



Column tube, steering wheel with steering column, removing and installing

Removing

The steering column is supplied as a spare part. Servicing is not possible.

The steering lock housing can be transferred.

WARNING!

Before working on the electrical system and before removing the steering wheel the following conditions must be met:

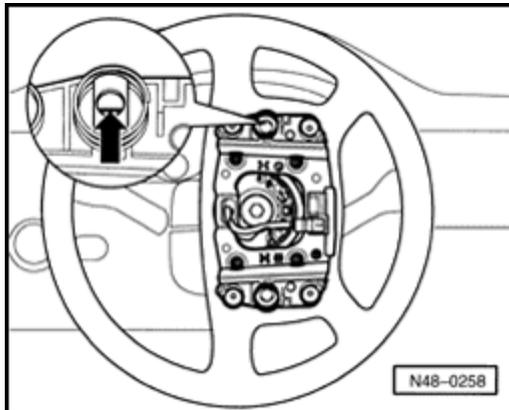
- ◆ ***Ground strap disconnected from battery.***
- ◆ ***Wheels must be in straight ahead position.***

If these instructions are not observed it is possible that the airbag system may fail later!



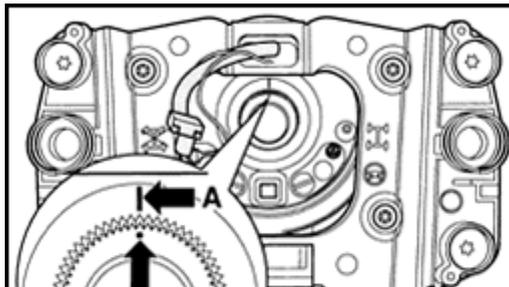
Removing steering wheel

- Turn wheels to straight ahead position.
- Pull lever below steering column down.
- Pull steering column down and out as far as possible.



A

- Position steering wheel as shown in illustration.
- Remove airbag module ⇒ [Page 48-4](#) .
- Place airbag down so that it will not be damaged or cannot fall!
- ◆ It is not permitted to leave the airbag module unattended.



A

- Before pulling off steering wheel, check the mark -arrow A- aligns with the punch mark -arrow B-.
- If this is not the case!
- Mark installation position of steering wheel to steering column using a felt tip pen or scribe for example.

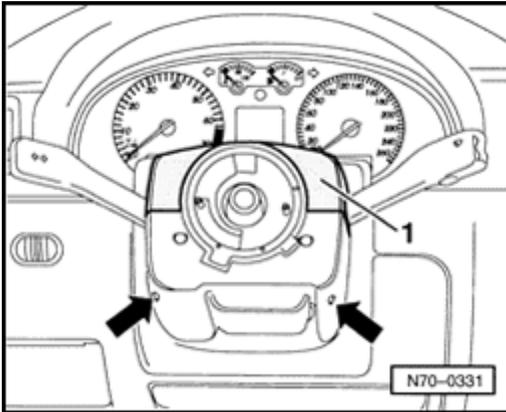
- Remove bolt for steering wheel and pull off.



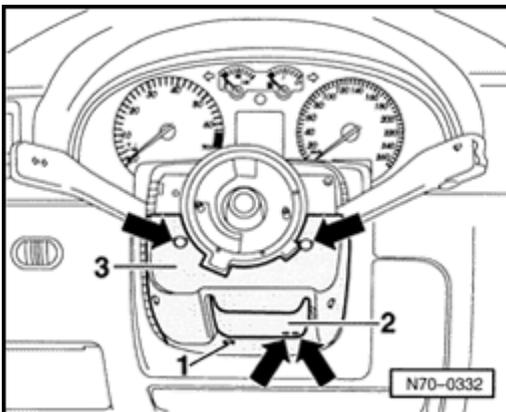
Remove trim for steering column switch

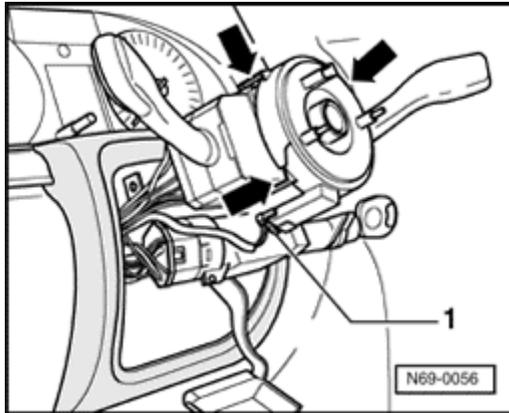
A

- Remove two cross-head screws -arrows-.
- Take off upper steering column switch trim -1-.

