40-39

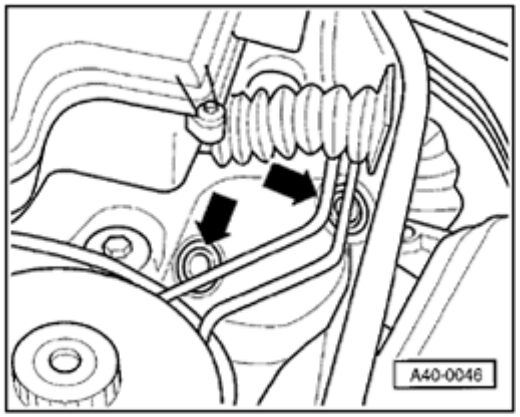
Suspension strut, removing and installing

Removing

- Remove wheel trim.

  On light alloy wheels use puller in vehicle tool kit to remove trim cap.

- Remove wheels.



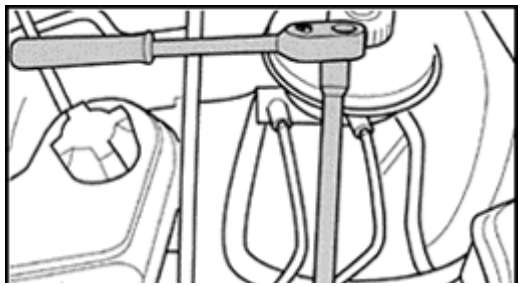
- Remove rubber grommets in plenum chamber (arrows).

Note:

For vehicles with headlight range control ⇒ page 40-14 .

CAUTION!

To prevent damage to the joint of the lower links from excessive rebound, support using VAG1383-A (engine and transmission lifter).

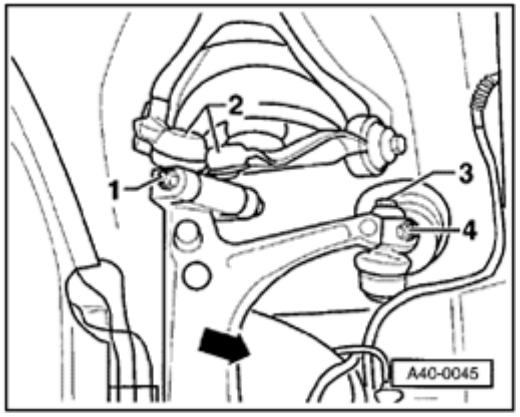


- Remove suspension strut nuts -1- from body.
- Detach ABS wheel speed sensor wire from bracket at brake caliper.

CAUTION!

Be careful not to damage the surface of the brake lines.

40-40



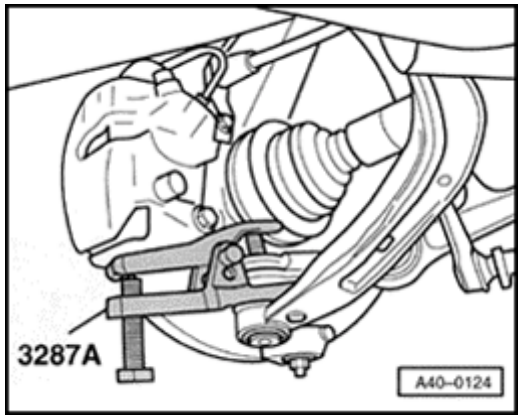
- Remove nut -1- and bolt, then pull both links -2- upward and out.
- Swivel wheel bearing housing aside in direction of arrow.

CAUTION!

- ***Do not use a chisel (or similar) to widen the slots in the wheel bearing housing.***
- ***Do not loosen bolts -3- and -4-. Otherwise, the wheel alignment must be checked.***

The guide link must be removed from the wheel bearing housing in order to be able to remove the bolt mounting the suspension strut to the track control link.

- If necessary, counterhold ball joint using 4 mm hex wrench.

