

## > GKN installation instructions

### Steering column with electric servo-steering OPEL CORSA B

#### Safety instructions

Ensure proper cleanliness when working on the servo-steering.

Steering column adjustment must remain locked during steering column removal.

Generally replace self-locking as well as corroded screws and nuts.

Repair work of any kind on the electromechanical steering column is not permissible, it must basically be completely replaced.

Observe disposal regulations!

Work on restraint systems must be carried out by qualified personnel in possession of certificate of specialist knowledge.

Repair work on components of the restraint system is not allowed, new parts must always be used.

Open these components by force or modifying them is prohibited.

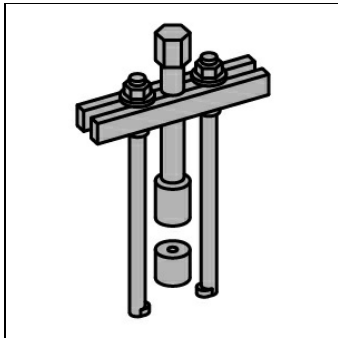
Never carry out any measurements on pyrotechnic components using a multimeter or a test lamp.

Always store airbag unit with the padded side pointing upward.

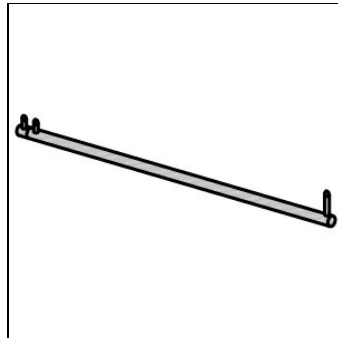
Do not use oils, fats, chemicals and cleaners not approved by the manufacturer on airbag units.

Never leave pyrotechnical components lying around without supervision.

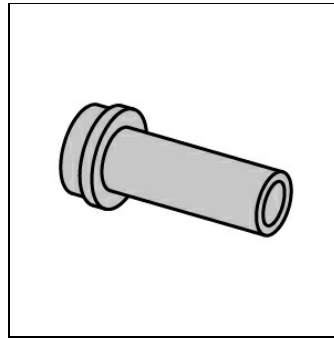
#### Required special tools



Set of pull-off tools  
AUT (KM-210-B)



Test gauge  
AUT (KM-551-A)



Removal/installation tool  
AUT (KM-998)

## Required Labour times/torques

### scheduled times

Replace the steering column	0,80 h
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### Tightening torques

**Self-locking screws and nuts must always be replaced.**

Steering wheel nut(s) (2)	(see Figure2)	Replace safety plate(s).	20 Nm
Intermediate steering spindle screw(s) (3)	(see Figure5)		22 Nm
Holder screw(s) (1)	(see Figure6)		2,5 Nm
Bracket on bulkhead screw(s) (3)	(see Figure8)	Use new screw(s).	20 Nm
Bracket on steering column screw(s)			20 Nm
Steering column nut(s)			22 Nm
Driver airbag screw(s)			10 Nm



**Remove:**

**Disconnect battery (negative terminal).**

**Keep waiting time of min. 1 min.**

Remove driver's airbag. (If present)

**Set steering wheel to straight-ahead position.**

**Lock steering wheel in centre position.**

Unscrew and remove steering column shroud(s) upper screw(s). (1)

Remove upper steering column shroud. (2)

Unscrew and remove steering column shroud(s) lower screw(s). (3)

Remove lower steering column shroud. (4)

Unscrew and remove slip ring screw(s). (5)

Loosen slip ring electric plug connection.

(see Figure1)

Bend up tab washer(s). (1)

Unscrew the steering wheel nut(s). (2)

Pull off steering wheel from steering spindle using puller. (3)(4)

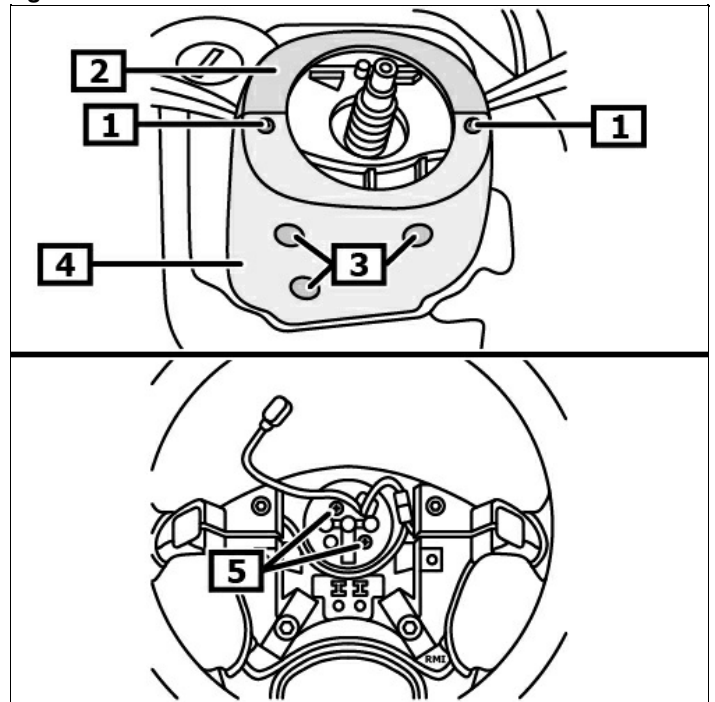
Remove slip ring.

