


STEERING ASSEMBLY

Axial ball joint

36

SPECIAL TOOLING REQUIRED		
Dir.	1305-01	Axial ball joint removal/refitting tool
Dir.	1306-03	SMI steering rack support tool
T. Av.	476	Ball joint extractor

TIGHTENING TORQUES (in daNm) 	
Wheel bolt	14.2
Steering ball joint nut	3.7
Steering ball joint lock nut	5.3
Axial ball joint	5

Put the vehicle on a two-post lift.

REMOVAL

First case: driver's side axial ball joint

Remove:

- the driver's side wheel,
- the steering ball joint nut

Second case: passenger side axial ball joint

Remove:

- the wheels;
- the steering ball joint nut

In all cases:

Release the lower ball joint using tool **T. Av. 476**.

Loosen the wheel alignment adjustment sleeve nut and unscrew the steering ball joint, holding the axial ball joint with an open wrench.

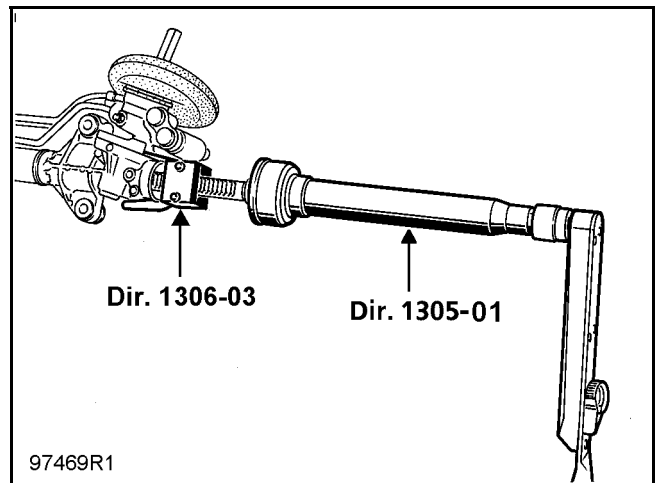
Counts the number of turns taken in order to preset the wheel alignment when refitting.

Withdraw the gaiter retaining clips and remove the gaiter.

Turn the wheels so the rack teeth are freed on the valve side.

Fit the steering rack support tool, **Dir. 1306-03**.

In this position, release the axial ball joint using tool **Dir. 1305-01**.



STEERING ASSEMBLY

Axial ball joint

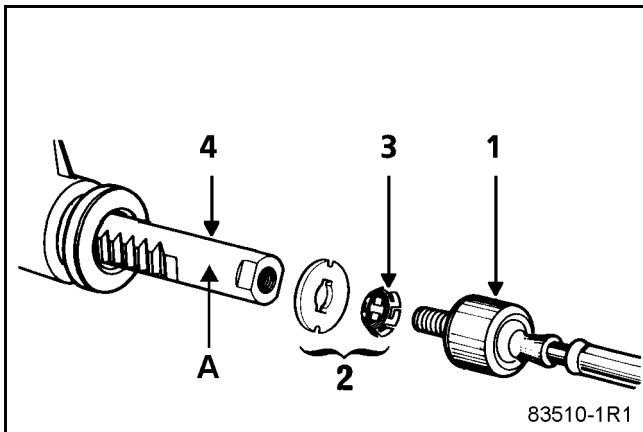
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REFITTING

NOTE:

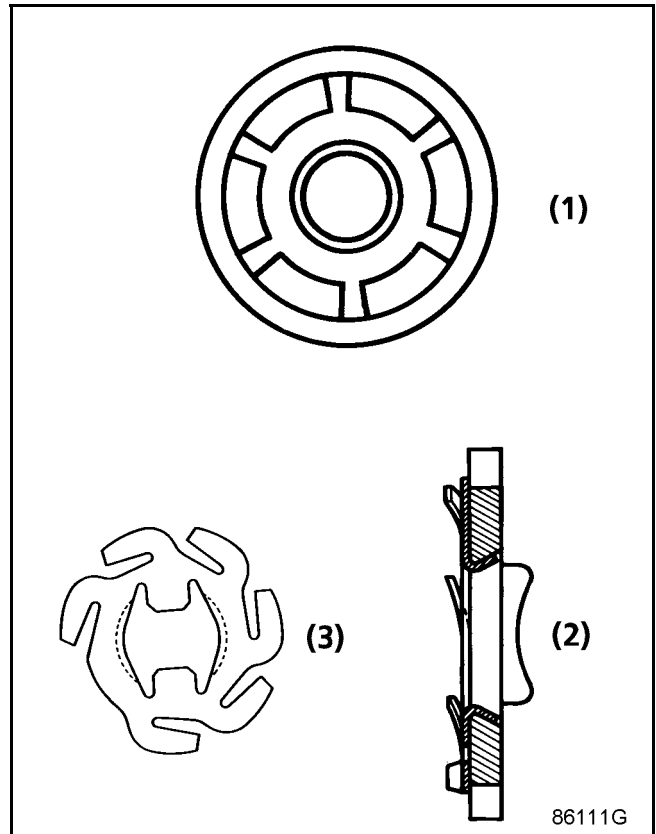
Before refitting new linkage, clean the screw threads in order to remove all traces of **LOCTITE** from the original fitting and to prevent the threaded parts from seizing when refitting.

