

MANUAL GEARBOX: REMOVAL - REFITTING

Note, one or more warnings are present in this procedure

Tightening torques

- Lower ball joint nut - 62 N.m
- Track rod end nut - 40 N.m
- Shock absorber base nut - 180 N.m
- Engine tie-bar bolt on the gearbox (K7J, F8Q and D7F) - 62 N.m
- Engine tie-bar bolt on the gearbox (D4F) - 105 N.m
- Engine tie-bar bolt on the gearbox (K9K and K4M) - 110 N.m
- Gearbox bell housing and starter bolts - 45 N.m
- Suspended mounting nuts on the gearbox - 62 N.m
- Driveshaft gaiter mounting bolts - 25 N.m
- Steering box mounting bolts - 50 N.m
- Subframe front mounting bolts - 62 N.m
- Subframe rear mounting bolts - 105 N.m
- Subframe - side member tie-rod bolts - 30 N.m
- Subframe tie-rod bolts - 21 N.m
- Gear control tie-bar mounting bolts - 28 N.m

Special tooling required (Optional)

- Engine anchorage support with multiple adjustments and retaining straps - Mot. 1453
- Ball joint extractor - Tav. 476
- Support for removal - refitting of engine - gearbox assembly - Mot. 1390

REMOVAL

Position the vehicle on a two-post lift.

Disconnect the battery, starting with the negative terminal.

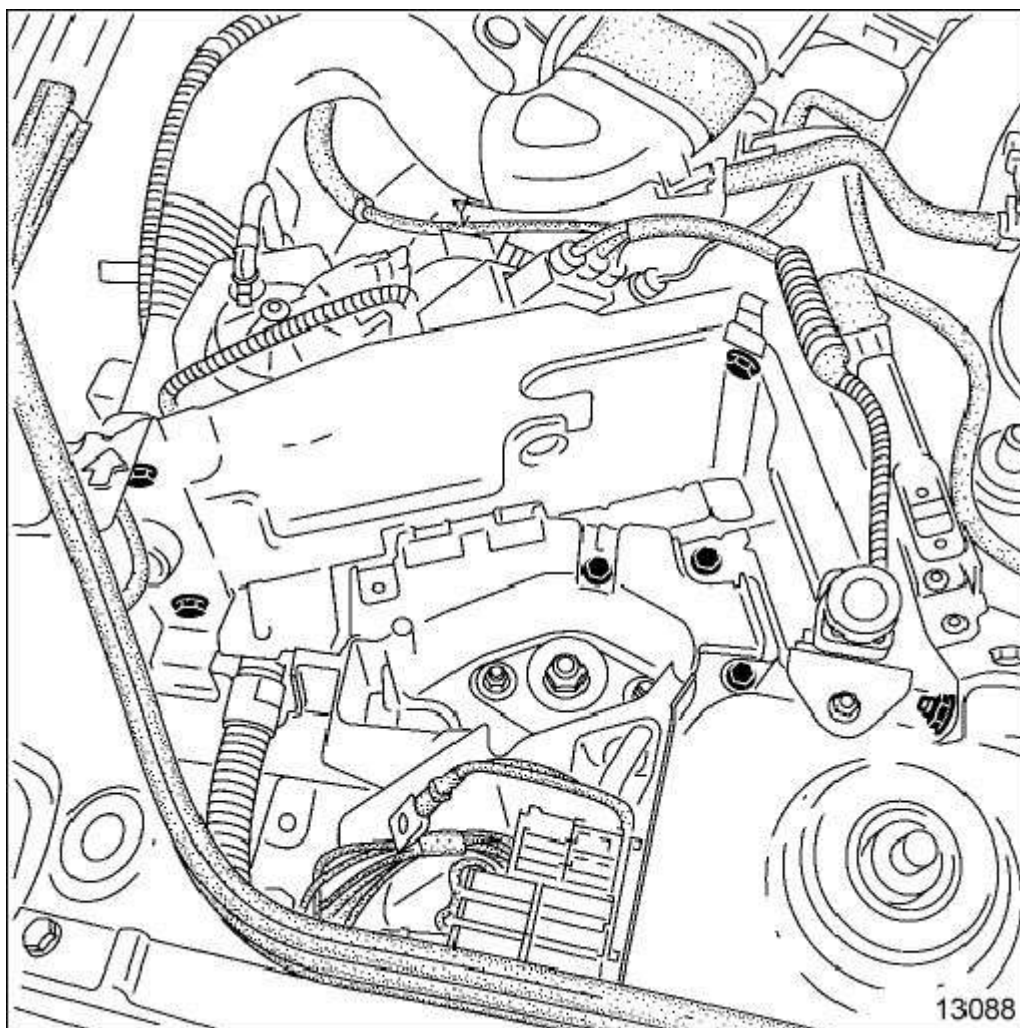
Remove:

- The battery
- The air filter unit
- The engine undertray

Disconnect:

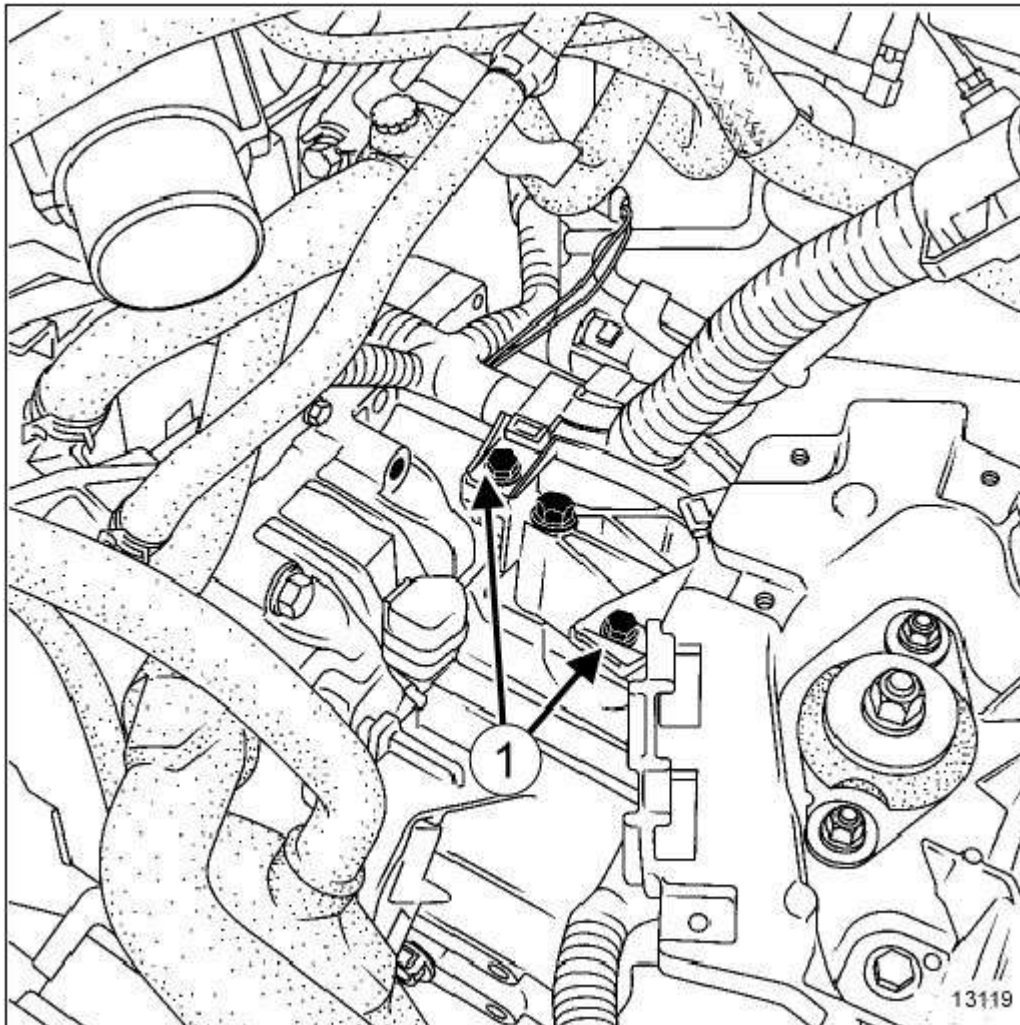
- The injection computer
- The preheating unit (diesel version)
- The diesel filter (diesel version)

Remove the front bumper.



Remove:

- The impact sensor
- The battery protection plate mounting bolts
- The battery protection plate



Remove the wiring harness mounting bolts (1) .

Disconnect the clutch cable.