**Required special tools:**

Set of pull-off tools AUT (KM-210-B)

(see Figure2)

Figure 1

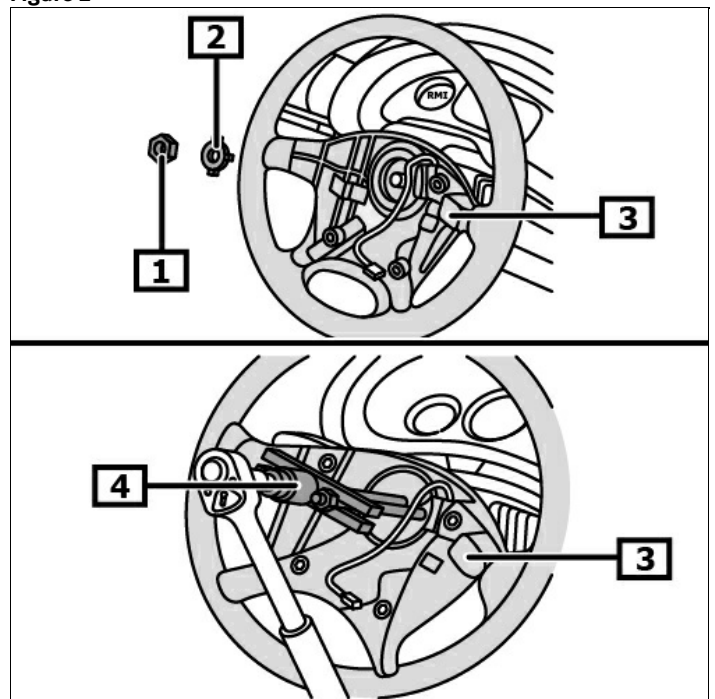


1 Steering column shroud(s) upper screw(s) 2 Upper steering column shroud

3 Steering column shroud(s) lower screw(s) 4 Lower steering column shroud

5 Slip ring screw(s)

Figure 2



1 Safety plate(s)

2 Steering wheel nut(s)

3 Steering wheel

4 Set of pull-off tools

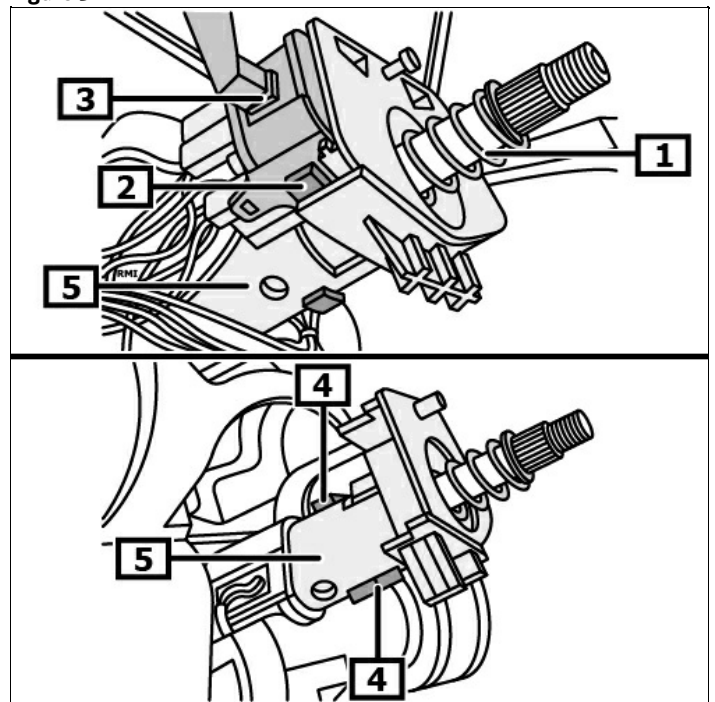
Remove pressure spring(s). (1)

**Perform following workflow on both sides.**

Unlock steering column switch engagement pin. (2)

Remove steering column switch from steering column module. (3)  
(see Figure3)

Figure 3



1 Pressure spring

2 Engagement pins

3 Steering column switch

4 Retaining plug

5 Steering column module

Disconnect ignition lock electric plug connection.