**A**

- Remove four cross-head screws -arrows-.
- Remove hex socket head bolt -1-.
- Release steering wheel height adjustment -2-.
- Take off lower steering column switch trim -3-.





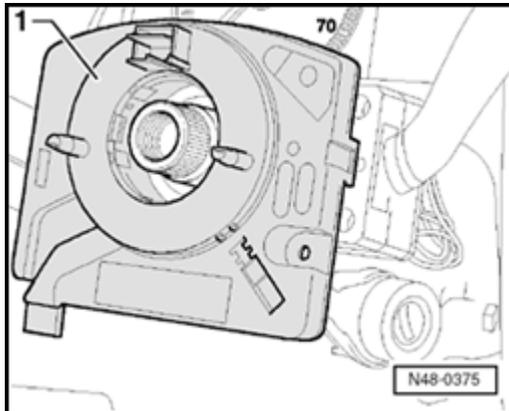
A

- Separate connection -1-.
- Release locking lugs -arrows- and pull coil connector with slip ring off steering column switch.

Note:

The steering must be in the center position (wheels in straight-ahead position) when the coil connector and slip ring are removed and installed.

Coil connector with slip ring is secured as a new part in the center position with a cable tie.

Vehicles with electronic stabilization program "ESP"

A

Vehicles with ESP are also equipped with steering angle sensor -G85-. It is installed in housing -1- together with slip ring and connector coil.

You will find a description of the construction and function of ESP in Self-study Program No. 204.



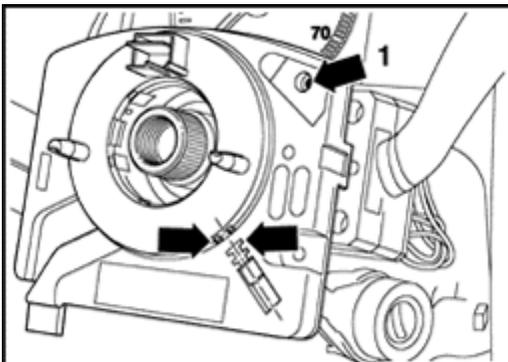
After work on steering column switch, the basic setting of the steering angle sensor -G85- must be checked.

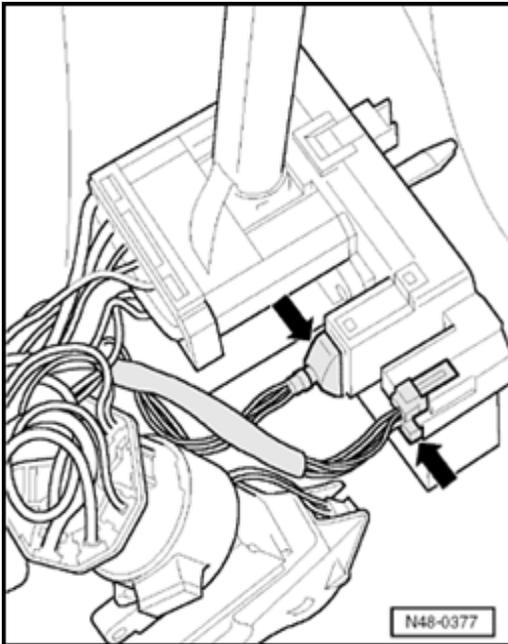
⇒ Perform basic setting in "guided fault finding" using VAS 5051.

Note:

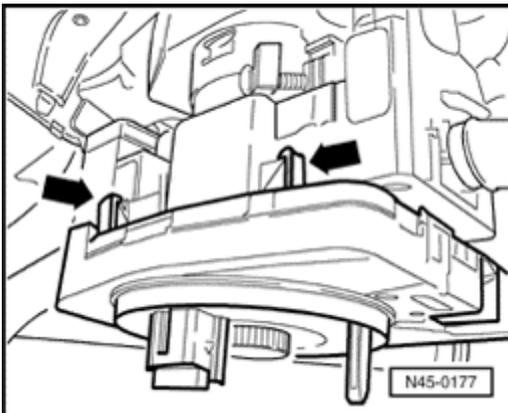
Start "guided fault finding" by pressing the "Go to" button in "Select function/component".