Remove:

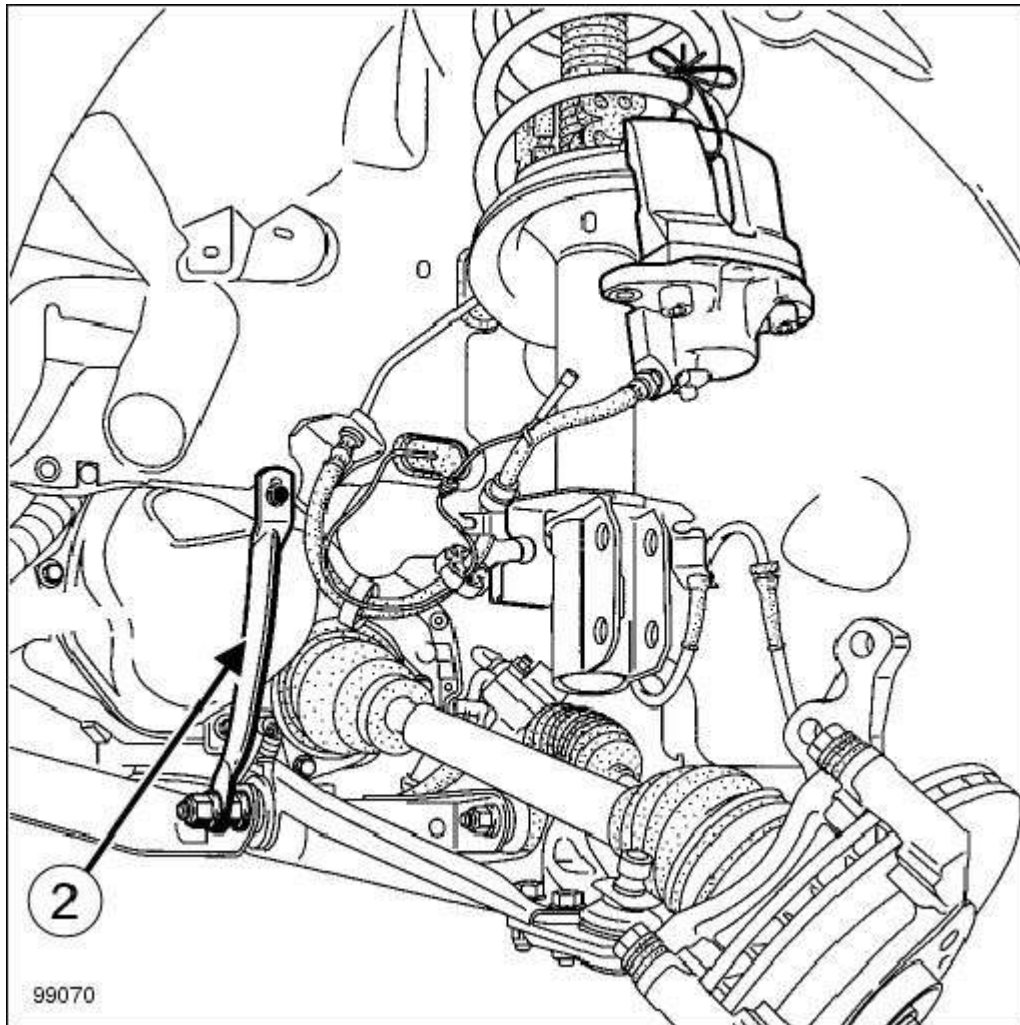
- The upper gearbox edge bolts and starter bolts
- The earth strap bolt from the gearbox
- The two TDC sensor bolts

Drain the gearbox.

Remove:

- The front wheels
- The wheel arches

On the left-hand side, remove the three driveshaft gaiter bolts from the gearbox.



