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#### Renault Clio 172/182 Manual Quick Rack Conversion

Our quick (high ratio) rack and pinion kits convert the standard Clio 2 RS hydraulic PAS rack (SMI manufactured) into a high ratio manual quick rack with no power assistance. It is recommended to use an EPAS set up when using a manual rack otherwise the steering will be extremely heavy!

#### Fitting.

We strongly recommend that a professional with suitable experience fit this kit. Just because we offer fitting instructions doesn't mean it is a DIY job!!



With the steering rack held in a vice, snip the inner track rod joint gaiter clips and pull back the gaiters. Using a suitable spanner or the correct Renault removal tool unscrew the track rods and put to one side.



Remove the hydraulic pipes.



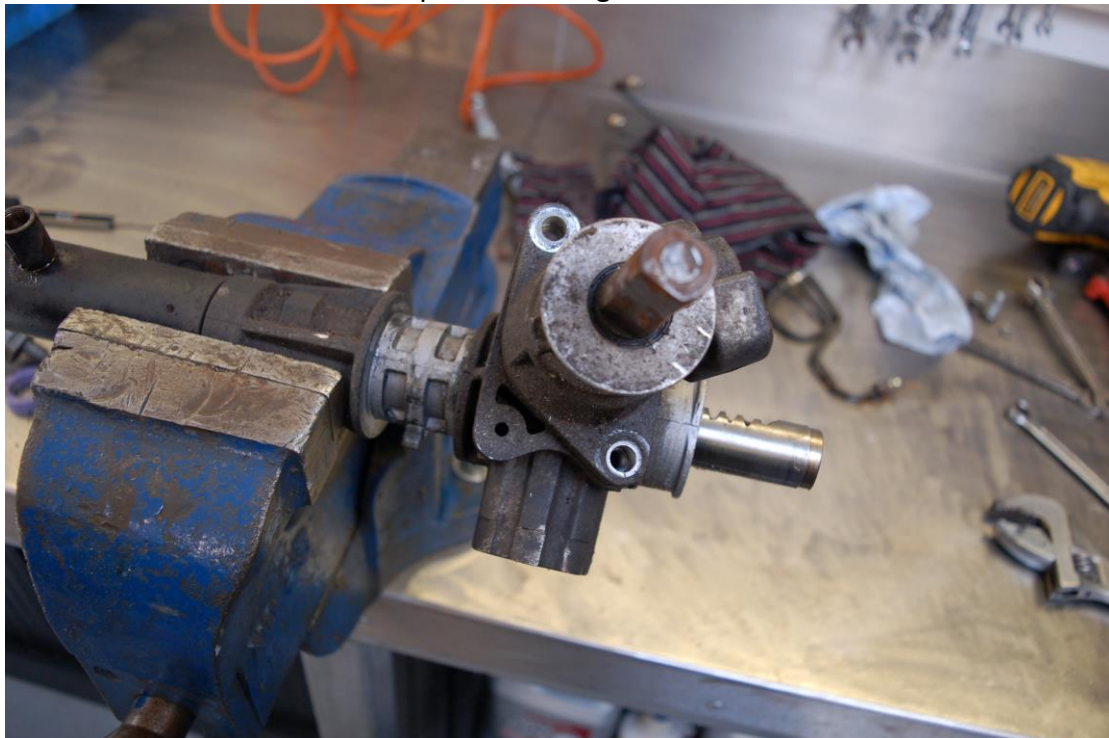
Using Vernier callipers centralise the rack until you get an equal measurement of rack protrusion on each side of the rack from the end to the inside of the casing where the lock stops bottom out.



