

RennTech.org Forums → DIY Tutorials → 996 (Carrera) - DIY → Carrera (996) - Mods
→ RoW M030 Sport Suspension Install

Tutorial info [Visit support topic](#)

Added on: Nov 16, 2005 - 02:23 PM

Views: 9414

[×](#)



RoW M030 Sport Suspension Install

How to install the RoW M030 Sport Suspension

Posted by [drpaulmarsh](#) on Nov 16, 2005 - 02:23 PM

by drpaulmarsh, Ryan Hanson & Hans Wiederrich

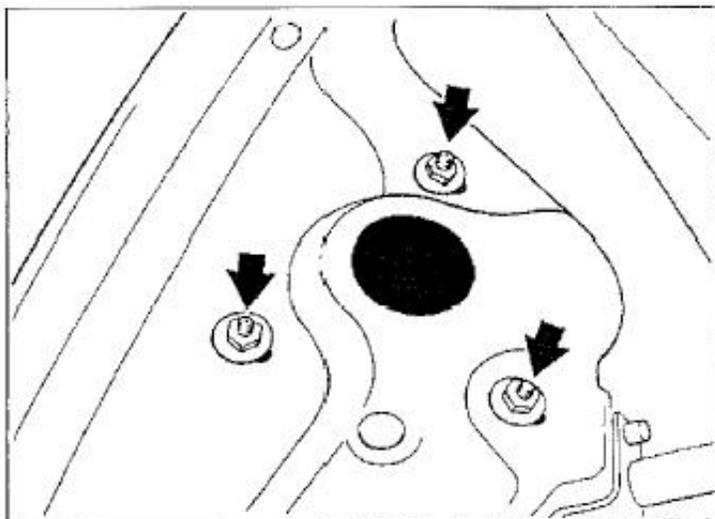
Note: Part numbers sometimes change without notice. Always double check with your supplier that you have the latest part numbers.

Front Strut Removal and Installation:

1. Loosen lug nuts slightly and block rear wheels.
2. Remove the shroud on the trunk with a torx screwdriver.



3. Mark the location of the three (3) 13 mm bolts on the top of the trunk that holds the strut to the body with a ink pen.



4. Jack up the car and remove the wheels.
5. Loosen the 18 mm sway bar bolt that is on the bottom of the strut (counter with open-end wrench).



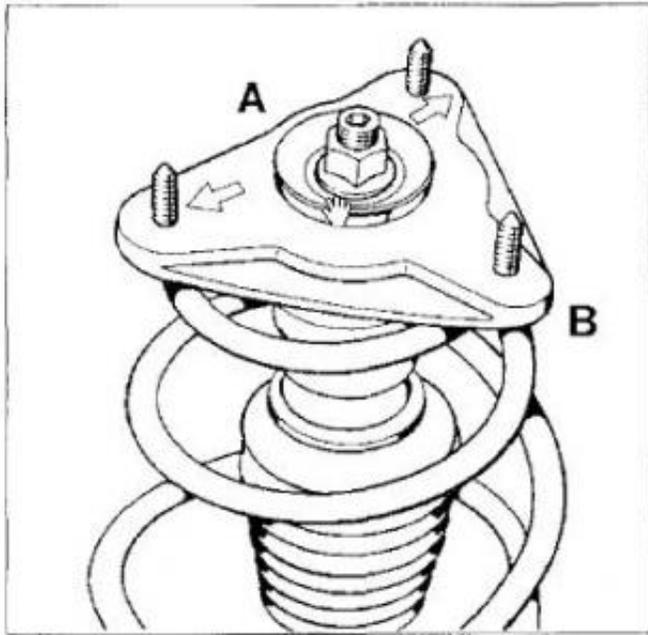
6. Take off the caliper from the hub. Don't let it fall as it may stretch and break the brake line. (*Porsche recommends replacing the two caliper bolts and not re-using them)
7. Remove the nut on the strut spindle assembly, the [abs](#) wires and brake lines.



8. Remove the three (3) 13 mm bolts from the top of the trunk that holds the strut to the body. Peek down in and note the installed position of the spring strut mount. The arrow markings must point to the outer side of the vehicle (A). The shock absorber piston rod is thereby shifted outwards.