Remove on both sides:

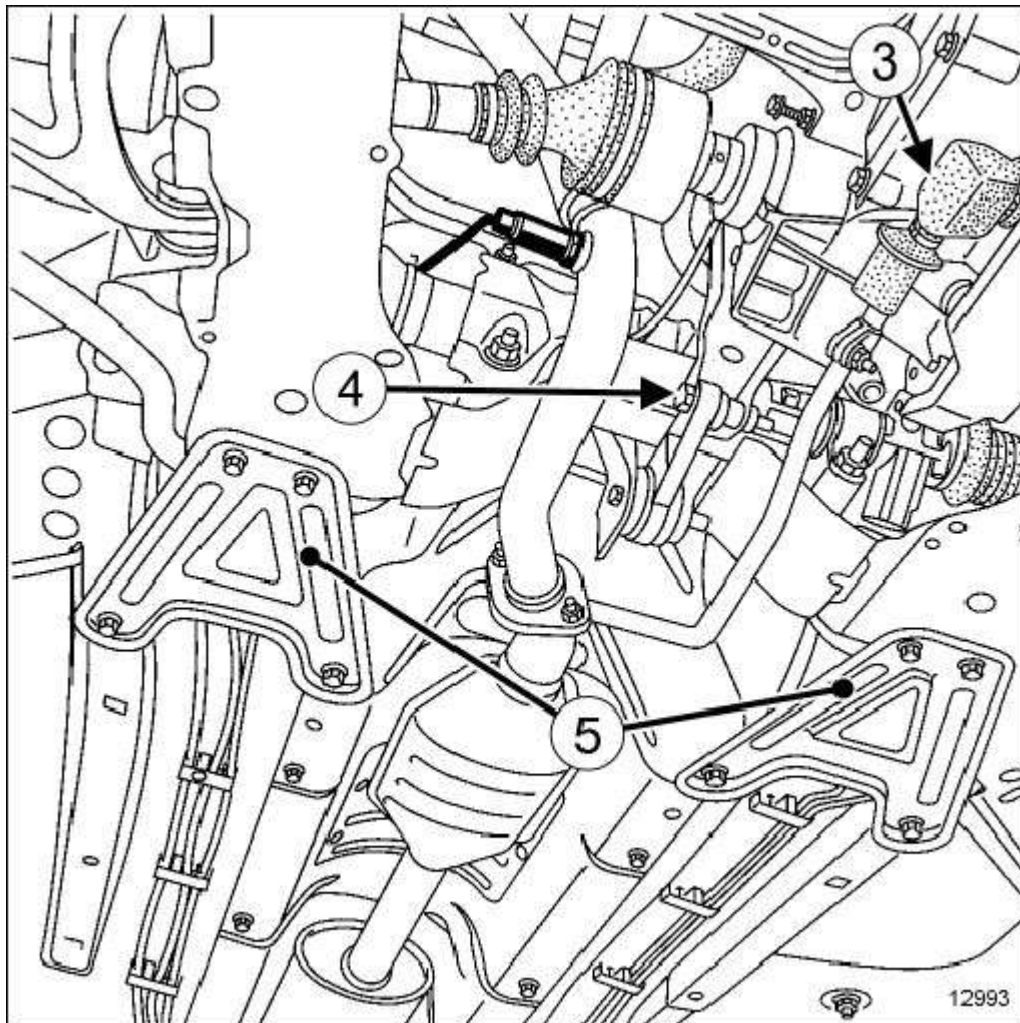
- The brake callipers, and hang them up
- The ABS sensors
- The track rod ends using the Ball joint extractor. (Tav. 476)
- The shock absorber base bolts,
- The subframe - side member tie-rods (2)
- The anti-roll bar tie rod upper bolt (off-road vehicle only)
- The "driveshaft - stub axle carrier" assembly

Check that the driveshaft rollers cannot be removed by hand. If they can, check if any of the needles have fallen into the gearbox.

Remove the starter .