Always replace them all (2). If the ball joint notch (1) is not worn, it can be reused.



Refit the following to rack (4):

- stop washer (2),
- the stop (3),
- the axial ball joint (1), the thread of which will probably have been coated with **LOCTITE FRENBLOC**.



Before the final tightening of the axial ball joint using tool **Dir. 1305-01**, check that the tabs of the locking ring (2) are correctly lined up with the flat surfaces (A) of the steering rack.

Refit the gaiter with new clips.

Retighten the ball joint housing by the number of rotations noted when removing.

Refit the ball joint and tighten the nuts to the recommended torque.


Check, and adjust if necessary, the alignment of the front wheels.

STEERING ASSEMBLY

Power assisted steering rack

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SPECIAL TOOLING REQUIRED	
Mot. 453-01	Set of 2 hose clamps
T. Av. 476	Ball joint extractor
EQUIPMENT REQUIRED	
Component jack	

TIGHTENING TORQUES (in daNm) 	
Wheel bolt	14.2
Lower arm bolt on sub-frame	18
Bearing mounting bolt	2.1
Sub-frame rear mounting bolt	12
Sub-frame front mounting bolt	10.5
Sub-frame tie-rod mounting bolts	10.5
Engine tie bar mounting bolt	10.5
Steering rack mounting bolt	18
Universal joint bolt	2.1
Mounting bolt on the heat shield	1.5
Anti-roll bar return tie-rod nut	4.4

REMOVAL

Put the vehicle on a two-post lift.

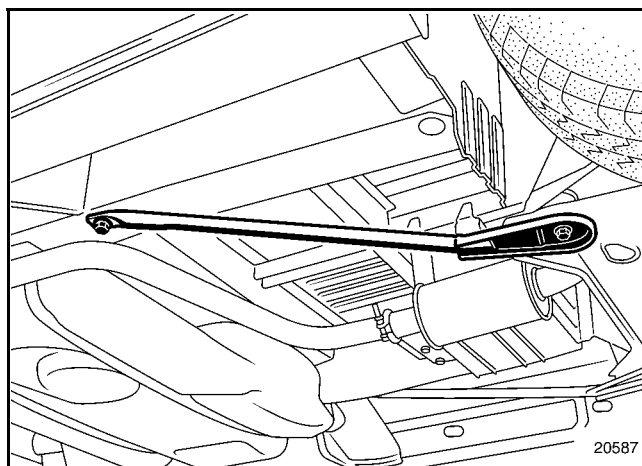
Secure the vehicle on the two-post lift.

Remove the wheels.

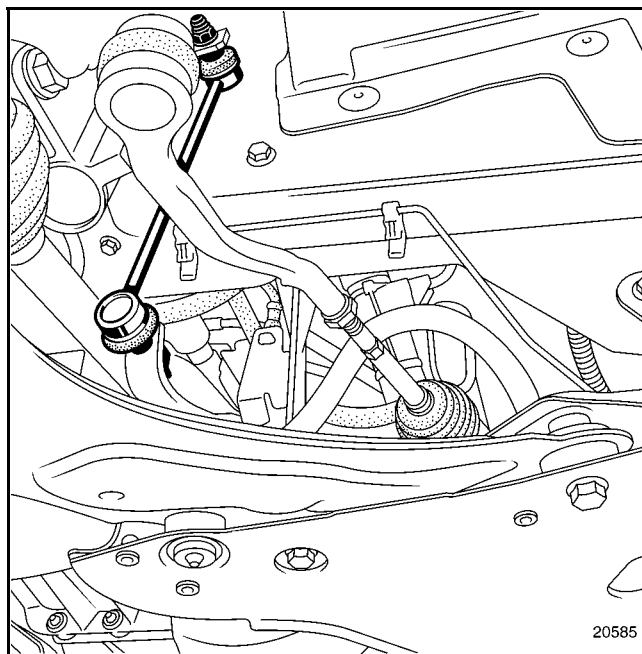
Fit hose clamps **Mot. 453-01** in place on the hydraulic assistance circuit pipes.