Turn the ignition key to the II position.

Loosen ignition lock retaining device using suitable tool. (1)

Demount ignition lock. (2)

(see Figure4)

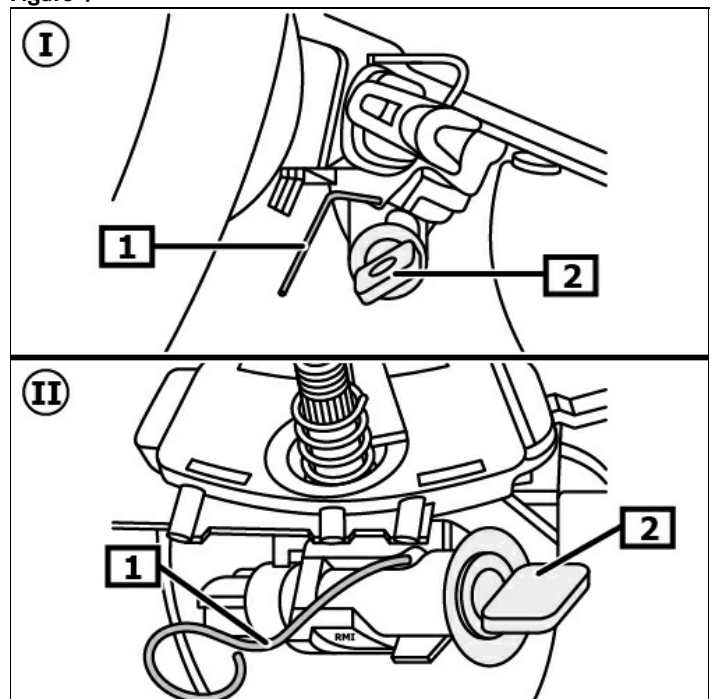
Remove retaining plug. (4)

Slightly twist steering column module anti-clockwise and remove it.

(5)

(see Figure3)

Figure 4



I Vehicles with airbag

II Vehicles without airbag :

1 Tool(s)

2 Ignition lock



Install removal/installation tool. (1)  
Screw in steering wheel nut(s) finger tight. (2)

**Required special tools:**

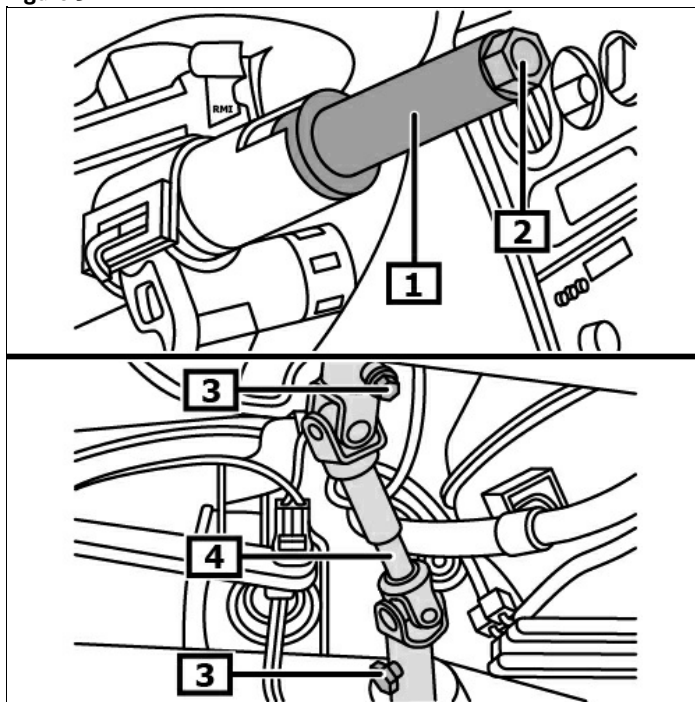
Removal/installation tool **AUT (KM-998)**

Unscrew and remove intermediate steering spindle screw(s). (3)

Remove intermediate steering spindle. (4)

(see Figure5)

**Figure 5**



1 Removal/installation tool

2 Steering wheel nut(s)

3 Intermediate steering spindle screw(s)

4 Intermediate steering spindle

**Vehicles from model year 1999**

Remove footwell covering(s).