- Check that the front wheels are in the straight-ahead position.
- Position wheels to straight-ahead position, if necessary and remove steering wheel.
- Position steering angle sensor -G85- in center position;
A yellow spot must be visible in hole -1-.
The marks -arrow- must align.





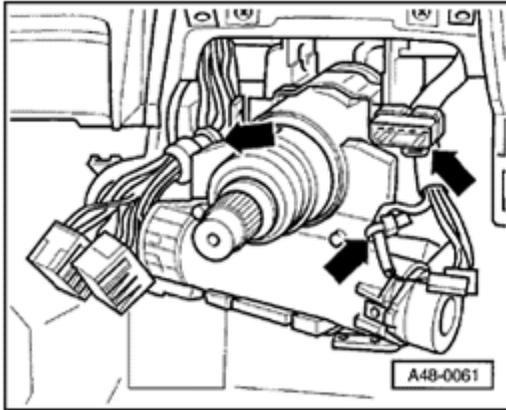
A - Pull off connectors -arrows-.



A - Lift hooks -arrows- carefully and pull off steering angle sensor.



The following steps apply to all vehicles.



A

- Pull connectors -arrows- off steering lock housing.

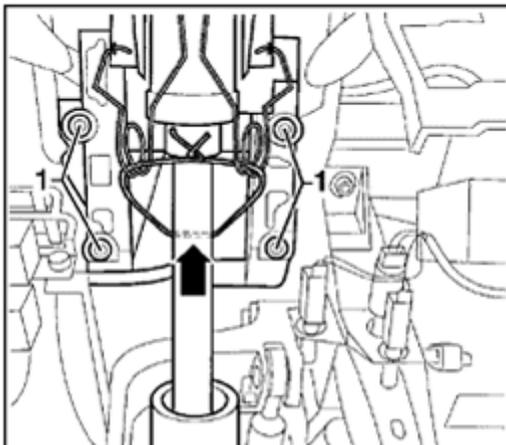
The ignition key removal lock cable must be unhooked on vehicles with an automatic transmission ⇒ [Page 48-33](#)

Securing steering column before removal

An assembly aid is required so that the upper and lower parts of the steering column do not pull apart when pulling off steering gear.

If the upper and lower parts of the steering column are pulled too far apart or pushed too close together the splines separate.

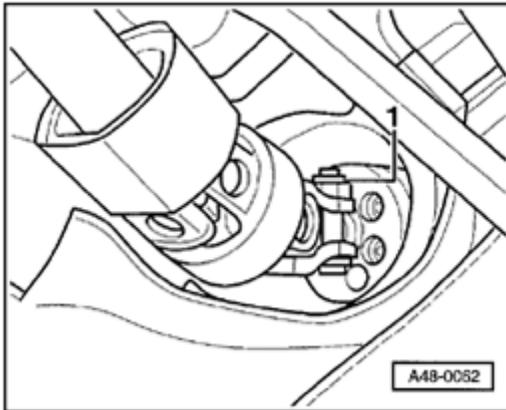
It is possible that rattling noises are created later if the splines are not in their original installation position.



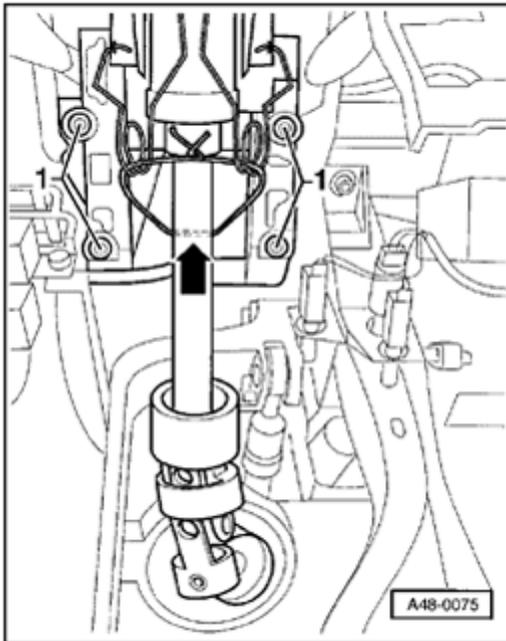
A

- Pull wire through hole in lower part of steering column -arrow- and spring.