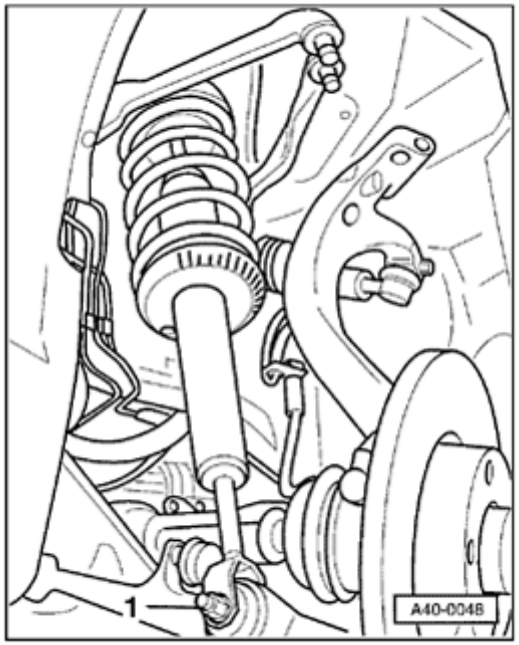


- Unscrew nut for guide link ball joint and press out ball joint.

Note:

Be careful not to damage the boot.

40-41

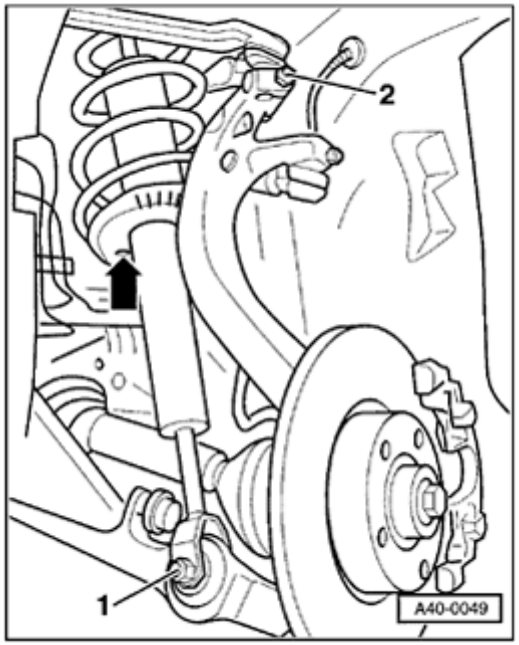


- Remove bolt -1- mounting suspension strut to lower track control link.
- Remove suspension strut downward.

Notes:

- *When removing the suspension strut, make sure that the CV joint boot is not damaged.*
- *Servicing suspension strut* ⇒ *page 40-44* .

40-42



Installing

- Install suspension strut.

- Hole in spring plate (arrow) faces toward middle of vehicle.

CAUTION!

The bonded rubber bushings can only be turned to a limited extent. The bolted connections between the suspension strut and the lower track control links should therefore only be tightened when the vehicle is standing on the ground.

- Bolt suspension strut to track control link and tighten new nut -1-.

  Tightening torque: 90 Nm (66 ft lb)

- Insert both upper control links into wheel bearing housing and tighten new nut -2-.
  - Tightening torque: 40 Nm (30 ft lb)
  - Upper link joint with collar must be pushed onto wheel bearing housing as far as possible when installing.
- Tighten nut at ball joint.
  - Tightening torque: 100 Nm (74 ft lb)
  - If necessary, counterhold ball joint using 4 mm hex wrench

- Insert ABS wheel speed sensor wire into holder at brake caliper.

- Install new nuts for both suspension struts and tighten to 20 Nm (15 ft lb).

