C6 RS6 Suspension

Torque Figures

This PDF is split into 7 sections as follows –

- Front Subframe, Anti-Roll Bars etc
- Front Suspension Strut, Top Mount etc
- Front Suspension Track Rods and Arms
- Front Suspension Drive Shafts
- Rear Subframe, Anti-Roll Bars etc
- Rear Wishbone, Coil Spring and Arms
- Rear Strut, Drive Shaft and more Arms

All of these procedures are taken from Elsawin, the Audi technicians “Haynes Manual” and as such, they reference a lot of “Audi Special Tools”, most of which can be made or bought simply.

Any reference to a “Vehicle Diagnostic Tester” means VCDS software.
C6 RS6 Front Subframe, Anti-Roll Bars etc
Subframe, console for engine mounting, anti-roll bar, cross member, coupling rod - exploded view

1 - Subframe
q Removing and installing → Chapter
2 - Bonded rubber bush
q Removing and installing → Chapter
3 - Nut
q Always renew if removed
4 - Nut
q Always renew if removed
5 - Bolt
q 60 Nm +90°
q Always renew if removed
6 - Cross piece for subframe
7 - Bolt
q 70 Nm +180°
q Always renew if removed
8 - Subframe support
9 - Bolt
q 55 Nm
10 - Bolt
q 5 Nm
11 - Bolt
q 40 Nm +90°
q Always renew if removed
12 - Bolt
q 115 Nm +90°
q Always renew if removed
q Tighten together with bolt → Item in diagonal sequence
q Thread in body can be repaired with Helicoil threaded wire insert (DIN 8140). The thread insert must be of the same length as the thread in the body.
13 - Bolt
q 10 Nm
14 - Retaining bracket
15 - Front left vehicle level sender -G78-; front right vehicle level sender -G289-
q Remove/install and renew only as a complete assembly → Chapter
q Lever of sender must face forwards.
q Check basic adjustment of headlights if sender mountings are loosened → Rep. gr.94
q Vehicles with air suspension: re-adapt reference position if sender mountings are loosened → Chapter
q Perform calibration of lane departure warning system if sender mountings are loosened → Chapter.
16 - Bolt
q 115 Nm +90°
q Always renew if removed
q Tighten together with bolt → Item in diagonal sequence
q Thread in body can be repaired with Helicoil threaded wire insert (DIN 8140). The thread insert must be of the same length as the thread in the body.
17 - Guide link
18 - Nut
19 - Bolt
q 40 Nm +90°
q Always renew if removed
20 - Coupling rod
q Removing and installing → Chapter
21 - Track control link
22 - Nut
q 8 Nm
23 - Anti-roll bar
q Removing and installing → Chapter
24 - Clamp
q Only on vehicles with no cross member → Item
25 - Nut
q 25 Nm
q 2x
q Only on vehicles with no cross member → Item
26 - Nut
q Only on vehicles with 10-cylinder petrol engine
q 40 Nm, vehicles with 10-cylinder FSI engine
q 55 Nm, vehicles with 10-cylinder TFSI engine
27 - Bolt
q 40 Nm
q Only on vehicles with cross member → Item
28 - Cross member
q Only on vehicles with 10-cylinder petrol engine
q Removing and installing → Chapter
29 - Bolt
q 75 Nm
30 - Console for engine mounting
q Check that parts fit together positively when assembling subframe and console for engine mounting
31 - Engine mounting
q Removing and installing → Rep. gr.10
32 - Bonded rubber bush
q Hydro-bush
q All engine versions except 10-cylinder petrol engine
q Removing and installing → Chapter
33 - Aluminium bush
q Only on vehicles with 10-cylinder petrol engine
q Removing and installing → Chapter
34 - Bolt
q 70 Nm +180°
q Always renew if removed
35 - Nut
q Tightening torque → Rep. gr.10
C6 RS6 Front Suspension
Strut, Top Mount etc
Suspension strut (coil springs), mounting bracket, upper links - exploded view