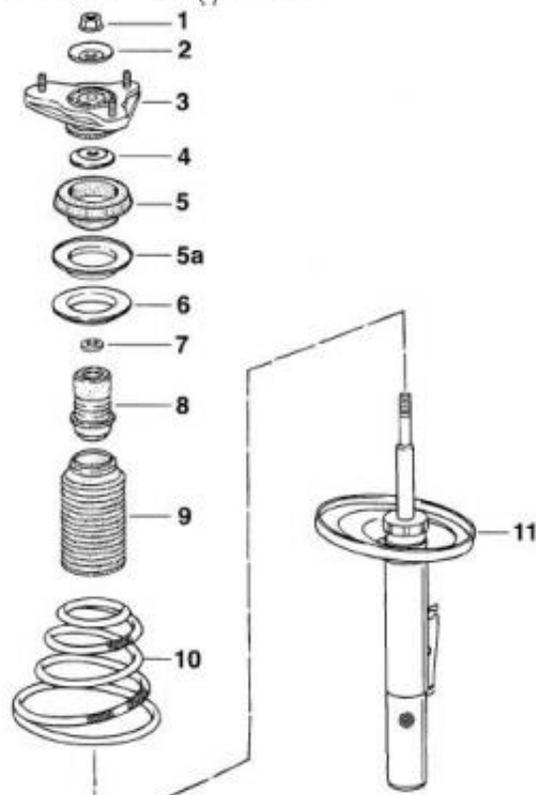
A = Outer side

B = Inner side



9. Now with a friend, push down the arm and gently pull towards you. The strut will be in the wheel well now.
10. This is the tricky part; my friend and I covered the strut top w/ a shop towel and carefully pushed down the strut and pulled it towards me to pull it out of the wheel well. Be careful not to hit/scratch the lip of your fender. (If it doesn't go easily, you may want to try using a spring compressor to shorten it a 1/2 and inch or so.)
11. Once cleared you can wiggle or slide out the strut from the spindle assembly.

Disassembling and assembling front spring strut

**Front strut disassembly and assembly:**

1. Apply spring compressors to both sides and compress the spring a 1/2 inch or so. This may be difficult to do as the front springs are conical shaped, but will ensure that the nut on top is easily removed.
2. Remove the 21 mm nut on top of the strut. (item 1 in picture below) Counter the piston rod when loosening the nut.



3. Pay attention to how it comes apart.
4. Put all the necessary parts on the new strut (You will be re-using the old rubber bump stop so don't throw them out) and assemble back wards.
5. The new springs are shorter so the assembly will not have as much tension.
6. Tighten the fastening nut to 59 ftlb.
7. Install the new strut in the reverse as described above and use the sheet below for torque values:

Cross member/side member (one component)**Location Thread Tightening torque [Nm] (ftlb.)**

Cross member/side member to body M14 x 1.5 160 (118)

(Front and rear)

Corner plate to side member M10 x 1.5 65 (48)

Corner plate to body M12 x 1.5 100 (74)

Corner plate to body M14 x 1.5 160 (118)

(With diagonal arm and side member)

Diagonal brace

Location Thread Tightening torque [Nm] (ftlb.)

Cross member/side member to body M14 x 1.5 160 (118)

Diagonal brace to body and side member M12 x 1.5 100 (74)

Axle strut (control arm)

Location Thread Tightening torque [Nm] (ftlb.)

Axle strut to side member M12 x 1.5 120 (89)

Axle strut to diagonal arm M14 x 1.5 160 (118)

Axle strut (ball joint) to wheel carrier M12x1.5 75 (56)

(also applies to GT3 RS)

Camber basic setting to two-part axle strut M8 27 (20)

- 911 GT3 / 911 GT3 RS

Spring strut/wheel carrier

Location Thread Tightening torque [Nm] (ftlb.)

Spring strut to wheel carrier

(stabiliser mount) - 911 Carrera 2 M12 x 1.5 85 (63)

(shock-absorber tube clamp) - 911 Carrera 4/ M12 x 1.5 85 (63)

911 GT3 / 911 GT3 RS

Spring seat clamp - 911 Carrera 4 M6 10 (7.5)

Spring strut mount to body M8 33 (24)

- 911 GT3 / 911 GT3 RS M8 35 (26)

Spring strut mount to piston rod M14 x 1.5 80 (59)

- 911 GT3 / 911 GT3 RS M14 x 1.5 80 (59)

Stabiliser mating bearing to spring strut (lock nut) - 911 GT3 M52 x 1.5 50 (37)

Height adjustment to spring strut (lock nut) - 911 GT3/911 GT3 RS M52 x 1.5 50 (37)

