

**Manthey Threaded Suspension (202/24)**

**Assembly**

Vehicle Type: **911 (996) C4S Coupé (MY 2002 – 2005)**  
**911 (996) Turbo Coupé (MY 2001 – 2005)**  
**911 (996) Turbo S Coupe (MY 2005)**

Model Year: **As of 2001 up to 2005**

Cause: **Retrofitting**

Parts Info: **Manthey threaded suspension 996.044.805.00 consisting of:**

Part No.	Quantity	Designation
996.343.855.00	1	SPRING STRUT, FA LEFT
996.343.856.00	1	SPRING STRUT, FA RIGHT
996.333.856.00	1	SPRING STRUT, RA RIGHT
996.333.855.00	1	SPRING STRUT, RA LEFT
996.343.851.00	1	COUPLING ROD, LEFT
996.343.850.00	1	COUPLING ROD, RIGHT

Parts to be ordered separately:

Part No.	Quantity	Designation
PAF.003.923	6	Hexagon nut spring strut to body, front
900.380.008.01	6	Hexagon nut spring strut to body, rear
900.378.138.01	4	Hexagon-head bolt on spring strut on wheel bearing housing
999.084.445.09	4	Lock nut for spring strut on wheel bearing housing

Tools:

Tool name	Tool number	Type
Counter-hold tool	SW 22	Commercial tool
Counter-hold tool	SW 19	Commercial tool
Allen key	9 mm	Commercial tool
Allen key	10 mm	Commercial tool

**Information**

Please pass all this information on to the customer.

In addition, provide the customer with the Race Circuit brochure included with the scope of parts.

The modification of the suspension must be entered in the vehicle documents.

A parts certificate is included in the scope of delivery.

**Information**

- Some of the repair illustrations show only one side of the vehicle or a similar component.
- Naturally, some steps also have to be performed on the opposite side of the vehicle as well.

**Note:** The screws and nuts on the threaded suspension must be replaced.

**Content:**

1. Chassis assembly
2. Performing suspension alignment of the vehicle

Work  
Procedure:

- 1 Chassis assembly

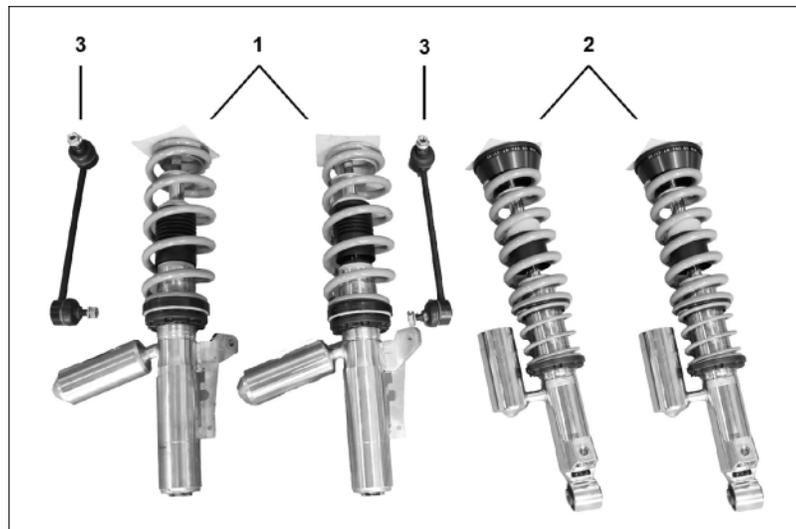


Figure 1

1 Front axle shock absorber

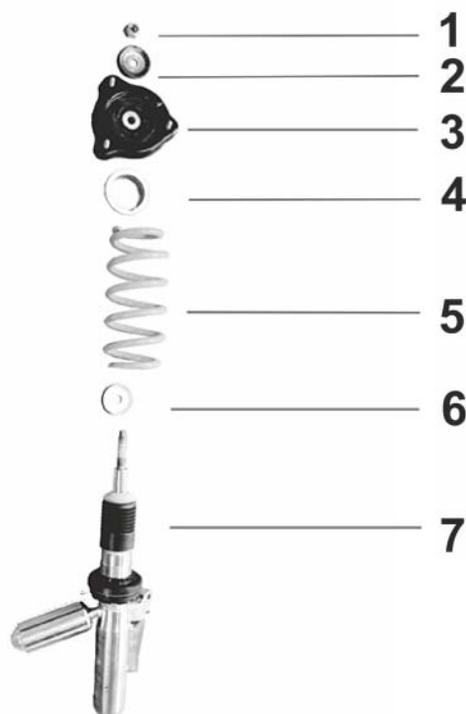
2 Rear axle shock absorber

3 Coupling rod

1.1 Remove all four wheels. ⇒ *Workshop Manual 'Remove and install wheel - Turbo and GT2'*

1.2 Remove front spring strut. ⇒ *Workshop Manual 'Remove and install front spring strut'*

- 1.3 Disassemble front spring strut. ⇒ *Workshop Manual 'Disassemble and assemble front spring strut'*
- 1.4 Remove rear spring strut ⇒ *Workshop Manual 'Remove and install rear spring strut'*
- 1.5 Disassemble rear spring struts. ⇒ *Workshop Manual 'Disassemble and assemble rear spring strut - Turb...'*
- 1.6 Assemble front spring strut.



*Figure 2*

#### Installation sequence

- 1 Nut
- 2 Support washer
- 3 Shock absorber mounting
- 4 Spring seat
- 5 Spring
- 6 Support washer
- 7 Shock absorber

1. Assemble the shock absorber in the installation sequence specified.

The groove –2– (Figure 4) on the spring plate must match the elevation –1– (Figure 3) on the support bearing.

**Note: The spring disc only lies with the waistband on the original Porsche support bearing.**

The tightening torque for piston rod mounting is **50 Nm (37 ftlb.)**.

Please refer to the documents of the vehicle manufacturer for the instructions for installing the spring strut in the vehicle as well as the tightening torques of the spring strut attachment.



Figure 3



Figure 4

2. The installation side must be determined by part number. The pressure compensation tank (Figure 5) must be installed towards the front of the vehicle.

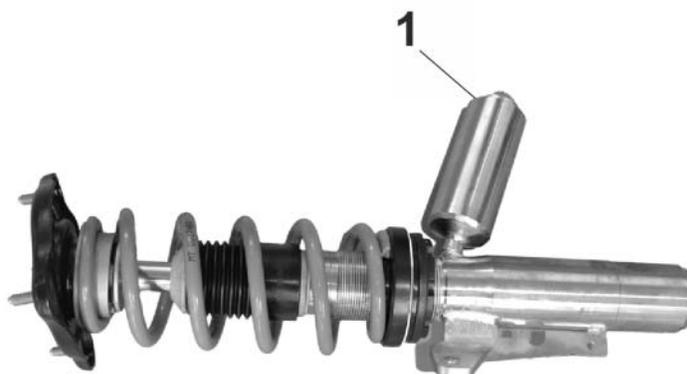


Figure 5

3. The coupling rod must be replaced with the new one supplied. The installation side must be observed.

The coupling rod must be installed so that the thread of the coupling rod at the bottom points outwards (outside of the vehicle).



Figure 6

- 1.7 Install front spring strut. ⇒ *Workshop Manual 'Removing and installing front spring strut'*
- 1.8 Disassembling and assembling rear spring struts ⇒ *Workshop Manual 'Disassembling and assembling rear spring struts - Turb...'*