1 - Nut
q 50 Nm
q Always renew if removed
2 - Shock absorber mounting
3 - Washer
4 - Mounting bracket
q Removing and installing suspension strut and mounting bracket → Chapter
q Servicing suspension strut and mounting bracket → Chapter
5 - Bolt
q 50 Nm +90°
q Always renew if removed
6 - Upper link (rear)
q Removing and installing → Chapter
Removing and installing bush → Chapter
7 - Upper link (front)

Removing and installing → Chapter
Removing and installing bush → Chapter
8 - Nut

Always renew if removed
9 - Wheel bearing housing
10 - Bolt

q  45 Nm
q  50 Nm for RS 6 vehicles
11 - Spring plate
12 - Protective cap
13 - Protective sleeve

Secured to protective cap and auxiliary spring on RS 6 vehicles
14 - Auxiliary spring
15 - Spring
16 - Bolt

q  40 Nm +90°
q  Always renew if removed
17 - Nut

q  Always renew if removed
18 - Coupling rod
19 - Nut

q  Always renew if removed
20 - Anti-roll bar
21 - Track control link
22 - Bolt

q  40 Nm +90°
q  Always renew if removed
23 - Bolt

q  90 Nm +90°
q  Always renew if removed
24 - Shock absorber

Removing and installing suspension strut and mounting bracket → Chapter
Servicing suspension strut and mounting bracket → Chapter

Note different running gear versions; see vehicle data sticker → Chapter
Defective shock absorbers must always be degassed and drained before disposal → Chapter
Checking shock absorber following removal → Chapter
25 - Bolt

q  50 Nm +90°
Always renew if removed
26 - Nut
Always renew if removed
27 - Nut
Always renew if removed
28 - Bolt
50 Nm +90°
Always renew if removed
Observe correct tightening sequence → Anchor
C6 RS6 Front Suspension
Track Rods and Arms
1 - Bolt
q 70 Nm +180°
q Always renew if removed
2 - Guide link
q Removing and installing → Chapter
q Renewing guide link bush → Chapter
3 - Wheel bearing housing
4 - Self-locking nut
q 110 Nm
q Always renew if removed
q After detaching guide link from wheel bearing housing, remove residual adhesive from thread of joint pin.
5 - Self-locking nut
q 110 Nm
q Always renew if removed
q After detaching track control link from wheel bearing housing, remove residual adhesive from thread of joint pin.

6 - Nut
q Always renew if removed

7 - Bolt
q 40 Nm +90°
q Always renew if removed

8 - Shock absorber

9 - Bolt
q 90 Nm +90°
q Always renew if removed

10 - Anti-roll bar
11 - Self-locking nut
q 8 Nm
q Always renew if removed

12 - Track control link
q Removing and installing → Chapter
q Renewing bush for track control link → Chapter

13 - Front left vehicle level sender -G78-; front right vehicle level sender -G289-
q Remove/install and renew only as a complete assembly → Chapter
q Lever of sender must face forwards.
q Check basic adjustment of headlights if sender mountings are loosened → Rep. gr.94
q Vehicles with air suspension: re-adapt reference position if sender mountings are loosened → Chapter
q Perform calibration of lane departure warning system if sender mountings are loosened → Chapter.

14 - Bolt
q 5 Nm

15 - Retaining bracket

16 - Bolt
q 10 Nm

17 - Bolt
q 40 Nm +90°
q Always renew if removed

18 - Coupling rod
19 - Nut
q Always renew if removed
20 - Bolt
q 70 Nm +180°
q  Always renew if removed
21  -  Nut
q  Always renew if removed
22  -  Nut
q  Always renew if removed
23  -  Subframe
C6 RS6 Front Suspension
Drive Shafts
1 - Wheel bearing housing
q Removing and installing → Chapter
2 - Nut
q Always renew if removed
3 - Bolt
4 - Bolt
q 5 Nm
q For adjusting toe constant „S“
q Always renew if removed
5 - Self-locking nut
q Always renew if removed
q 50 Nm
6 - Ball bearing
Removing and installing