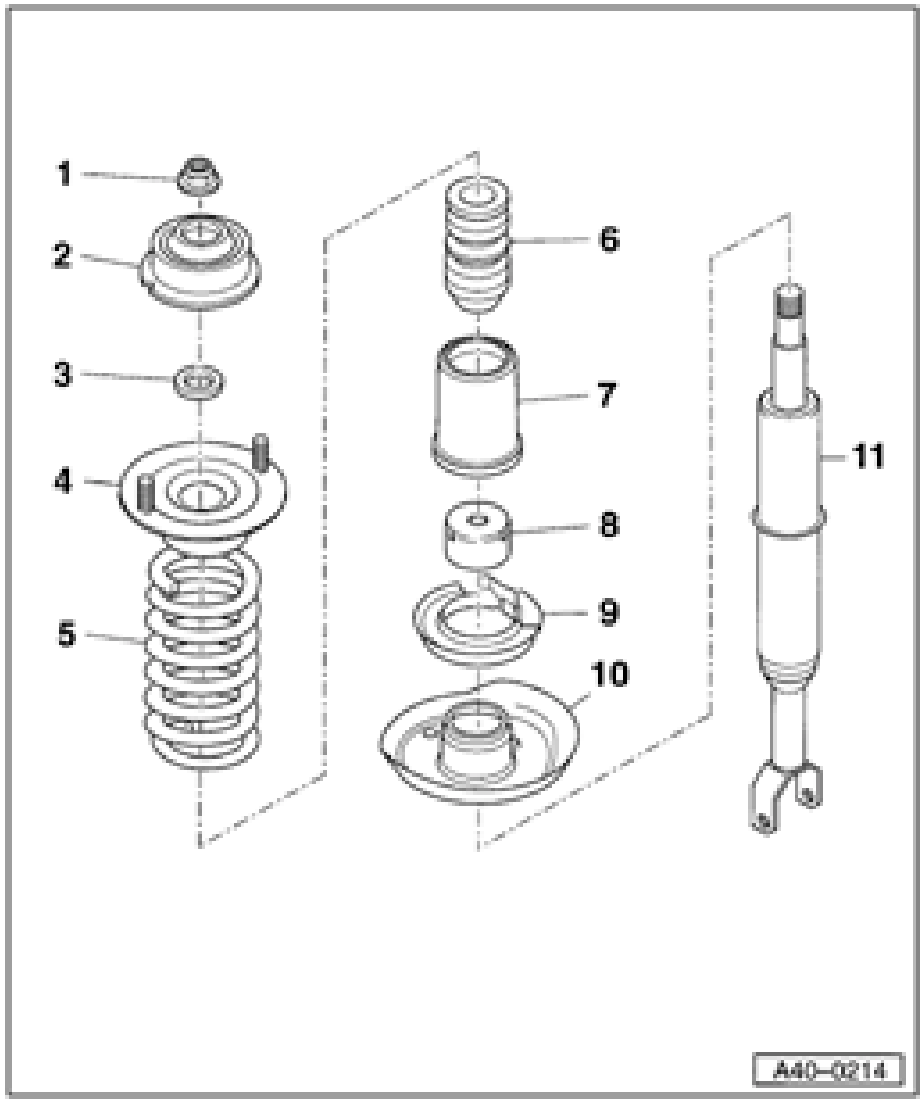
CAUTION!

Be careful not to damage the surface of the brake lines.

- Re-install rubber grommets into plenum chamber.

- Install wheel and tighten bolts to 120 Nm (89 ft lb).

40-44



Suspension strut, servicing

1 - Nut

- Always replace
- 60 Nm (44 ft lb)