Unclip:

- the wheel sensor wires (ABS equipment),
- the brake pipes on the sub-frame.



Unscrew the rear bolts on the two sub-frame stiffener bars.

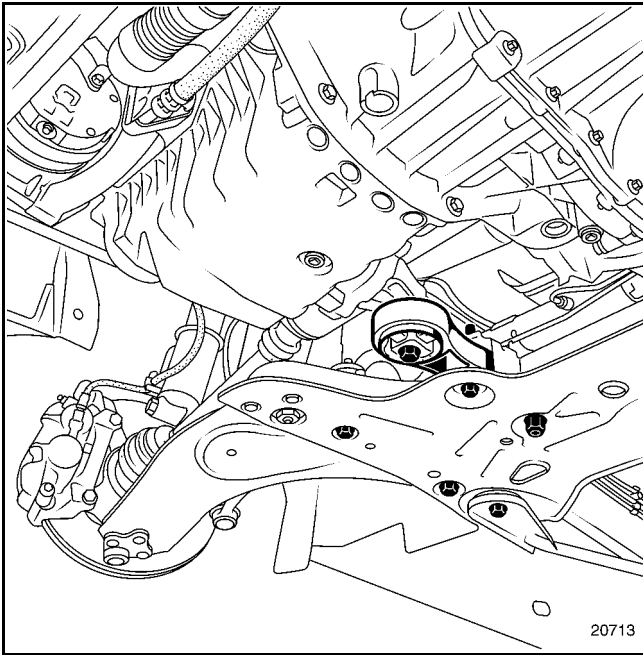


Remove the lower nuts on the anti-roll bar return tie-rods.

STEERING ASSEMBLY

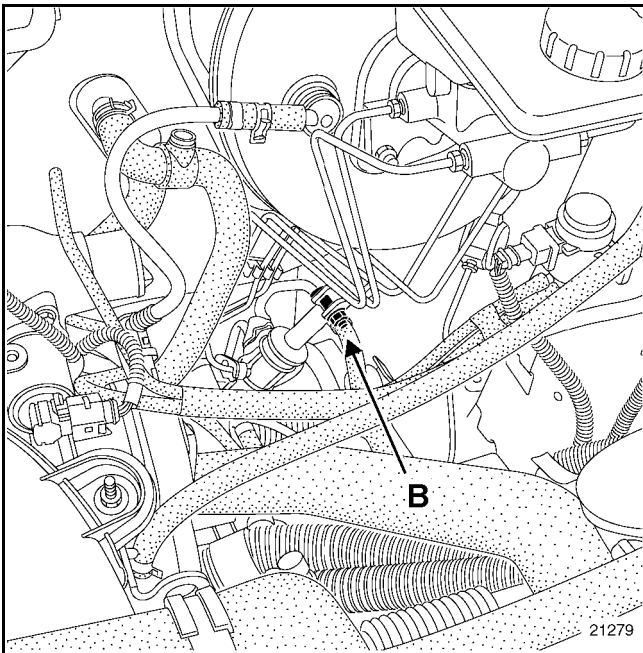
Power assisted steering rack

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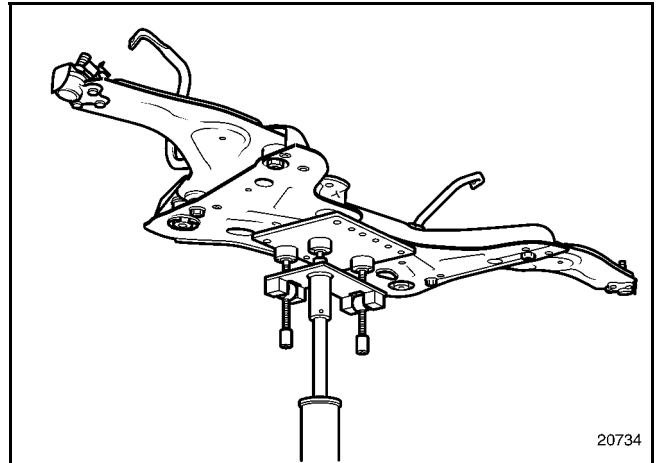


Remove:

- the engine tie bar,
- the steering rack mounting bolts on the sub-frame,



- the universal joint mounting bolt (B),
- the mounting bolt of the hydraulic assistance circuit pipe flanges (put plugs in place to prevent loss of fluid),
- the heat shield on the steering rack.