The steering column can also be secured with a transport protection Installing ⇒ [Page 48-23](#)

**A**

- Remove nut -1- on universal joint.
- Relieve tension on bolt (Torx T50) by turning clockwise and take out bolt.
- Pull universal joint off steering gear.

**A**

- Remove steering column hex socket head bolts -1- and take out steering column.
- Removing and installing steering lock housing ⇒ [Page 48-30](#) .



Installing

New steering columns supplied as spare parts are secured with a transport protection.

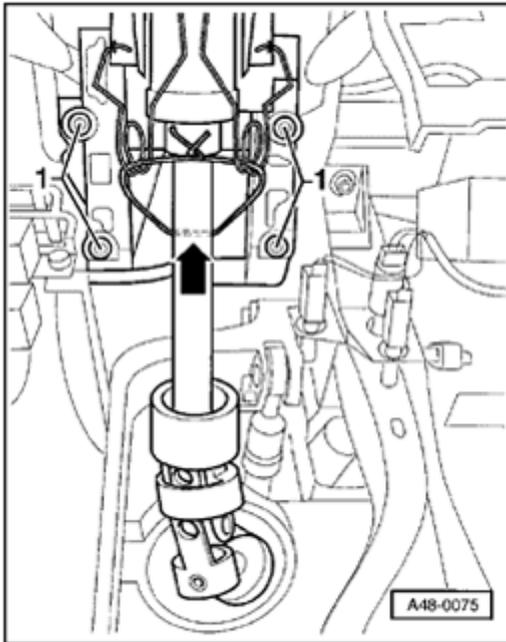
This transport protection must be removed after installing the steering column in the vehicle.

1 - Safety clip

2 - Plastic rod

3 - Steering column

We recommend that this part is retained as it can be reused when removing steering columns.

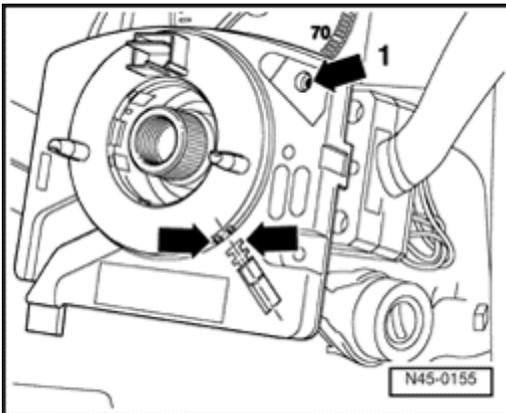


A

- Attach steering column to cross member with 4 hex socket head bolts -1- (do not tighten).
- Install universal joint onto steering gear pinion.
- Install clamping bolt (Torx T50) through lower part and tension counterclockwise.
- Install hex nut and tighten to 40 Nm.
- Remove wire/transport protection between upper and lower parts of steering column.

Following work sequence affects only vehicle with ESP

- Press on steering angle sensor -G85- until lugs engage.
- Remove transportation protection when a new steering angle sensor -G85- is installed.



A

- Position the steering angle sensor -G85- in the center position;
Yellow spot must be visible in hole -1-.
- The marks -arrow- must align.

Make sure it does not move from center position.



The basic setting for steering angle sensor must be checked after the following assembly work:

- ◆ When the steering angle sensor -G85- has been removed or replaced,
- ◆ After removing or replacing the steering column;
- ◆ After removing or replacing the steering column switch;
- ◆ After removing or replacing the steering lock housing;
- ◆ When steering wheel is not in straight-ahead position.