Brake cover plate to wheel carrier M6 10 (7.5)

Brake disc to wheel hub M6 10 (7.5)

Brake caliper to wheel carrier M12 x 1.5 85 (63)*

Speed sensor to wheel carrier M6 10 (7.5)

Combination coupling to wheel carrier M6 10 (7.5)

Retainer plate for wheel bearing to wheel carrier M8 37 (27)

Wheel hub to wheel carrier M22 x 1.5 460 (340.4)

* Replace screws at front and rear axle whenever they have been removed

Front-axle final drive/drive shaft (911 Carrera 4)

Location Thread Tightening torque [Nm] (ftlb.)

Front-axle drive shaft to transmission M8 39 (29)

Front-axle drive shaft to wheel hub M22 x 1.5 460 (340.4)

Rear front-axle transmission support to transmission bearing M10 65 (48)

Rear front-axle transmission support to body M10 65 (48)

Front front-axle transmission support to front-axle cross member M10 65 (48)

Stud to front-axle cross member M8 20 (15)

Front-axle transmission support at front to transmission M10 65 (48)

Tank strap to body M8 23 (17)

Stabiliser Location Thread Tightening torque [Nm] (ftlb.)

Stabilizer to side member M10 x 1.5 65 (48)

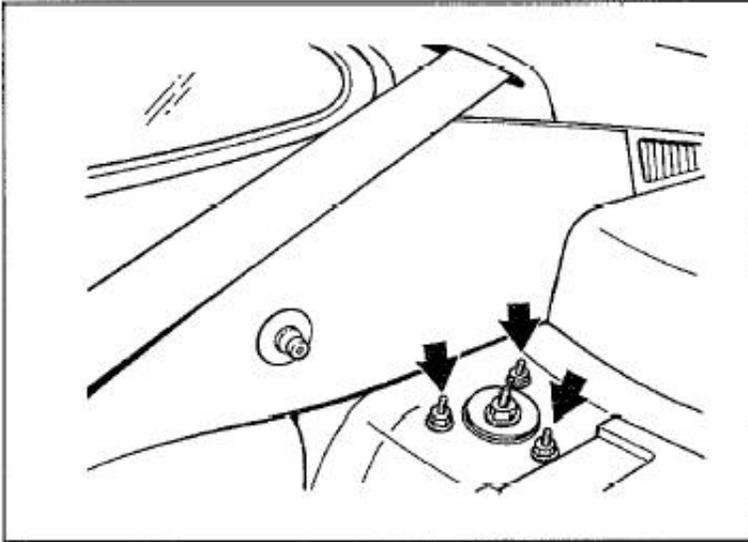
Stabilizer mount to stabiliser M10 46 (34)

Stabiliser mount to shock absorber pipe and wheel carrier - 911 Carrera 2M12 x 1.5 85 (63)

Stabiliser mount to spring strut M10 46 (34)

Rear Strut removal:

1. Climb in the back seat of the car remove the panel behind the rear seat. It has no clips.



2. Mark the location of the three (3) 15mm bolts on the top of the trunk that holds the strut to the body with a ink pen.



3. Loosen lug nuts slightly and block front wheels.
4. Lift rear of car from cross member bar under motor and put jack stands in rear jack points. (***)Make sure you have a low profile jack so that after you install the struts and you go to let it down it will fit under the engine. To help with this I approached the cross member bar from a 45 degree angle near the rear portion of the wheel well.)



5. Use spring compressor to compress the strut and give you some wiggle room to move it up and down later.



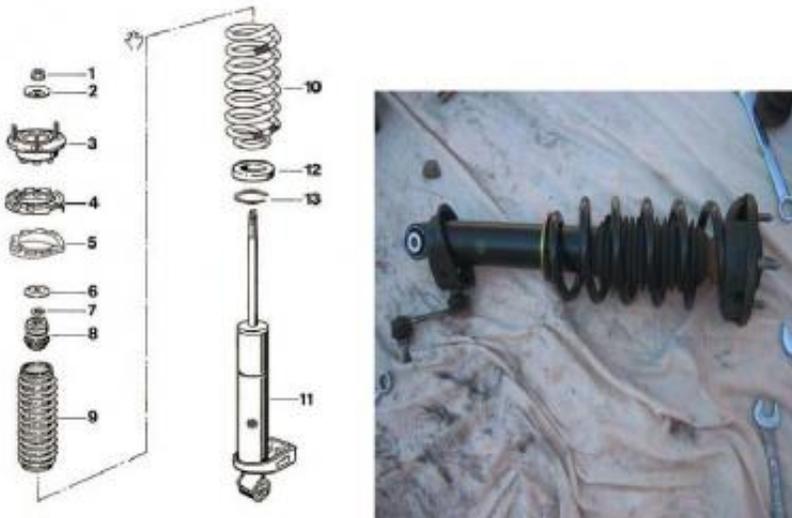
6. Disconnect both sides of the sway bar - 17 mm open end and 15 mm nut the bar should swing easy on the mounts.