Position the component jack beneath the sub-frame and fix it firmly into place.

Remove:

- the two sub-frame front mounting bolts,
- the two sub-frame rear mounting bolts.

Lower the sub-frame by **20 centimetres**.

Remove the steering rack.

REFITTING

Refit the steering rack.

Tighten the two steering rack mounting bolts to torque.

Refit the sub-frame.

NOTE:

Ensure the correct positioning of the sub-frame in relation to the casing and the front silentbloc fittings.

Refit:

- the two sub-frame stiffener bars,
- the two sub-frame rear mounting bolts.
- the two sub-frame front mounting bolts.

Tighten to the recommended torque:

- the two sub-frame rear mounting bolts,
- the two sub-frame front mounting bolts,
- the rear bolts of the two sub-frame stiffener bars.

Remove the component jack.

STEERING ASSEMBLY

Power assisted steering rack

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Refit:

- the engine tie bar,
- the steering rack mounting bolts on the sub-frame,
- the universal joint mounting bolt,
- the heat shield on the steering rack,
- the mounting bolt of the hydraulic assistance circuit pipe flanges,
- the brake pipes on the sub-frame.

Remove the hose clamps.

Tighten the bolts and nuts to the recommended torque.

Refit the wheels.

Tighten the wheel bolts to the recommended torque.

Top up the power assisted steering fluid reservoir and bleed the assistance circuit.

Check, and adjust if necessary, the alignment of the front wheels.

STEERING ASSEMBLY

Steering column

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TIGHTENING TORQUES (in daNm)



Steering wheel mounting bolt	4.4
Linking fork bolt	2.1
Column mounting bolt	2.1

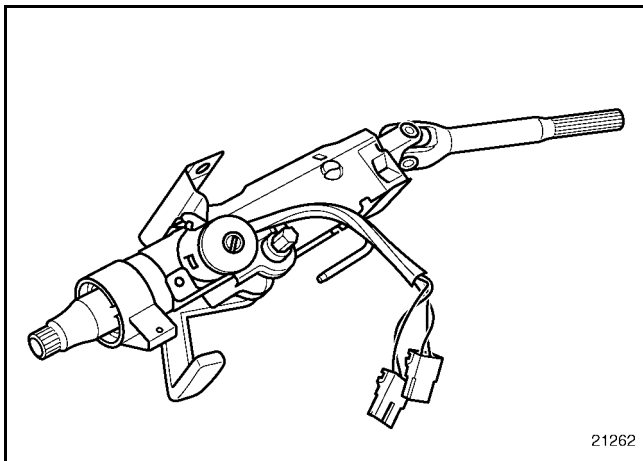
WARNING:

pyrotechnic systems (airbags and pretensioners) must not be handled near to a heat source or flame - they may be triggered.

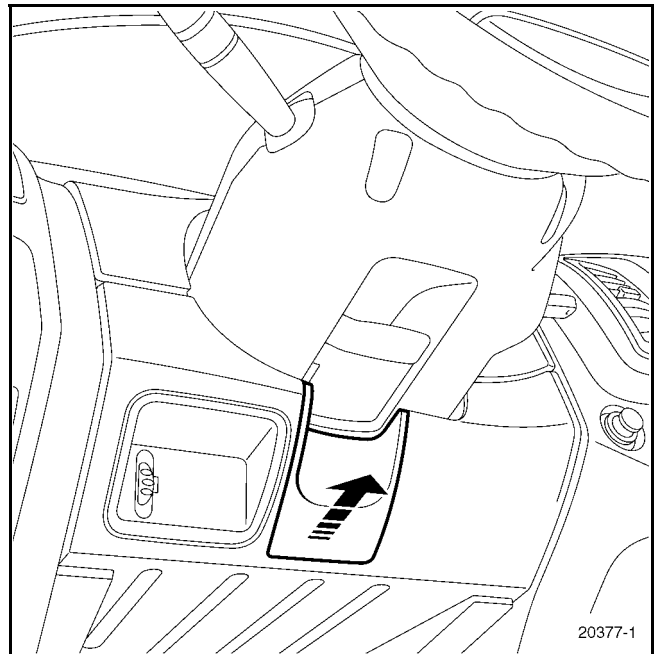
WARNING:

Before starting to remove the steering column, it is essential to lock the pyrotechnic systems computer using the diagnostic tool (refer to **Section 88** for instructions).