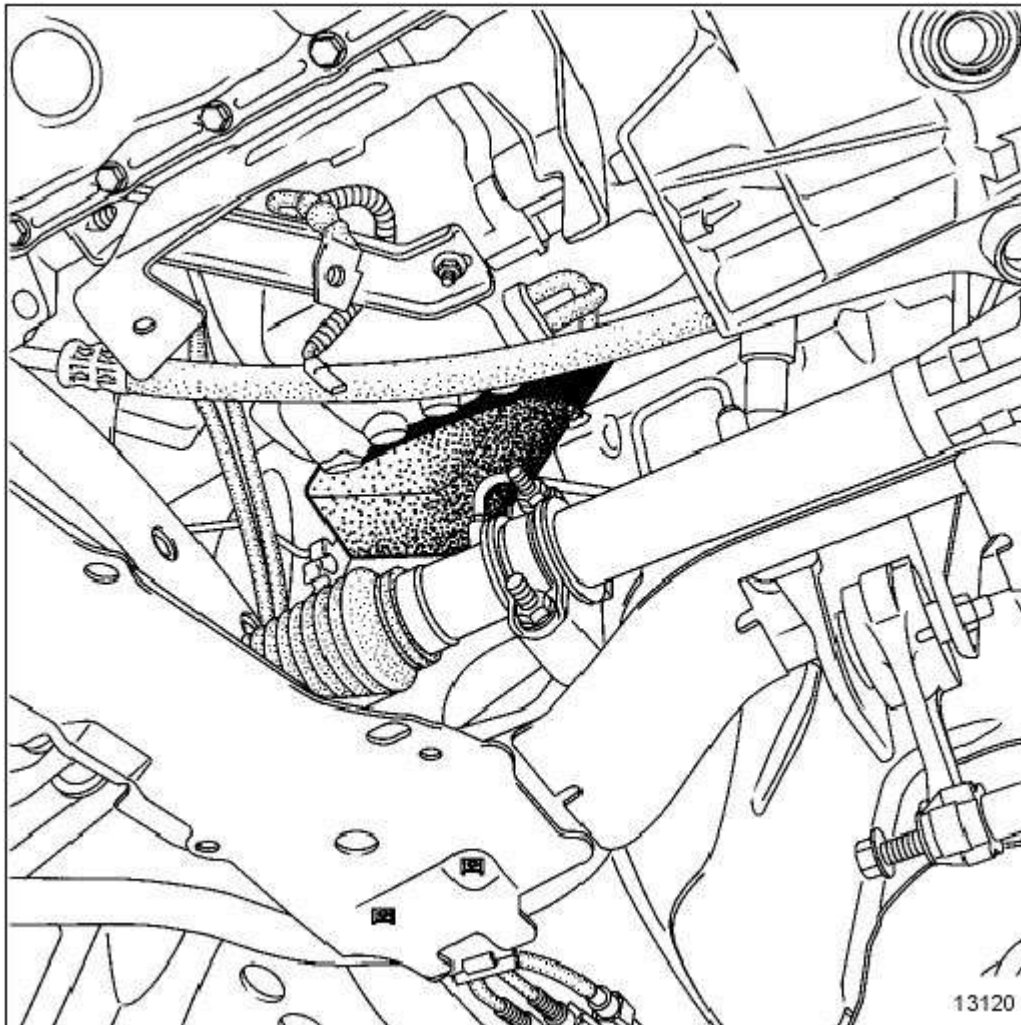
Disconnect:

- The reversing light connector
- The speedometer connector



Remove:

- The subframe tie-rods (5)
- The tie-bar - gearbox mounting bolt (3)
- The gear control linkage
- The engine tie-bar bolt (4) on the gearbox
- The gearbox rear support
- The power-assisted steering pipe mountings (if fitted)