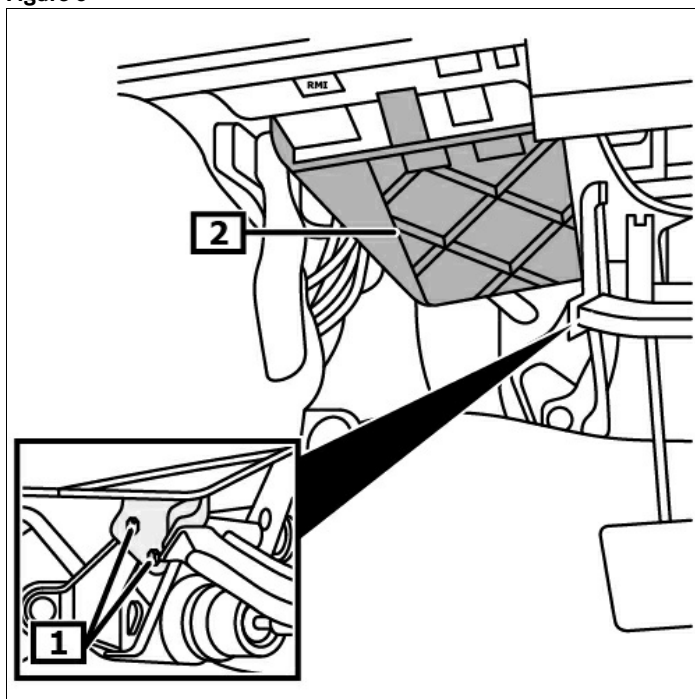
Unscrew and remove electric power steering control unit bracket screw(s). (1)

Unhook electric power steering control unit incl. bracket from the dashboard. (2)

Remove electric power steering control unit.

(see Figure6)

**Figure 6**



1 Holder screw(s)

2 Electric power steering control unit  
bracket screw(s)

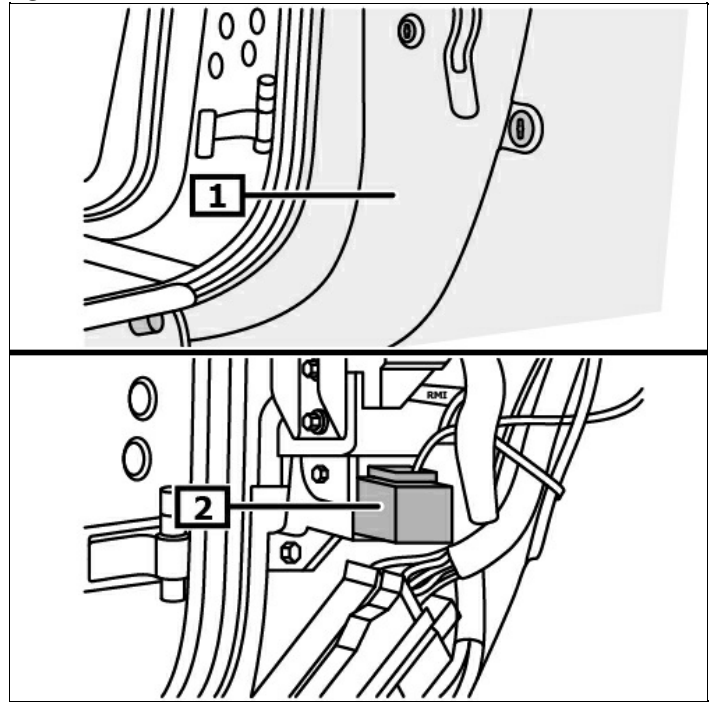
## Vehicles up to model year 1999

Remove A-pillar lower paneling. **(1)**

Remove electric plug connection from electric power steering control unit. **(2piece) (2)**

**(see Figure7)**

**Figure 7**



**1** A-pillar lower paneling

**2** Electrical connection(s)

Cut through coolant temperature sensor electric line cable tie.  
Remove stop light switch.

Chisel up and remove steering column shear-off screw(s). **(1)**

Unscrew and remove steering column nut(s).

Unscrew and remove bracket on steering column screw(s).