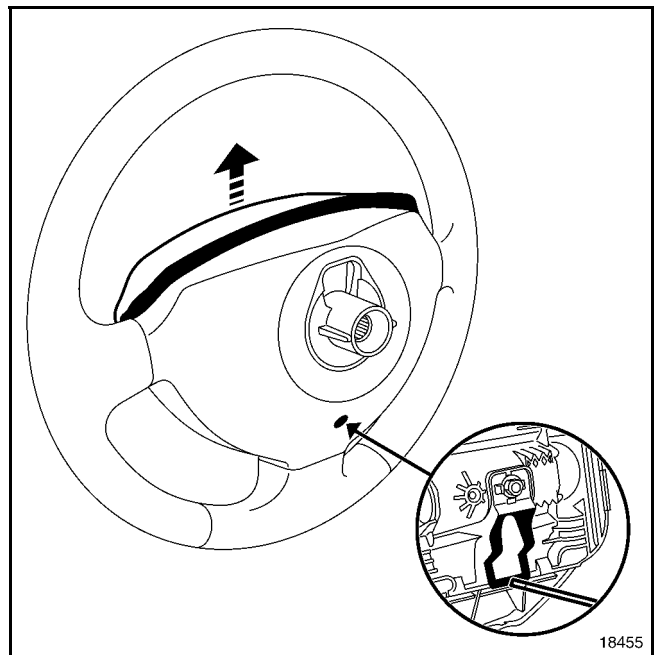
REMOVAL



Disconnect the battery.



Remove the cover beneath the steering wheel.



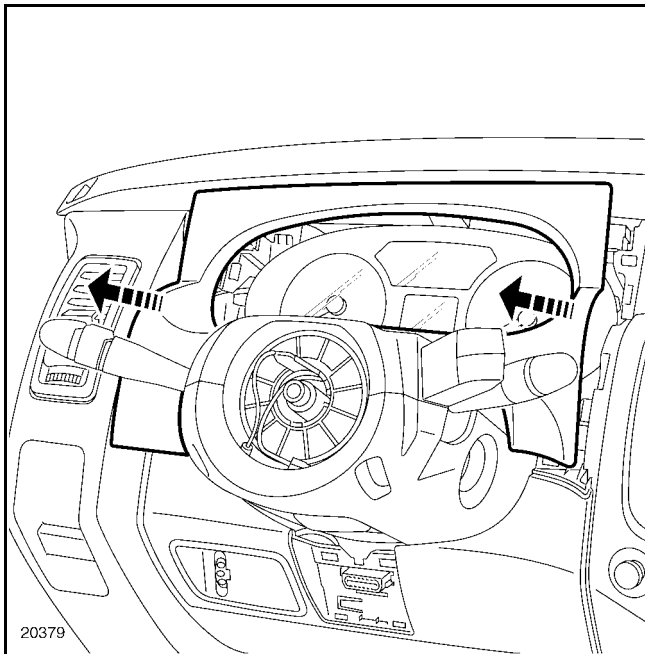
Remove the driver's front airbag module.

Disconnect:

- the driver's front airbag module connector,
- the horn connector,

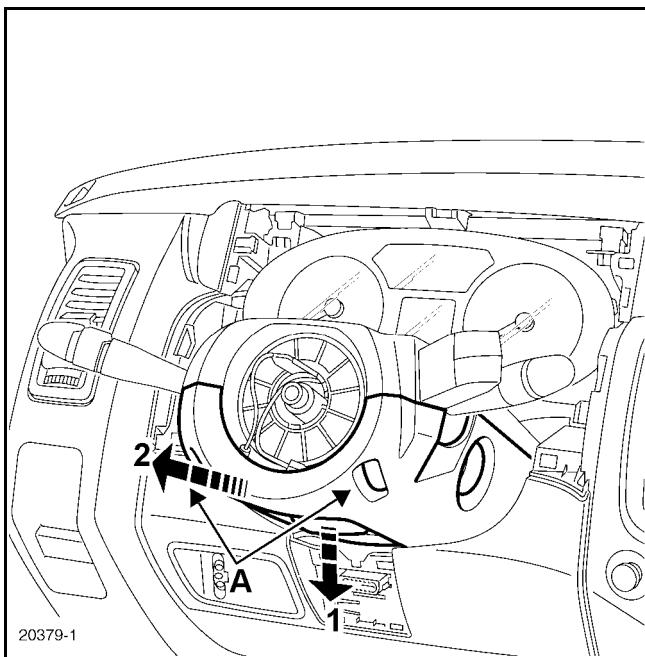
Remove:

- the steering wheel mounting bolt,
- the steering wheel.