2 - Suspension strut mount

3 - Washer

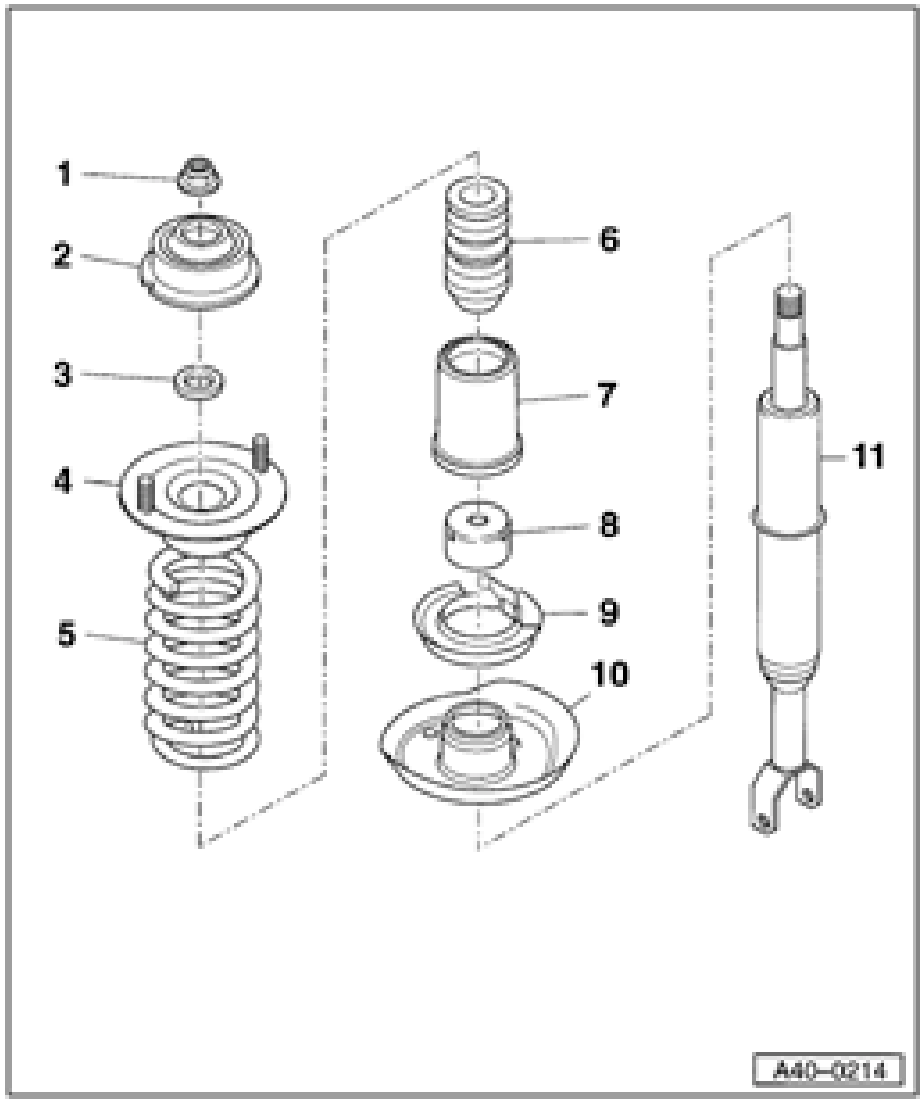
4 - Upper spring plate

- Installation position ⇒ Fig. 8
- Installing ⇒ Fig. 7
- Both steel and aluminium versions
- Do not mix steel and aluminium versions

5 - Coil spring

- Be careful not to damage surface of coil spring
- Observe color coding
- Removing ⇒ Figs. 1 , ⇒ 2 and ⇒ 3
- Installing ⇒ Figs. 6 and ⇒ 9
- Observe different versions, refer to vehicle data label ⇒ page 40-46

40-45



6 - Stop buffer

- Insert into upper spring plate

7 - Protective sleeve

8 - Protective cap

9 - Lower spring base

- Fixed with recess in bead at spring plate

10 - Lower spring plate

- Installation position ⇒ Fig. 5

11 - Shock absorber

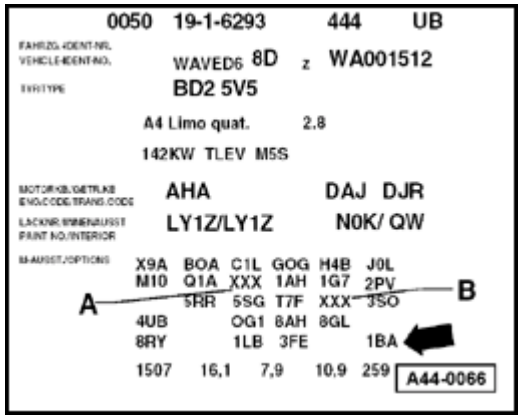
- Replacing ⇒ Fig. 4
- Allocation ⇒ parts catalog microfiche
- Checking shock absorber for leaks and noises ⇒ Special Information, binder

40-46

Information on weight codes (code number)

From model year 1998 ➢, spring/shock assemblies will be classified according to weight codes (code number) so that suspension components can be matched easily.

The spring/shock assemblies installed in the vehicle is indicated by the weight code on the vehicle data label.