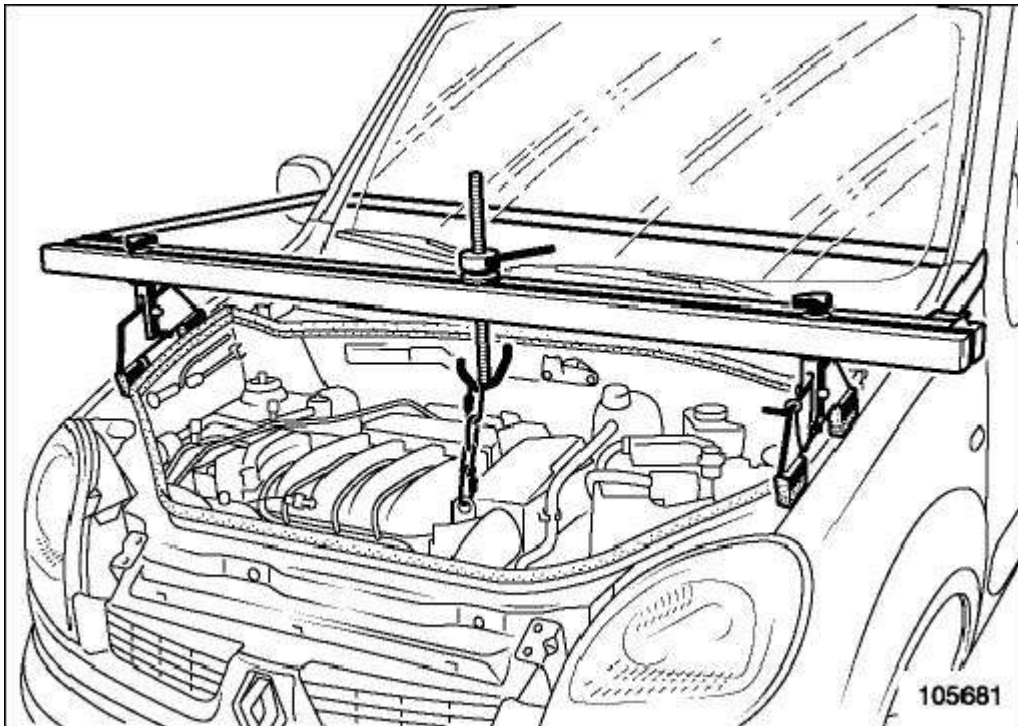


Remove the gearbox-engine strut.

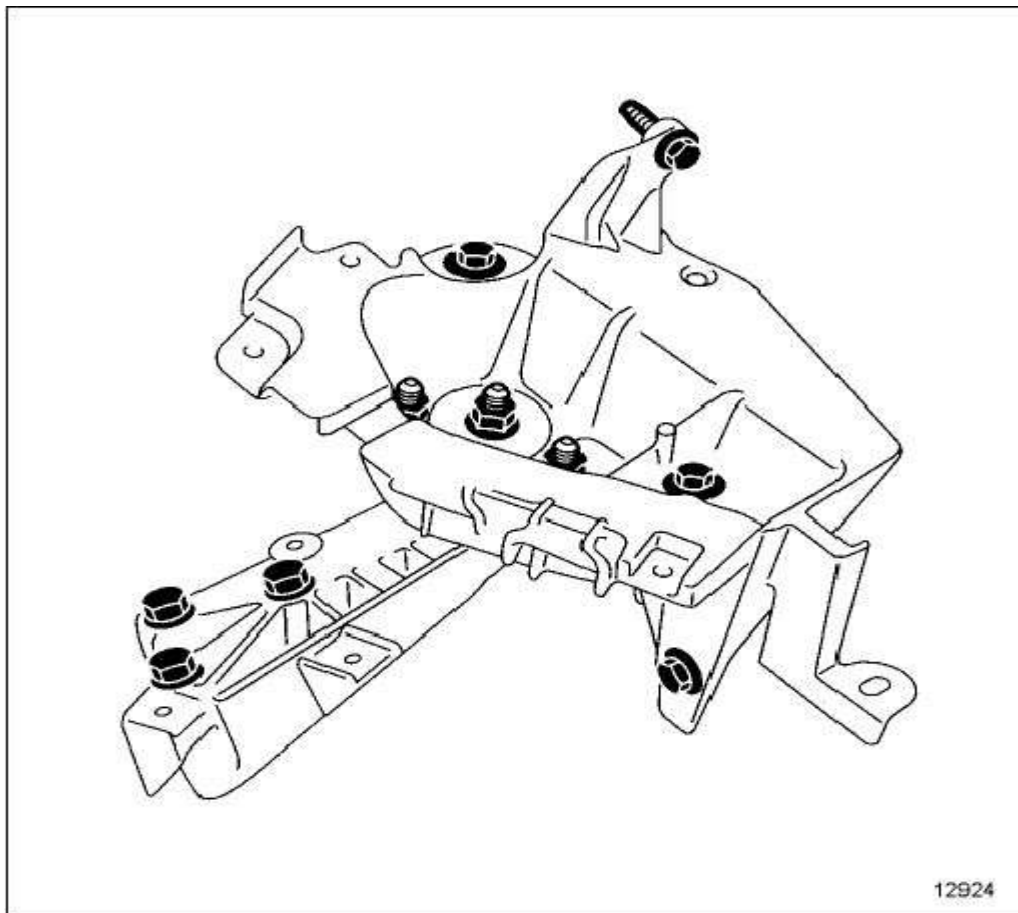
If necessary, insert a shim to tilt the engine forward to facilitate removal of the steering rack.

Remove the steering mountings from the sub-frame.

Attach the vehicle steering.