7. Climb back inside the car and remove the three (3) 15 mm nuts in the car to drop the strut.



8. Remove the long 18 mm bolt connecting the strut to the arm. (You may have to push up and down on the hub, while you turn the screw left to get it out...)



9. Use two people a pry bar, screwdriver, and/or rubber hammer to force the shock off its mount. (You may have to push up and down on the hub again here too.)

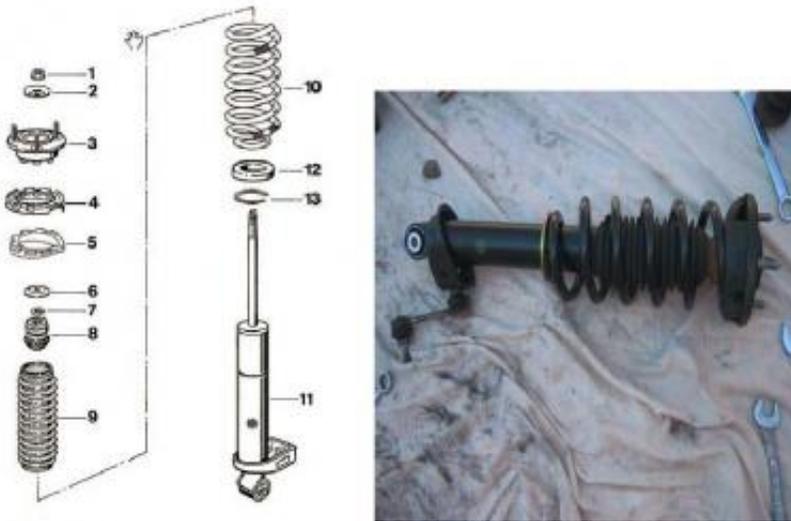
10. Once the strut is dropped you can remove it easily it to prepare the new one.

Rear strut disassembly and assembly:

1. Apply spring compressors to both sides and compress the spring a 1/2 inch or so.

2. Remove the nut on top of the strut M12 x 1.5 (item 1 in picture below). Support the piston rod from turning when loosening the nut with a 7 mm open wrench.

3. The rest is similar to preparing the front, but this time you will use the new yellow bump stops.



Rear Strut Install:

1. Install the strut back in the housing and don't tighten up everything up top just yet.



2. Place a jack under the shock to compress it so you can put it on the arm. Its kind of hard.



3. You need to be a little strong. Once on the arm the bolt wont align properly.

4. Use a screwdriver or hex tool with the rounded end to lift up the shock just a little on the arm so you and your friend can push the bolt through.



5. Try turning the bolt as you feed it through so that the threads don't catch. This was by far the hardest part of the entire install and took 3 guys to line it up and push it through.

6. Once through, install the new strut in the reverse as described above and use the sheet below for torque values:

Carrier side section/cross member

Location Thread Tightening torque [Nm] (ftlb.)

Carrier side section to body M12 x 1.5 110 (81.5)

Studs for carrier side section to body (screw-in M12 x 1.5 46 (34) torque only)

Cross member at rear to carrier side section M12 x 1.5 110 (81.5)

Cross member at front to carrier side section M12 x 1.5 65 (48)

Brake hose holder to carrier side section M6 10 (7.5)

Diagonal brace to body M12 x 1.5 65 (48)

Diagonal brace to cross member M12 x 1.5 110 (81.5)

Diagonal brace to carrier side section (collar nut) M10x1.5 23 (17)

Axle strut

Location Thread Tightening torque [Nm] (ftlb.)