Wheel hub

Removing and installing

Bolt

200 Nm +180°

Always renew if removed

Keep to specified sequence when loosening and tightening flange bolt

Bolt

45 Nm

50 Nm for RS 6 vehicles

Splash plate for brakes

Hexagon socket head bolt

10 Nm

Speed sensor

Hexagon socket head bolt

8 Nm

Self-locking nut

110 Nm

Always renew if removed

After detaching track control link from wheel bearing housing, remove residual adhesive from thread of joint pin.

Self-locking nut

110 Nm

Always renew if removed

After detaching guide link from wheel bearing housing, remove residual adhesive from thread of joint pin.

Track control link

Guide link

Countersunk bolt

80 Nm +90°

Always renew if removed

12-point socket head bolt

70 Nm

Always renew if removed

Drive shaft
C6 RS6 Rear Subframe, Anti-Roll Bars etc
1 - Upper transverse link
2 - Anti-roll bar
3 - Anti-roll bar is removed together with coupling rod
4 - Removing and installing → Chapter
5 - Renewing anti-roll bar bushes → Chapter
6 - Clamp
7 - Washer
8 - Nut
9 - 65 Nm
10 - Bolt
11 - 25 Nm
12 - Bolt
13 - Bolt
14 - Bolt
15 - Bolt
16 - Bolt
17 - Bolt
18 - Bolt
19 - Bolt
20 - Bolt
21 - Bolt
22 - Bolt
23 - Bolt
24 - Bolt
25 - Bolt
26 - Bolt
27 - Bolt
28 - Bolt
29 - Bolt
30 - Bolt
31 - Bolt
32 - Bolt
33 - Bolt

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9 - Coupling rod
q Coupling rod is removed together with anti-roll bar
q Removing and installing  → Chapter

10 - Bolt
q 115 Nm +90°
q Always renew if removed
q Hexagon bolts must not be slackened while springs are still installed
q Tighten together with bolt  → Item  in diagonal sequence
q Thread in body can be repaired with Helicoil threaded wire insert (DIN 8140). The thread insert must be of the same length as the thread in the body.

11 - Bolt
q 85 Nm +90°
q Always renew if removed

12 - Track rod

13 - Stone deflector

14 - Trapezium link

15 - Bolt
q 55 Nm

16 - Bolt
q 115 Nm +90°
q Always renew if removed
q Hexagon bolts must not be slackened while springs are still installed
q Tighten together with bolt  → Item  in diagonal sequence
q Thread in body can be repaired with Helicoil threaded wire insert (DIN 8140). The thread insert must be of the same length as the thread in the body.

17 - Support

18 - Bonded rubber bush (front)
q Hydro-bush
q Renewing  → Chapter
q Note correct installation position  → Chapter