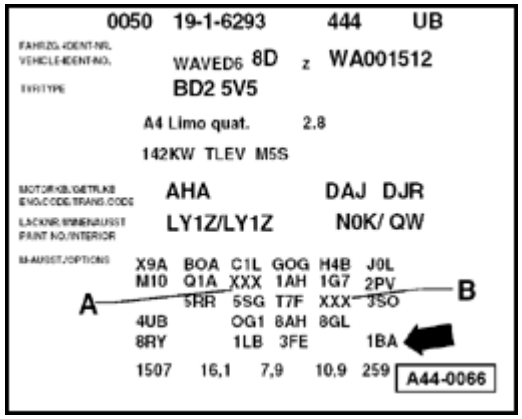
➢ **Example of vehicle data label**

A - Weight code for front suspension

B - Weight code for rear suspension

The vehicle data label is located in the spare wheel well and in the vehicle Maintenance booklet.

The weight codes can be used to identify the correct spring/shock assemblies on the parts catalog microfiche.



The weight code for the different suspension versions is indicated by the arrow in the illustration.

- 1BA: Standard suspension
- 1BE: Sport suspension
- 1BB: Heavy duty suspension (approx. 20 mm or 0.79 in. higher)
- 1BC: Special purpose vehicles
- 1BD: Sport suspension, Audi S4
- 1BH: USA
- 1BT: Heavy duty suspension (approx. 7 mm or 0.28 in. higher)
- 1BP: Heavy duty suspension (ride height same as 1BA but with limited bump)

Special tools, test equipment and auxiliary items

VAG1752/1	VAG1752/2	VAG1752/7
VAG1752/28	3353	

40-48

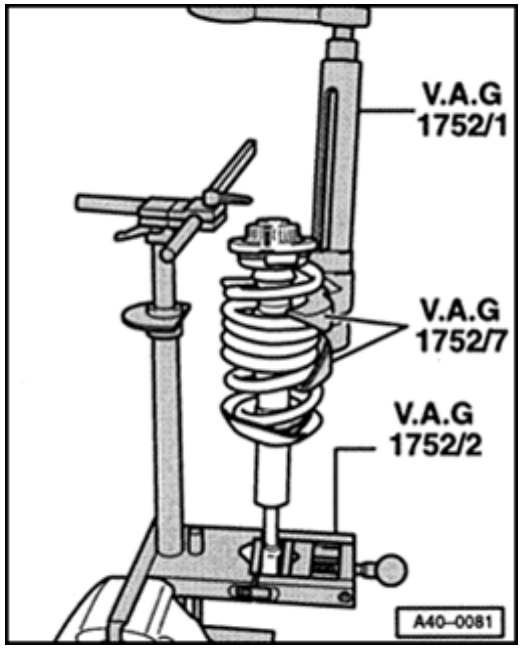


Fig. 1 Removing coil spring

- Clamp VAG1752/2 spring mounting tool in vise.
- Clamp forked end of suspension strut in VAG1752/2 spring mounting tool.

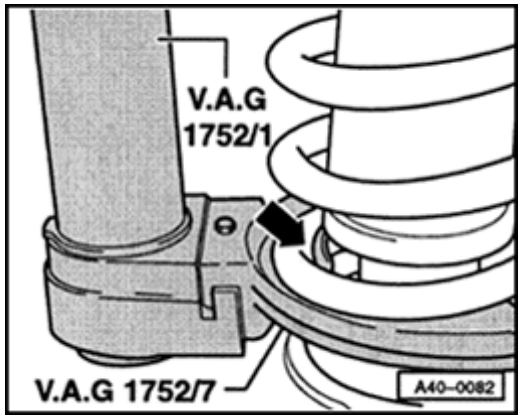


Fig. 2 Removing coil spring, continued

- Using VAG1752/1 tensioning device, compress coil spring until upper spring plate is free.

WARNING!

Make sure coil spring is properly seated in VAG1752/7 spring holder (arrow).