Control arm 2 (toe control arm) to wheel carrier M12 x 1.5 75 (56)

To cross member (toe eccentric) M12 x 1.5 100 (74)

Lower axle strut to carrier side section (camber eccentric) M12 x 1.5 100 (74)

To wheel carrier M12 x 1.5 75 (56)

Camber basic setting on two-part lower axle strut M8 27 (20)

- 911 GT3 RS

Diagonal arm to cross arm M14 x 1.5 160 (118)

To carrier side section M14 x 1.5 180 (133)

Control arm 3 and control arm 4 (upper control arms) M12 x 1.5 110 (81.5)

To carrier side section M12 x 1.5 110 (81.5)

To wheel carrier

Wheel carrier

Location Thread Tightening torque [Nm] (ftlb.)

Wheel bearing to wheel carrier (lid) M8 37 (27)

Speed sensor to wheel carrier M6 10 (7.5)

Tightening torques for rear axle

Rear wheel suspension, drive shafts 911 Carrera (996)**Location Thread Tightening torque [Nm] (ftlb.)**

Brake cover plate to wheel carrier M6 10 (7.5)

Brake disc to wheel hub M6 10 (7.5)

Brake caliper to wheel carrier M12 x 1.5 85 (63)*

Holder for combination wire to wheel carrier M6 10 (7.5)

*Replace screws at front and rear axle whenever they have been removed.

Spring strut**Location Thread Tightening torque [Nm] (ftlb.)**

Spring strut to body

- 911 Carrera M10 46 (34)

- 911 G13 / 911 G13 RS M10/10. 46 (34)*

Spring strut to wheel carrier M12 x 1.5 100 (74)

Shock absorber to mount (piston rod)

- 911 Carrera M12 x 1.5 58 (43)

- 911 G13 / 911 G13 RS M12 x 1.5 60 (44)

Stabiliser mating bearing to spring strut (lock nut) - 911 G13 / 911 G13 RS M52 x 1.5 50 (37)

Height adjustment to spring strut (lock nut) - 911 G13 / 911 G13 RS M52 x 1.5 50 (37)

* 911 GT3 with roll-over bar: Carry out a test drive after performing assembly work on the roll-over bar/spring strut support bolts on the body and then retighten the M10 fastening nuts (three per side) to the same torque.

Drive shaft**Location Thread Tightening torque [Nm] (ftlb.)**

Drive shaft to transmission M10 81 (60)

Drive shaft to wheel hub M22 x 1.5 460 (340)

Stabiliser Location Thread Tightening torque [Nm] (ftlb.)

Stabiliser to carrier side section M8 23 (17)

Stabiliser mount to stabiliser and spring strut

- 911 Carrera M10 46 (34)

- 911 G13 / 911 G13 RS M10/10. 65 (48)

Stabiliser mating bearing to spring strut (lock nut) - 911 G13 / 911 G13 RS M52 x 1.5 50 (37)

Ancillary equipment mounts**Rear wheel suspension, drive shafts****Location Thread Tightening torque [Nm] (ftlb.)**

Engine mount to body M8 23 (17) Engine carrier to engine

- 911 Carrera M10 46 (34)

- 911 GB M10 65 (48)

Engine mount to engine carrier M12 x 1.5 85 (63)

Transmission support to body M10 x 1.5 65 (48)

Stud for transmission support to body M10 20 (15)

Longitudinal support to body M10 65 (48)

Mount to longitudinal support M10 65 (48)

Plug-in couplings for clutch and steering hydraulics**location Thread Tightening torque [Nm] (ftlb.)**

Steering pressure line Wrench size 15 mm 30 (22)

Steering return line Wrench size 19 mm 40 (30)

Clutch line Wrench size 15 mm 30 (22)

Wheel fastening

location Thread Tightening torque [Nm] (ftlb.)

Wheel to wheel hub M14 x 1.5 130 (96)*

* Thinly grease thread, shank and under head (between screw head bearing surface and spherical cap ring) of the wheel bolts with Optimoly TA (aluminium paste). Do not grease bearing surface of the spherical cap facing the wheel. If heavily contaminated, clean bolts first with a lint-free cloth.

RennTech.org Forums → DIY Tutorials → 996 (Carrera) - DIY → Carrera (996) - Mods
→ RoW M030 Sport Suspension Install

The RennTech.org site is Member supported! [Make an ANNUAL donation to RennTech.org](#) 

Porsche®, Carrera, Targa, Boxster, Cayenne, Cayman and the Porsche Crest are copyrighted and trademarks of Porsche AG.

RennTech.org is not in any way associated with Porsche AG or PCNA.

© 2014 RennTech.org. All rights reserved.