Check basic setting for steering angle sensor - G85-

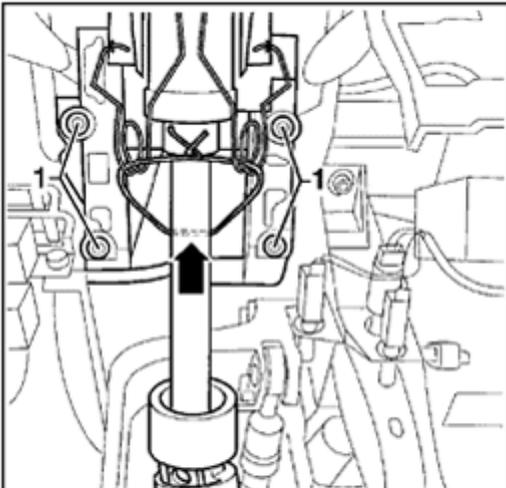
⇒ *Perform basic setting in "guided fault finding" using VAS 5051.*

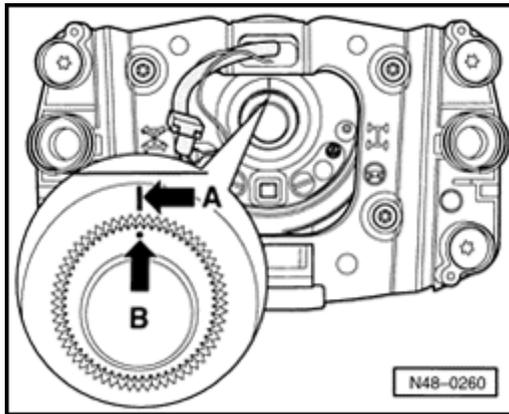
Start "guided fault finding" by pressing the "Go to" button in "Select function/component".



The continuation of the work sequence is valid for all vehicles

- Install steering lock housing.
- Install new shear bolts.
- Tighten shear head bolts until head shears off.
- Install steering lock switch with trim.
- Align steering column so that the gaps in the trim are even.
- A** - Tighten steering column Allen head bolts -1- to 25 Nm.
- Install driver's side stowage compartment.





Installing steering wheel

A

- Install steering wheel so that the marked line -arrow A- on the steering wheel and the center punch mark -arrow B- on the steering column align.

If necessary, observe additional marking!

Steering columns supplied as a spare part do not have a center punch mark.

Determine center point of steering gear with aid of VAG 1907 if necessary ⇒ [Page 48-49](#) .

- Install bolts for steering wheel and tighten.

Hex bolts: ⇒ [Page 48-4](#) , item 4

Multi point socket head bolt: ⇒ [Page 48-4](#) , item 3

If multi point socket head bolts are used then mark with a center punch mark.

Multi point socket head bolts that already have five center punch marks must be replaced!



Install in reverse order.

WARNING!

When connecting battery make sure that no people are in the vehicle!



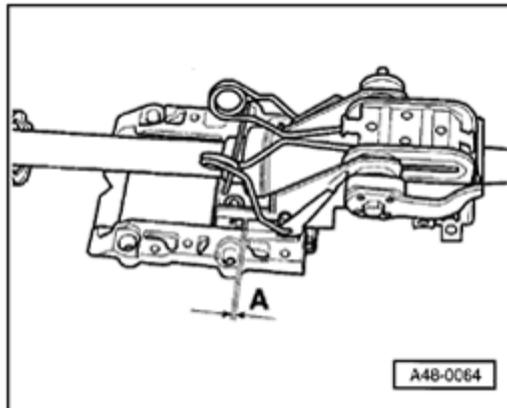
Steering column, checking for damage

Visual check

- Check all steering column parts for damage.

Functional check

- Check that steering column turns easily without jerking.
- Check that steering column can be adjusted for height and reach.

**A**

- Check gap -dimension A- between slide and bearing bracket.

Dimension A; Maximum 0.5 mm or smaller

- If dimension -A- is larger than 0.5 mm, the steering column is damaged and must be replaced.



Steering lock housing, removing and installing

Removing

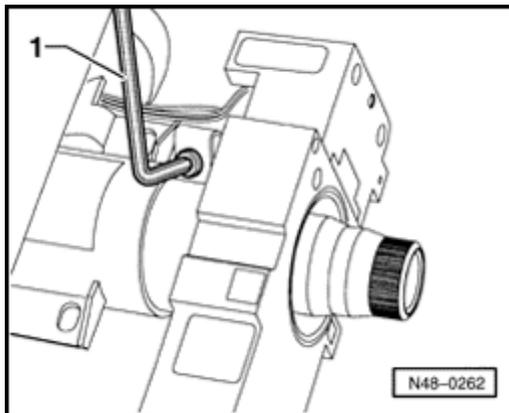
Steering wheel and airbag module removed.