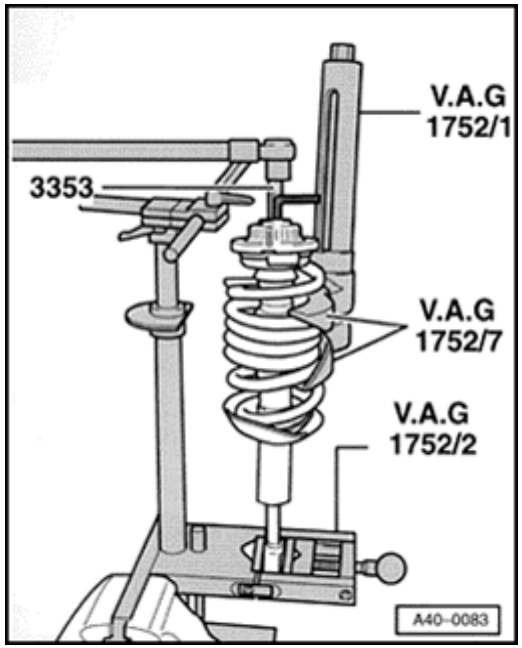


Fig. 3 Removing coil spring, continued

- Remove nut from piston rod (counter-hold with hex wrench).
- Using VAG1752/1 tensioning device, remove components of suspension strut and compressed coil spring.

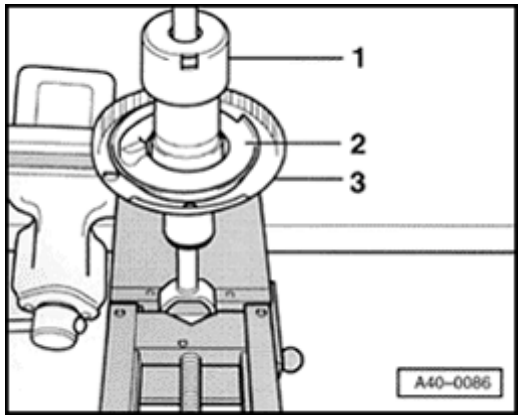


Fig. 4 Replacing shock absorber

The following steps are required to remove the shock absorber:

- Remove protective cap -1- and lower spring base -2-.
- Using plastic hammer, loosen and remove lower spring plate -3-.

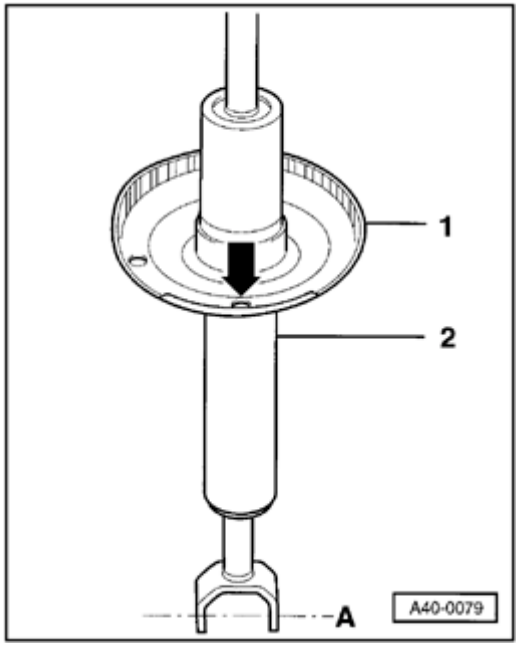


Fig. 5 Installation position of lower spring plate

- Make sure lower spring plate is correctly positioned before installing coil spring:
  - ♦ Hole (arrow) in spring plate -1- should be perpendicular (90 °) to bolt axis -A- of shock absorber -2-
  - ♦ Allowable deviation: ± 2 °

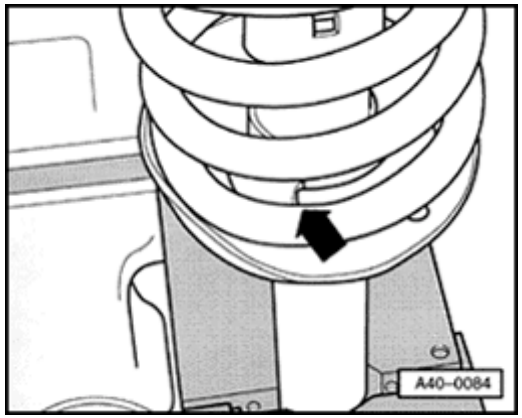


Fig. 6 Installing coil spring

The lower spring support is located by a recess in the spring plate.