Remove:

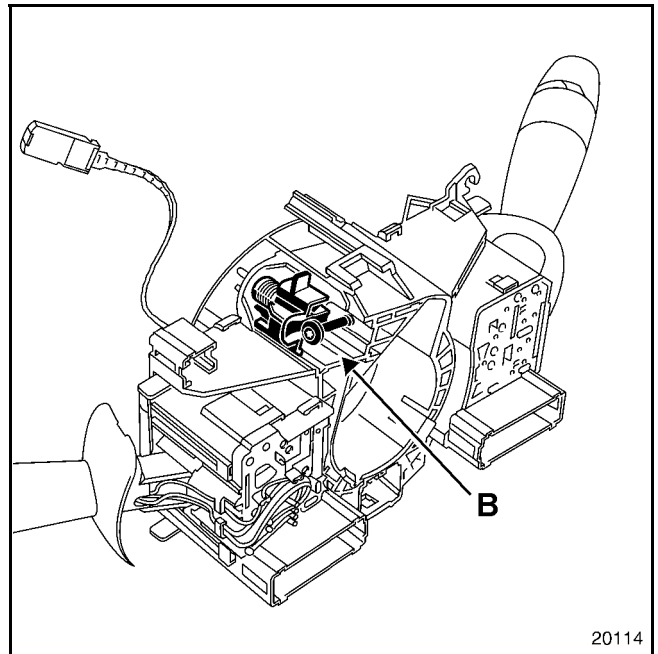
- the instrument panel visor,



- the two casing mounting bolts (A).

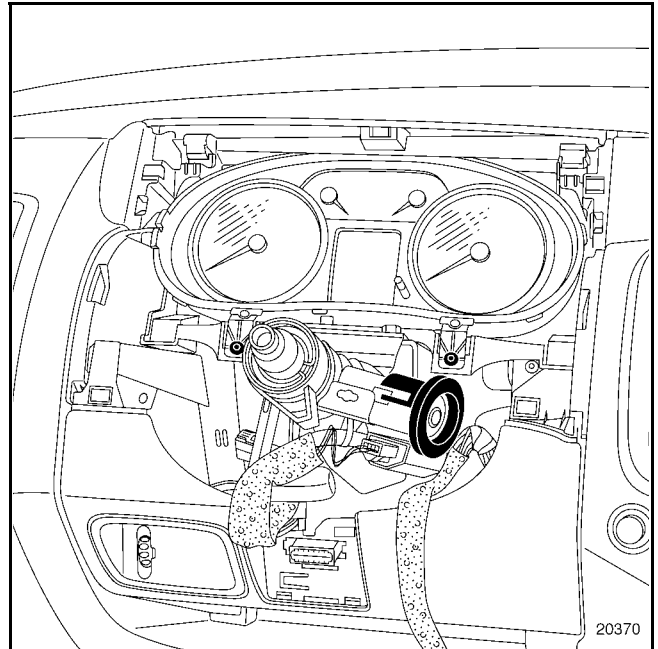
Unlock the steering wheel height adjustment control.

Disconnect the upper half shell casing, then the lower one, following directions (1) and (2).



Disconnect the rotary switch connectors.

Push the switch centring pin to gain access to bolt (B) and loosen it. Then remove the complete rotary switch.

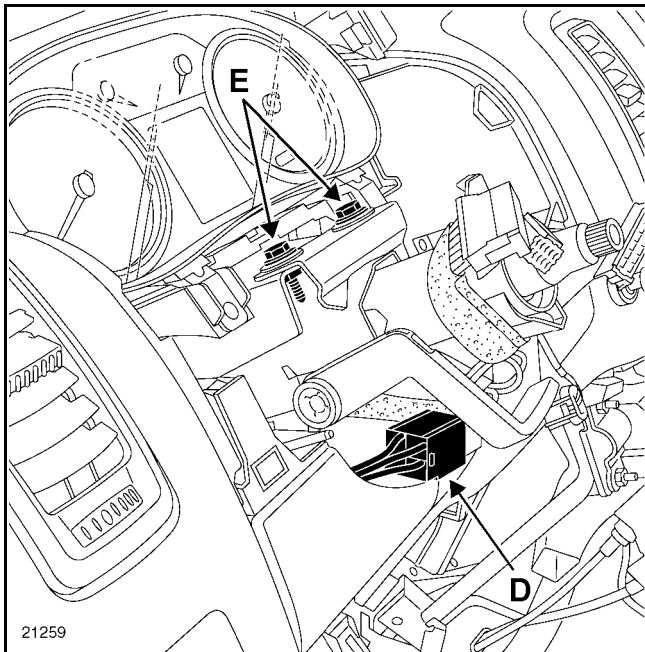


Disconnect and remove the transponder ring.