19 - Nut
q 95 Nm
q Always renew if removed

20 - Shim

21 - Nut

22 - Washer

23 - Cross member for differential

24 - Bonded rubber bush
q For cross member for differential
q Note installation position: bonded rubber bush on right side of vehicle is marked with a yellow dot
q Renewing → Chapter
25 - Subframe
q Removing and installing subframe with attachments → Chapter
26 - Bonded rubber bush (rear)
q Hydro-bush
q Renewing → Chapter
q Note correct installation position → Chapter
27 - Bolt
q 55 Nm
28 - Eccentric bolt
29 - Bolt
q 10 Nm
30 - Bolt
q 5 Nm
31 - Bolt
q 85 Nm +90°
q Always renew if removed
32 - Retaining bracket
33 - Rear left vehicle level sender -G76-
q Complete with mounting parts
q Lever of sender must face outwards.
q Renewing in vehicle → Chapter
q Check basic adjustment of headlights if sender mountings are loosened → Rep. gr. 94
q Vehicles with air suspension: re-adapt reference position if sender mountings are loosened → Chapter
C6 RS6 Rear Wishbone, Coil Spring and Arms
1 - Upper transverse link
q Removing and installing → Chapter
2 - Eccentric washer
3 - Nut
q 95 Nm
q Always renew if removed
4 - Wheel bearing housing
5 - Nut
6 - Trapezium link
q Removing and installing → Chapter
7 - Bolt
q 85 Nm +90°
q Always renew if removed
8 - Bolt
\[ q \] 25 Nm
9 - Stone deflector for trapezium link
10 - Bottom spring seat
11 - Coil spring
\[ q \] Note different running gear versions; see vehicle data sticker → Chapter
\[ q \] Removing and installing → Chapter
12 - Top spring seat
13 - Spacer for top spring seat
\[ q \] Only fitted on heavy-duty running gear version
14 - Subframe
15 - Nut
\[ q \] 95 Nm
\[ q \] Always renew if removed
16 - Shim
17 - Eccentric bolt
18 - Bolt
\[ q \] 10 Nm
19 - Bolt
\[ q \] 5 Nm
20 - Bolt
\[ q \] 85 Nm +90°
\[ q \] Always renew if removed
21 - Retaining bracket
22 - Rear left vehicle level sender -G76-
\[ q \] Complete with mounting parts
\[ q \] Lever of sender must face outwards.
\[ q \] Renewing in vehicle → Chapter
\[ q \] Check basic adjustment of headlights if sender mountings are loosened → Rep. gr. 94
\[ q \] Vehicles with air suspension: re-adapt reference position if sender mountings are loosened → Chapter
23 - Bolt
\[ q \] 85 Nm +90°
\[ q \] Always renew if removed
24 - Stone deflector
\[ q \] Only fitted on heavy-duty running gear version
25 - Retaining clip
26 - Track rod
\[ q \] Removing and installing → Chapter
27 - Bolt
85 Nm +90°
Always renew if removed
28 - Eccentric bolt
C6 RS6 Rear Strut, Drive Shaft and more Arms
Wheel bearing housing, wheel bearing unit, shock absorber for coil springs - exploded view

1 - Eccentric washer
2 - Nut q 95 Nm
3 - Wheel bearing housing
   q Removing and installing → Chapter
4 - Ball bearing
   q Items 4 and 5 are only installed in vehicles with four-wheel drive
5 - Wheel hub
   q Items 5 and 4 are only installed in vehicles with four-wheel drive
   q Servicing wheel bearing unit → Chapter
6 - Wheel bearing unit
   q Removing and installing → Chapter
Complete wheel bearing unit is only installed on vehicles with front-wheel drive
Wheel bearing unit cannot be repaired

7 - Bolt
q 200 Nm +180°
q Always renew if removed

8 - Splash plate for brake disc

9 - Hexagon bolt

10 - Bolt
q 85 Nm +90°
q Always renew if removed

11 - Track rod

12 - Stone deflector
q Only fitted on heavy-duty running gear version

13 - Retaining clip

14 - Nut

15 - Bolt
q 85 Nm +90°
q Always renew if removed

16 - Trapezium link with stone deflector

17 - Nut

18 - Washer

19 - Shock absorber
q Removing and installing → Chapter

20 - Protective sleeve
q On RS 6 vehicles: secured to bump stop and retaining ring
q On RS 6 vehicles: note position → Fig.

21 - Bump stop

22 - Bolt
q 35 Nm

23 - Shock absorber mounting

24 - Nut
q 25 Nm

25 - 12-point socket head bolt
q Always renew if removed
q 70 Nm

26 - Drive shaft

27 - Upper transverse link

28 - Eccentric bolt

29 - Bolt
q 150 Nm +90°
Always renew if removed

30 - Countersunk bolt

80 Nm +90°

Always renew if removed

Correct position of protective sleeve on RS 6 vehicles
-A- 0° ± 2° position of slot in retaining ring on protective sleeve