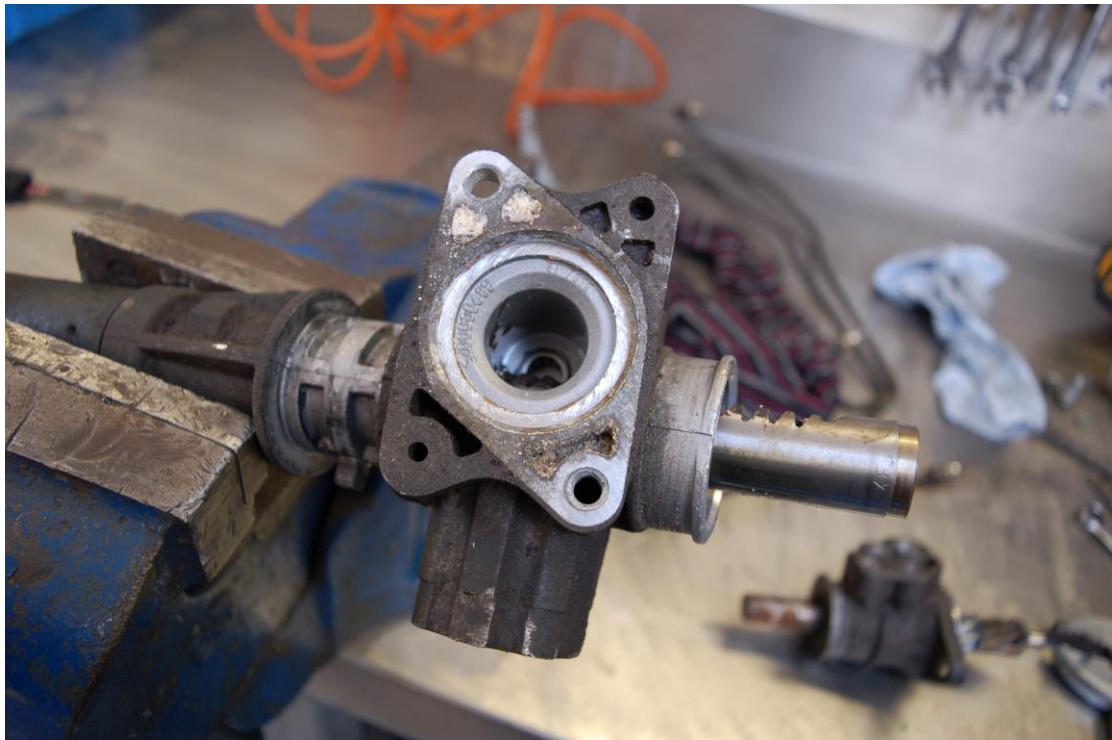
With the rack centralised, mark the position of the pinion on the pinion casing with a scribe or similar. Mark on the side of the recess in the pinion for the steering rack clamp bolt so you don't get the pinion the wrong way around!



Remove the two bolts from the pinion housing.



Remove the pinion and housing.





Rotate the rack end plug using an appropriate tool (long nose pliers work OK) until you can see the end of the retaining clip.



Pick the end of the clip out of the casing and rotate the end plug until the clip can be removed.



Hold end of the rack in a vice, cover the hydraulic ports so that you don't get covered in fluid and pull the casing away to remove the rack.



Retain the end plug and bush/seal.



You should be left with the bare rack now.





Prise out the retaining ring indentations and unscrew the rack and pinion pre-loading bush.