Unscrew and remove bracket on bulkhead screw(s). **(2)**

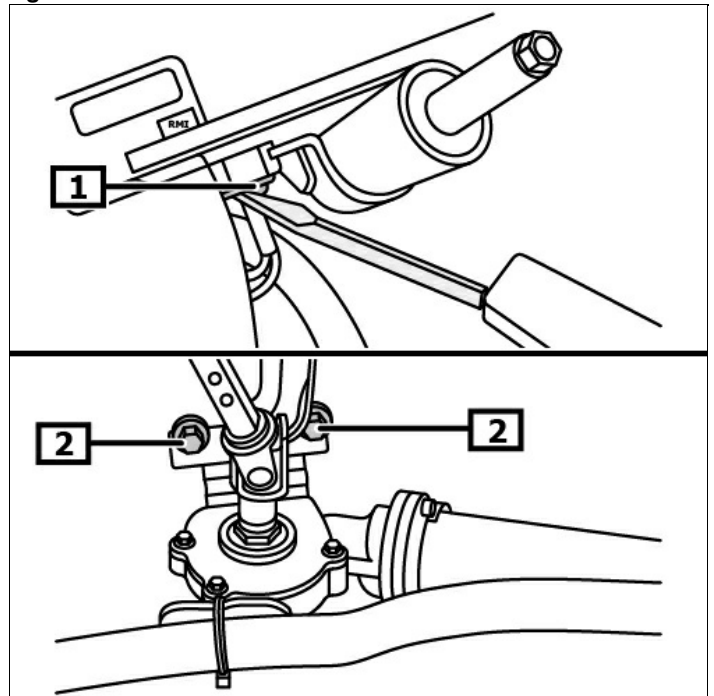
**(see Figure8)**

Remove the steering column.

Convert following components when replacing the steering column.

- Ignition starter switch
- Ignition lock housing

**Figure 8**



**1** Steering column shear-off screw(s)

**2** Bracket on bulkhead screw(s)



## Install:

### **Installation in reverse order of removal.**

The removal/installation tool needs to be installed into the new steering column when it is being replaced. **(1)**  
**(see Figure5)**

### **Installation in reverse order of removal.**

Check before installation whether the slip ring is in center position.

- The slip ring can be installed when the slip ring is in center position and the markings flush.
- Put the slip ring into center position as follows if the slip ring markings do not flush.

Press and keep slip ring retaining device depressed.

Turn slip ring internal part counterclockwise up to first resistance.

Turn back slip ring internal part clockwise by 2,5 turns.

Keep on turning slip ring internal part until markings flush.

### **Continue assembly in reverse order of removal.**

### **Check driving position to the front, adjust if needed.**

**Straight-ahead driving position can only be checked with the axle geometry correctly adjusted.**

Turn the steering wheel to the central position.

Check to see whether the lower universal joint screw is horizontal on the steering gear. **(1)**

Determine A, dimension as follows.

Check straight-ahead driving position using a test gauge between steering gear and tie rod end. **(2)**

Version	Dimension A
with electric servo-steering without power steering	420 mm ± 2 mm
with hydraulic servo-steering	435 mm ± 2 mm

### **Required special tools:**

Test gauge **AUT (KM-551-A)**

**(see Figure9)**

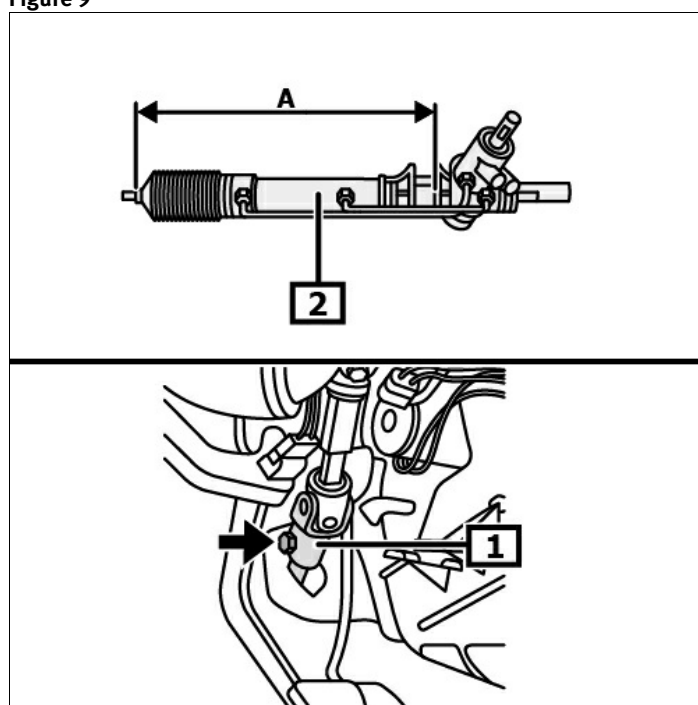
### **Continue assembly in reverse order of removal.**

Code radio and reprogram vehicle settings if required.

Check electrical system for function.

Teach the steering angle sensor.

**Figure 9**



1 Steering universal joint

2 Steering gear

Dimension A

