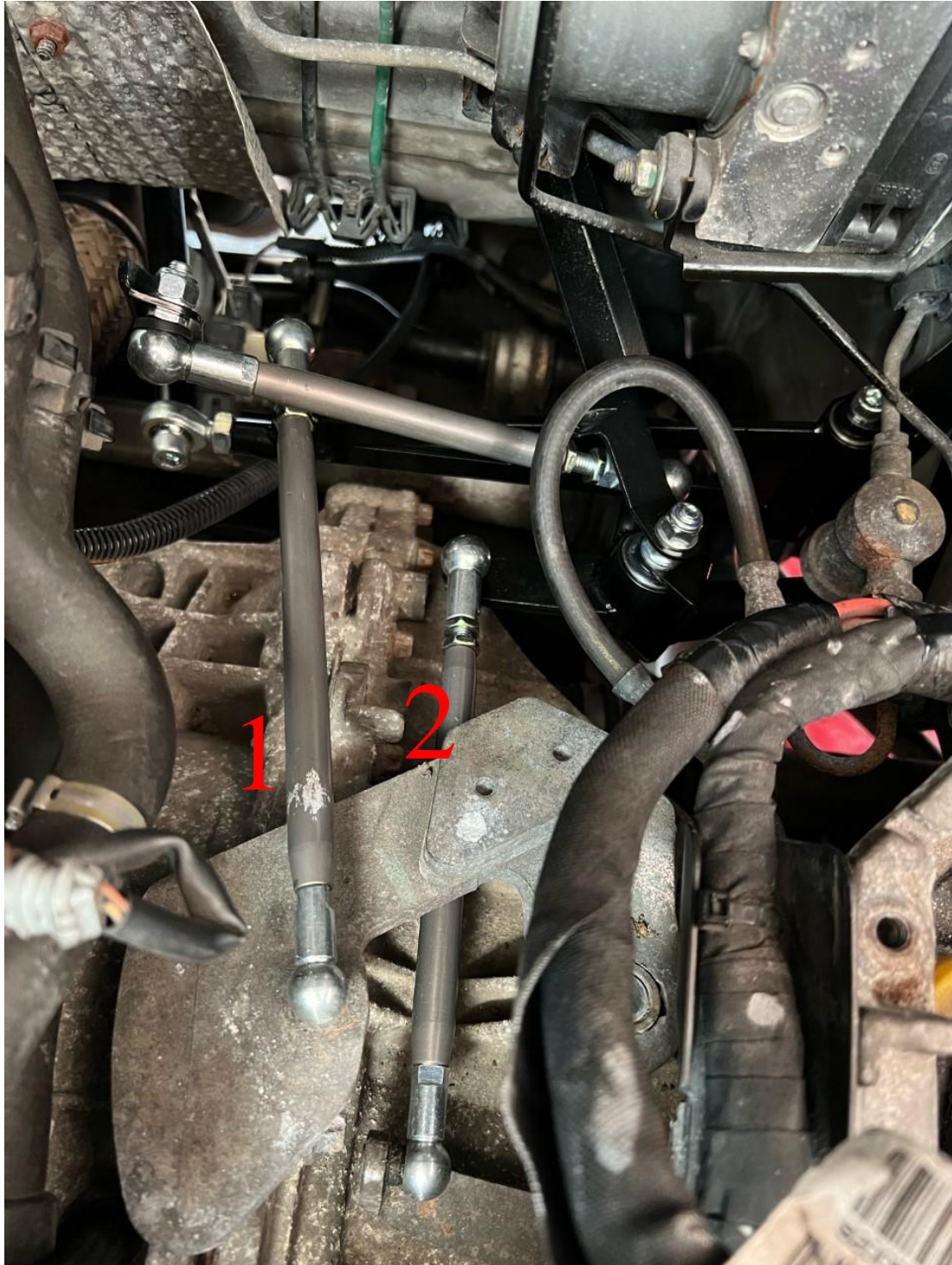
Set the front to rear position of the gear stick in its central location within the spherical bearing travel. On the left it is central (front to rear) on the right it's too far back.



When adjusting the rods make adjustments only at the position shown below and leave the other nut locked:



To adjust front to rear gearstick position adjust rod 1 – lengthen the rod to move gearstick forward, shorten the rod to move gearstick back. When making adjustments you will need to pop the ball joint off, adjust the thread on the ball joint and pop the ball joint back on.



Then set the side to side position. You need to try the gears and adjust rod 2 length to get the position so 1st/2nd gears are lined up with the reverse lockout sleeve on the base of the carbon gearstick lightly touching the plastic lockout.

When making adjustments you will need to pop the ball joint off, adjust the thread on the ball joint and pop the ball joint back on. Lengthening rod 2 moves the gearstick closer to the reverse lockout, shortening it moves it away from reverse lockout.

Make sure that you can easily select 1st and 2nd gears and you CAN'T select reverse without lifting the reverse lifter. Ensure all other gears can be easily selected.