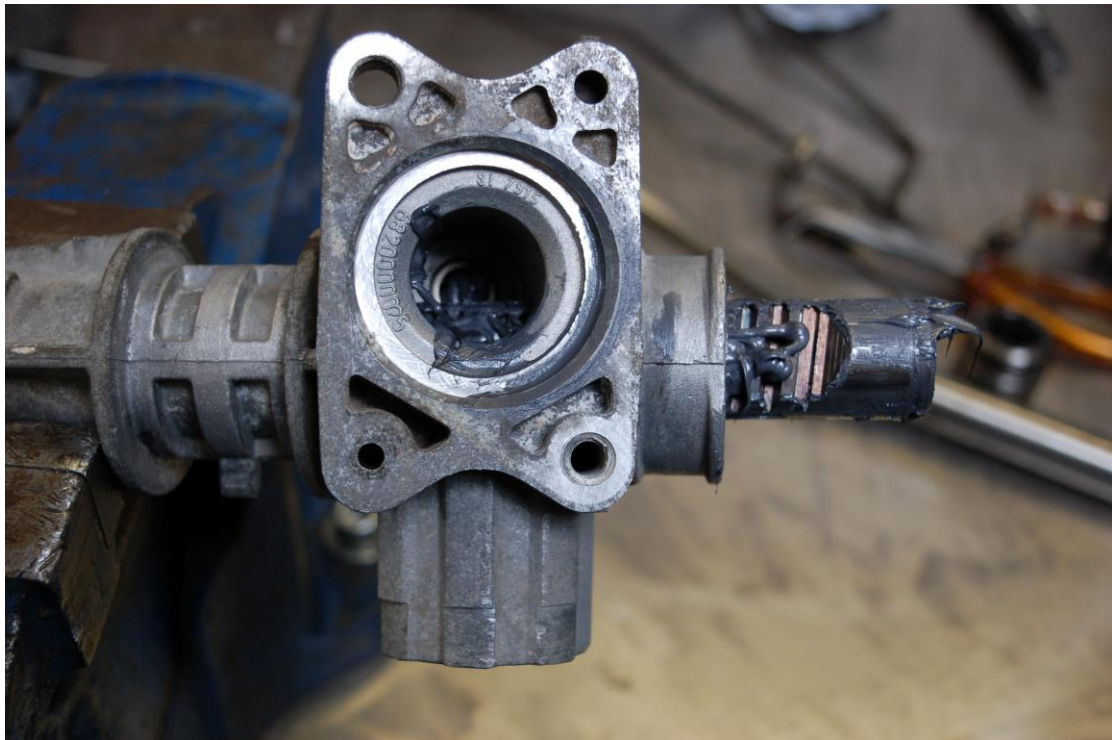
The casing should now be bare. Clean inside and outside the casing, paint the steel section if required.



Clean the new rack and pinion. Cover the rack and inside the casing with high quality grease suitable for highly loaded components.



Slide the rack back into the casing spreading the grease around all the bushes.



Refit the rack end bush and plug.



Push the end bush and plug back onto the casing until the clip recess is lined up with the cut-out in the casing.



Turn the end plug until you can see one of the holes for retaining the end of the clip. Push the clip in the hole and turn the end plug until the clip is fully seated in the groove.



Turn the plug in the opposite direction until both ends of the clip are no longer visible,



Tap the top of the pinion until the bearing, seal and pinion come out of the housing.



Remove the bearing retaining circlip.



Press the bearing off the pinion.



Put the seal on the new pinion, press on the bearing and put the circlip in the groove.



Clean the pinion housing, grease the inside and press the bearing and pinion back into the housing.



Centralise the rack again by measuring the protrusion on each end.





Line up the pinion with your previous marks.



Taking care to keep the rack centralised, push the pinion back into the rack casing ensuring the pinion remains lined up with your marks. Bolt the pinion housing back on.



Grease the rack at the base of the preloading bush.



Push the pre-loading bush back in with spring and washer.



Fit the screw on cap, tightening until there is slight resistance felt when rotating the pinion. There should be very little or no rotational play in the steering rack. Using an adjustable spanner work the rack from lock to lock making sure the movement is smooth with no excessive notchiness. Recheck the pre-loading and adjust if necessary.

Knock in the locking ring into two of the recesses to stop the screw in plug from inadvertently rotating.



Plug the hydraulic ports to stop water and dirt ingress by using our plug kit available to purchase separately.

Refit the track rods using plenty of Loctite on the threads and refit the boots with new clips.

Fit the steering rack back onto the car.

Reset the front wheel alignment and ensure the steering wheel is centred.

If you get stuck please ring for help and advice.

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