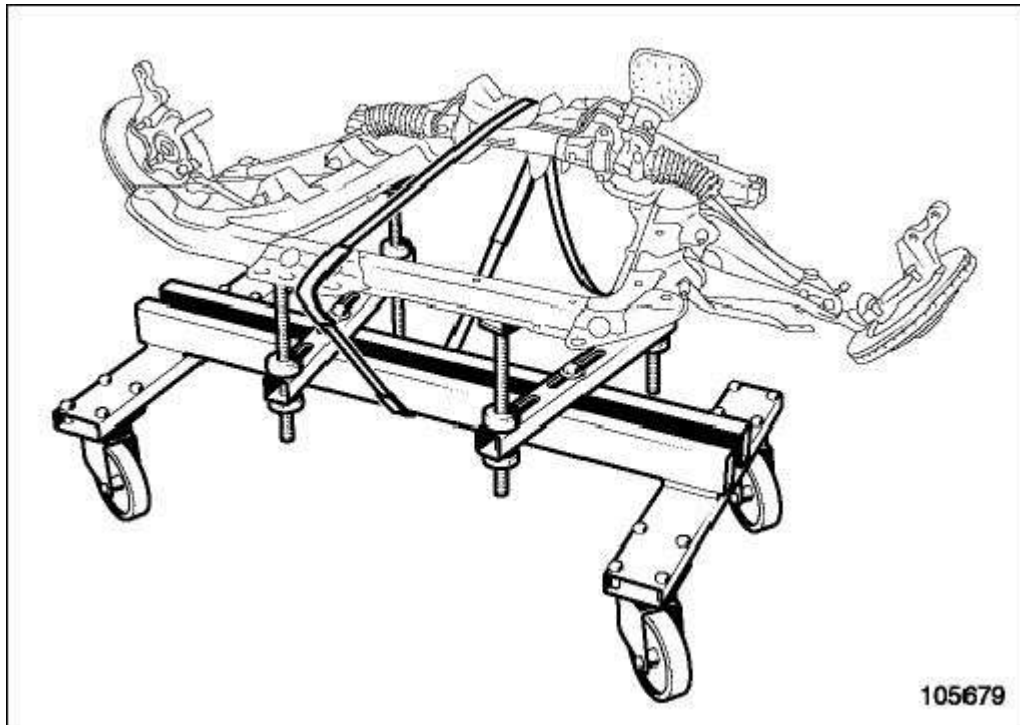


Position the Engine anchorage support with multiple adjustments and retaining straps. (Mot. 1453) .



Remove the gearbox support.

Fully lower the engine using the Engine anchorage support with multiple adjustments and retaining straps. (Mot. 1453) .



Position the Support for removal - refitting of engine - gearbox assembly (Mot. 1390) under the sub-frame.

Adjust the pad height to ensure the sub-frame is stable on the tool.

Lower the final drive until the subframe is touching the Support for removal - refitting of engine - gearbox assembly (Mot. 1390) .

WARNING

Strap the sub-frame to the Support for removal - refitting of engine - gearbox assembly (Mot. 1390) .

Remove:

- The sub-frame mounting bolts
- The subframe

Set up the component jack under the gearbox.

Remove the gearbox lower mounting bolts.

Separate the gearbox from the engine.

Remove the gearbox.

REFITTING

Proceed in the reverse order to removal.

Check that the centering rings are in place and correctly positioned.

Torque tighten:

- The lower ball joint nut 62 N.m
- The track rod end nut 40 N.m
- The shock absorber base nut 180 N.m
- The engine tie-bar bolt on the gearbox (K7J, F8Q and D7F) 62 N.m
- The engine tie-bar bolt on the gearbox (D4F) 105 N.m
- The engine tie-bar bolt on the gearbox (K9K and K4M) 110 N.m
- The gearbox bell housing and starter bolts 45 N.m
- The suspended mounting nuts on the gearbox 62 N.m
- The driveshaft gaiter mounting bolts 25 N.m

Apply FRENBLÖC to the steering box mounting bolts.

Torque tighten:

- The steering box mounting bolts 50 N.m
- The subframe front mounting bolts 62 N.m
- The subframe rear mounting bolts 105 N.m
- The subframe - side member tie-rod bolts 30 N.m
- The subframe tie-rod bolts 21 N.m
- The gear control tie-bar mounting bolts 28 N.m

Check that the clutch system is operating correctly.

Fill up the gearbox.

Connect the battery, starting with the positive terminal.