- Install protective cap and stop buffer.
- Install coil spring onto lower spring base using VAG1752/1 tensioning device.
  - • End of coil spring must lie against stop (arrow)

40-51

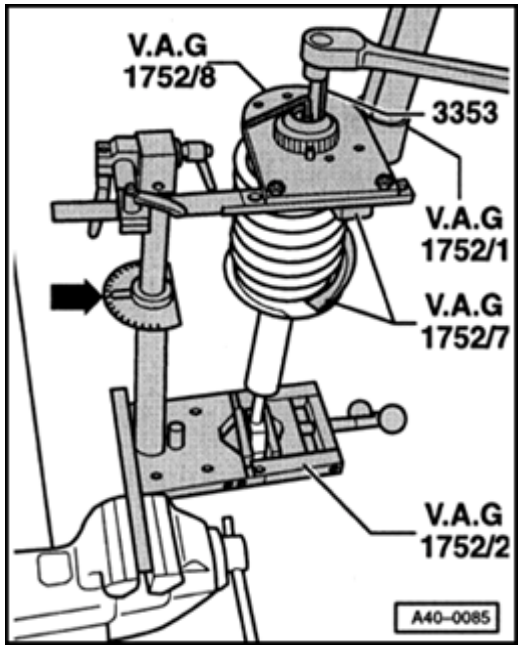


Fig. 7 Installing upper spring plate

- Set angle scale (arrow) on VAG1752/2 spring mounting tool to 0°.
- Install upper spring plate, washer and suspension strut mount.
- Using VAG1752/8 adjustment gauge for struts, position upper spring plate to 11°.

  The 11° position on the adjustment gauge is indicated by "left-front" or "right-front"

The 11° positions on the spring plates are always mirror images on the left and right-hand sides.

Installation position of upper spring plate ⇒ Fig. 8 .

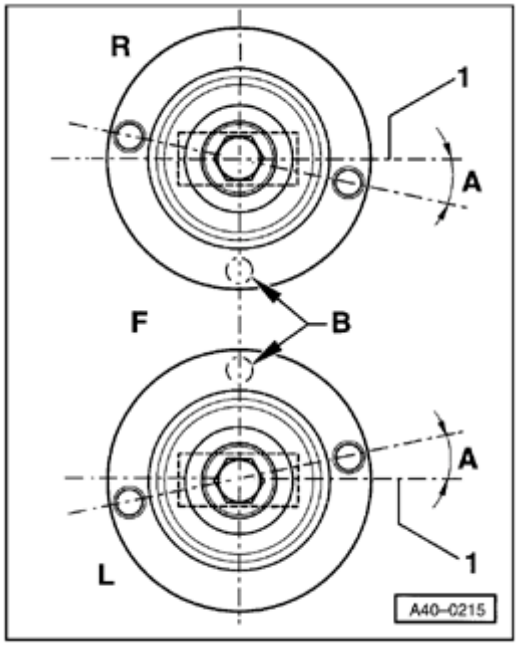


Fig. 8 Installation position of upper spring plate

A - 11° ± 2°

F - Direction of travel

L - Spring plate on left-hand side

R - Spring plate on right-hand side

The studs in upper spring plate are offset 11° to the bolt axis -1- of the forked end of the shock absorber.

Holes -B- in the lower spring plates face the center of the vehicle.

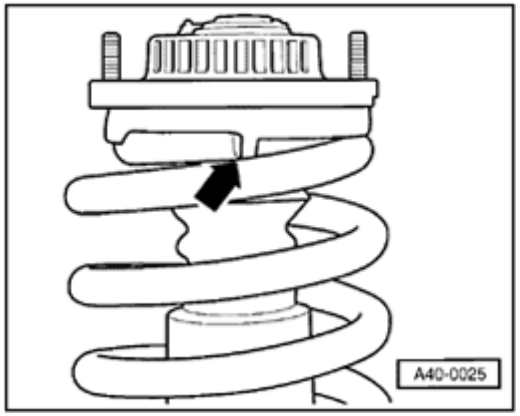


Fig. 9 Installing coil spring

- End of spring must lie against stop on upper spring plate (arrow)

- Install new nut using 3353 specialty socket wrench.

  Tightening torque: 60 Nm (44 ft lb)

- Relieve tension on coil spring.
- Remove VAG1752/8 adjustment gauge for struts.

When installed correctly, the upper and lower spring plates should be parallel to each other.