STEERING ASSEMBLY

Steering column

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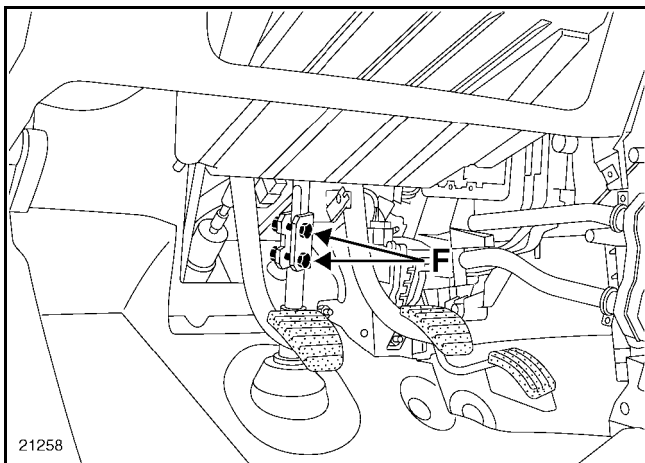


Disconnect the ignition switch connectors (D).

Unclip the wiring harness attachments.

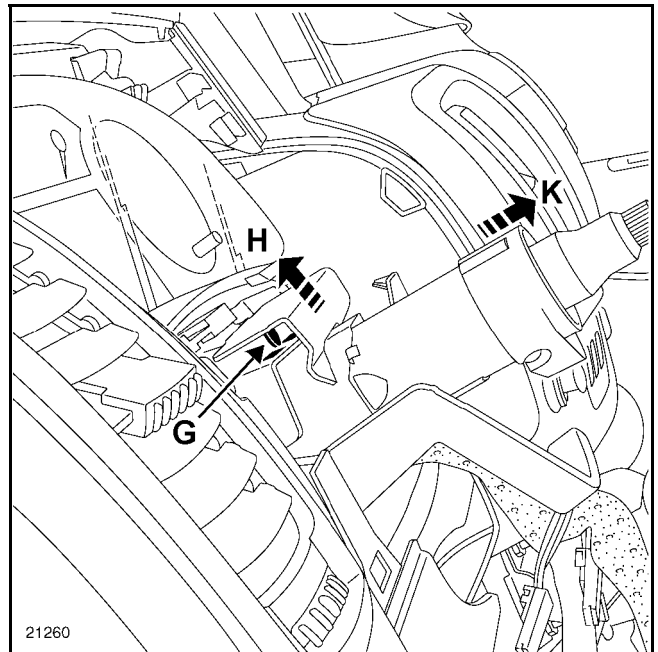
Remove:

- the two column mounting bolts (E).



- the two linking fork bolts (F).

Push the linking fork downwards.



Lift the steering column to disengage the pin (G).

Remove the steering column, first lifting (H) then pulling (K).

REFITTING

Refit:

- the column on the locating pin,
- the two steering column mounting bolts and tighten them to torque.

Position the linking fork and tighten the two mounting bolts to torque.

Connect the ignition switch connectors.

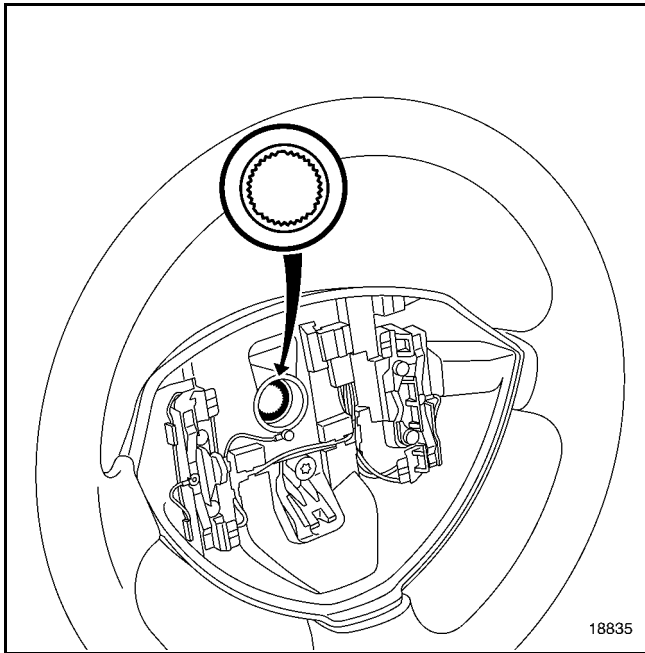
Replace and clip in place the wiring harness attachments.