Upper and lower steering column trim removed.

Following work sequence affects only vehicle with ESP

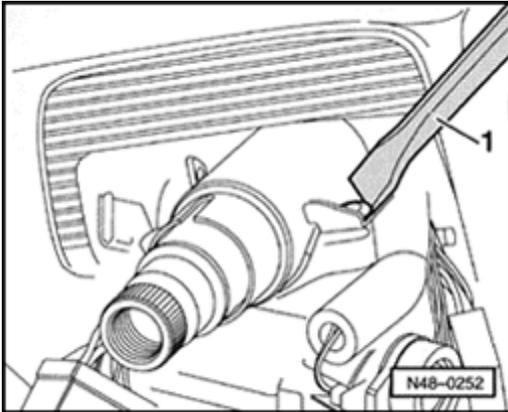
- Remove steering angle sensor -G85- ⇒ [Page 48-18](#) .

The continuation of the work sequence is valid for all vehicles



A

- Remove bolt for steering column switch and take off steering column switch.
- 1 - Hex key (commercial type)
- Remove plastic cover over shear bolts.

**A**

- Drill out shear bolts or shear off using a suitable chisel -1-.

The ignition key removal lock cable must be additionally unhooked on vehicles with an automatic transmission ⇒ [Page 48-33](#)

Removing and installing ignition switch / lock cylinder

⇒ [Repair Manual, Electrical Equipment, Repair Group 94; Ignition switch and lock cylinder; Removing and installing lock cylinder](#)

Installing

- Reconnect connector for ignition starter switch.
- Attach ignition key removal lock cable only with automatic transmissions, if necessary ⇒ [Page 48-34](#) .
- Install new shear bolts.
- Tighten shear head bolts until head shears off.



Following work sequence affects only vehicle with ESP

- Install steering angle sensor -G85- ⇒ [Page 48-24](#) .

The continuation of the work sequence is valid for all vehicles

Further installation in reverse order.



Locking cable for ignition with key withdrawal lock, removing and installing

Only vehicles with automatic transmission

Adjusting locking cable

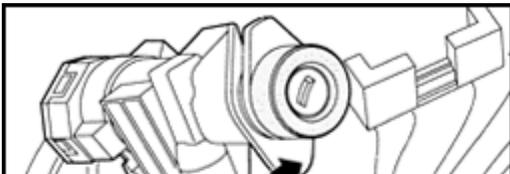
⇒ [Repair Manual, 5 Spd. Automatic Transmission 01V Front Wheel Drive, Repair Group 37; Removing and installing locking cable.](#)

Unhooking

Steering wheel and airbag module removed.

Lower steering column trim removed.

- Move selector lever to position "P", if necessary.
- Turn ignition key to position "Ignition on".
- Press wire clip -1- upward or downward according to installation position and pull locking cable out at the same time.



A

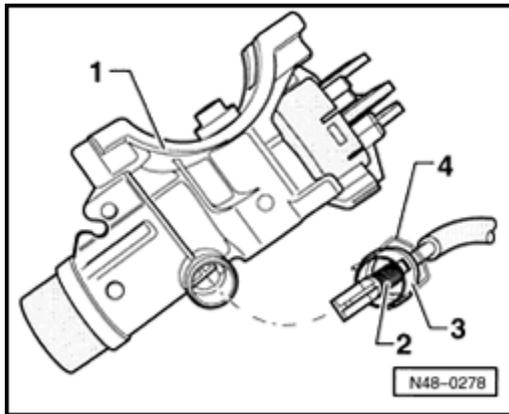


Installing

Ignition key must be in position "Ignition on".

A

- Push locking cable -2- into steering lock housing -1-.
- Push locking cable onto steering lock housing -1- until wire clip -4- engages.





Ignition key lock, checking

- Turn ignition key to position "Ignition on".

Must be possible to move selector lever out of "Park" position.

If this is not the case, the locking cable must be adjusted;

⇒ *Repair group 37; Removing and installing locking cable.*

Notes:

- ◆ *It must only be possible to remove the ignition key when selector lever is in "Park" position!*
- ◆ *When ignition key is in position "Ignition off" it must be impossible to move selector lever out of "Park" position!*