Try to only adjust rods 1 and 2 as the other rod will be pre-set very close to ensure that the bellcrank is at 90 degrees to rod 2. If you have a diagonal feel to the shift see Troubleshooting shift issues at the end of this manual.

Once you are happy with the gear selection, fit the ball joint clips, lock up all the locknuts making sure the ball joints have articulation in both directions of rotation. Make sure all other fasteners are tight.

Refit all other components ensuring that the lower rod can move in every direction without touching the exhaust heatshield. Reform the heatshield as required gaining clearance.

The gear stick surround can be retained but you will need to either discard or trim the sound deadening around the tower to fit it all in.

On versions with the steel in car tower you will need to trim a small amount of material from the left hand rear corner of the centre console as shown below:



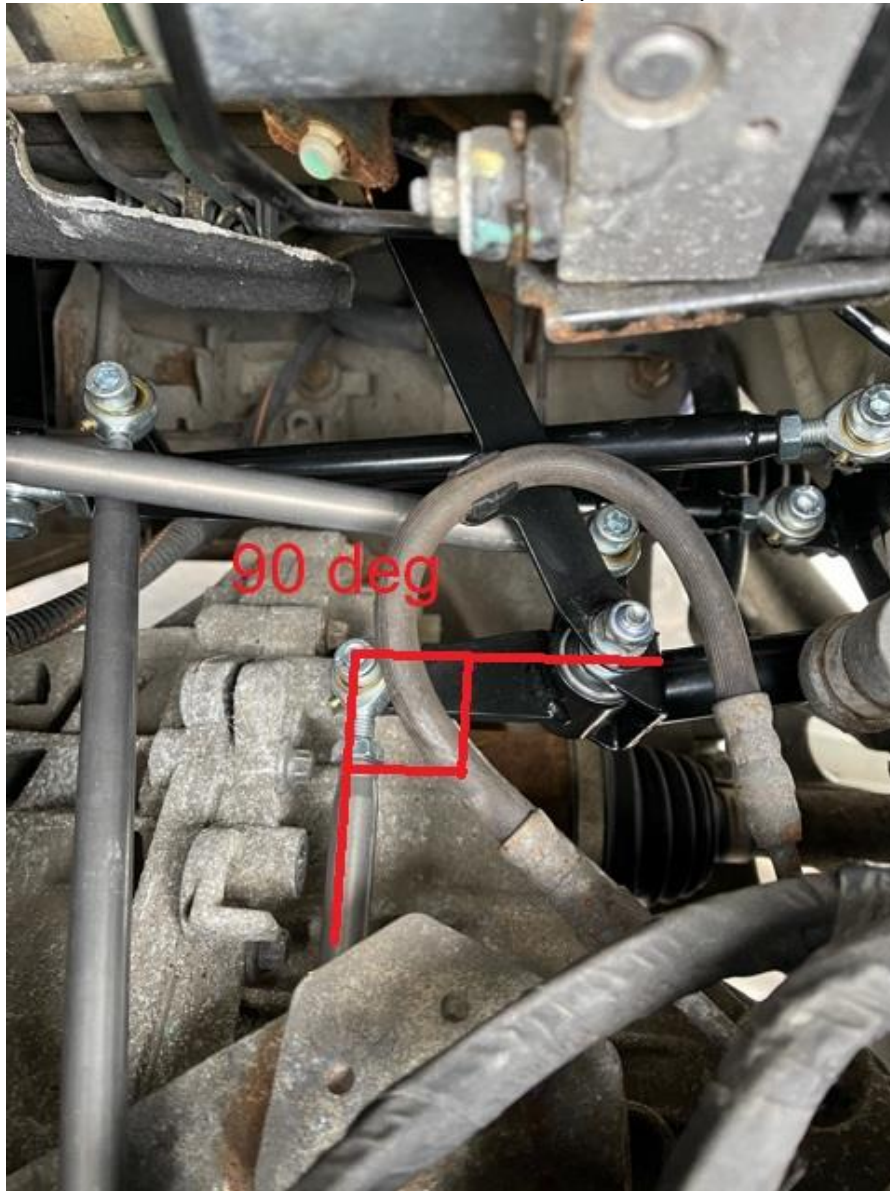
Road test your vehicle to ensure everything is feeling good!



Troubleshooting

The shift feels like it goes diagonally:

Make sure the bellcrank shown below is at 90 degrees viewed from directly above when in neutral. Rectify by changing the length of cross rod until the bellcrank is at 90 degrees and then change the length of the front rod to the gearbox by the same amount until the stick is back in the desired position.



I have a rattle:

Make sure the heatshield isn't touching the lower shift rod

Make sure the bracket holding the centre console in place isn't touching the in car tower.

There is friction in the shift:

Ensure all ball joints have articulation, loosen locknut and rotate the rod end until you have sufficient articulation in all shift directions.

Maintenance

Ensure all ball joints are clean and rust free, pop off the ball joints periodically and re-grease them.

Spare parts are always available from Pure Motorsport at very reasonable prices,

If you get stuck please ring for help and advice.

www.pure-motorsport.co.uk

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