Replace and connect:

- the transponder ring,
- the rotary switch.

Refit:

- the half cowlings,
- the instrument panel visor,
- the steering wheel.



WARNING:

The steering wheel splines are made so that the wheel can be fitted in one position only. The steering wheel should be inserted freely into the splines.

WARNING:

The steering wheel bolt must be replaced and tightened to the correct torque after each removal.

Tighten the steering wheel mounting bolt to torque.

Connect:

- the horn connector,
- the driver's front airbag module connector.

WARNING:

Take care to remember to remove any foreign bodies (bolts, clips etc.) when refitting the airbag modules. On the airbag elements, it is essential to clip the connectors to the bottom and position the safety latches.

WARNING:

Before unlocking the pyrotechnic systems computer, carry out a test using the diagnostic tool. If everything is correct, unlock the computer, if not, refer to the fault finding section.

WARNING:

Failure to observe these instructions may cause a fault in the normal operation of the pyrotechnic systems, i.e. they may be incorrectly triggered.

Refit the driver's front airbag module.

Connect the battery.

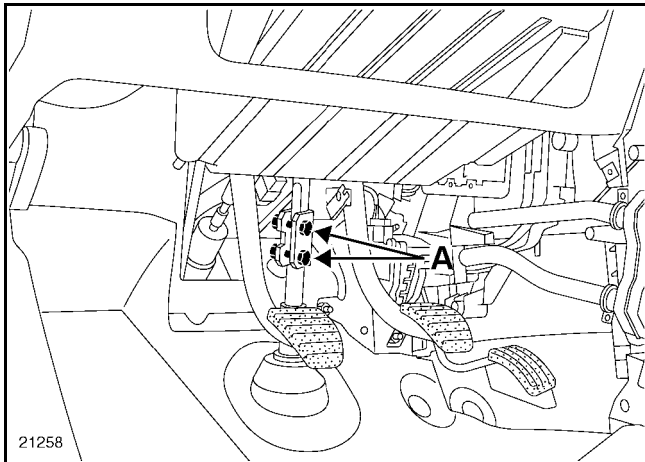
Check, and adjust if necessary, the alignment of the front wheels.

TIGHTENING TORQUES (in daNm)



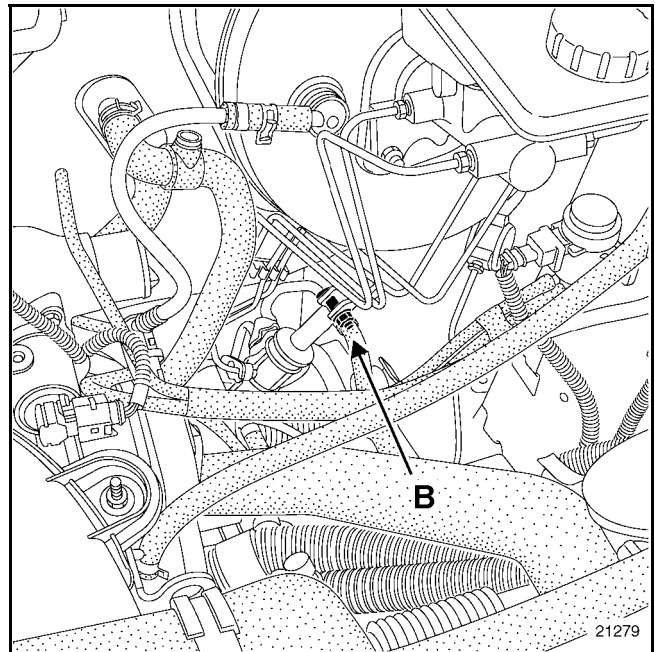
Linking fork bolt	2.1
Universal joint nut	2.1

REMOVAL



Remove:

- the two linkage mounting bolts (A).
- the linking fork,



- the universal joint shaft and nut (B).

Unclip the sealing gaiter on the engine compartment side.

Remove the intermediate shaft, pulling it from the passenger compartment side.

REFITTING

Proceed as for the removal in reverse, taking care to fit a new nut to the universal joint.

Tighten the fork mounting bolts to torque.

Check, and adjust if necessary, the alignment of the front wheels.