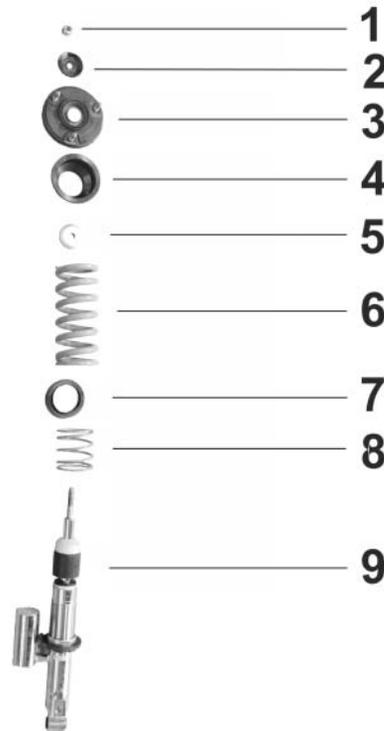


Figure 7

Installation sequence

- 1 Nut
- 2 Stop plate
- 3 Spring-strut mount
- 4 Spring plates
- 5 Stop plate
- 6 Coil spring
- 7 Spring seat
- 8 Additional spring
- 9 Shock absorber

**Note: The spring strut support bearings must be replaced with new ones included in the suspension conversion.**

1. Assemble the shock absorber in the installation sequence specified.

The torque for piston rod mounting is **40 Nm (30 ftlb.)**.

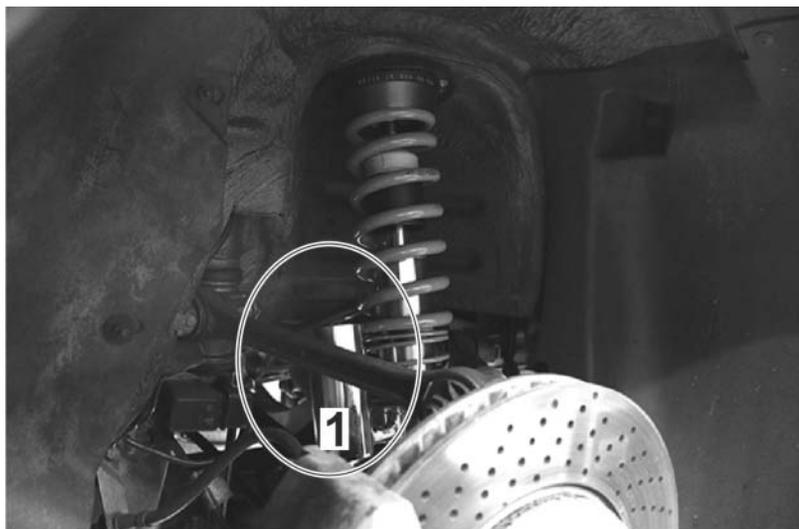
2. After the shock absorbers have been assembled, the original coupling rod must be installed to the shock absorber before installing the damper.

3. Please refer to the documents of the vehicle manufacturer for the assembly instructions for installing the spring strut in the vehicle as well as tightening torques of the spring strut attachment.

**Note:** The spring strut must be positioned so that the damper compensation tank is located above the articulated shaft. When installing the shock absorber, the rear drive shaft must be pressed down slightly. This prevents the expansion tank from hitting the articulated shaft. The rear shock absorber must only be tightened permanently in the compressed road position.



*Figure 8*



*Figure 9*

- 1.9 Install rear spring strut. ⇒ *Workshop Manual 'Remove and install rear spring strut'*
- 1.10 Install all four wheels. ⇒ *Workshop Manual 'Removing and installing wheel - Turbo und GT2'*

## 2 Perform complete alignment.

Adjusting the damper force.

Track, camber, vehicle height and damper forces can be adjusted on the suspension.

The settings given in the table represent a balanced compromise between high maximum achievable lateral acceleration and good controllability.

**The adjustment of the damper force has a considerable influence on the driving behavior and requires specific expert knowledge!**

— Follow the adjustment recommendations described below.

### **Allow access to adjust the damper force**

#### **Front axle**

**The following work may only be carried out by a specialist workshop!**

— Remove the luggage compartment covers as per the Workshop Manual.

#### **Rear axle**

— Remove the rear shelf or — if installed — the subwoofer housing inside the passenger compartment.

### **Note: Exceeding of the adjustment range**

The adjusting wheel actuates a fine-mechanical valve. The adjustment equipment is damaged by forcefully exceeding the adjustment range.

— Only turn the dial as far as it will go.

### **Adjusting rebound level**

The rebound adjustment is adjusted using the adjusting wheel at the upper end of the piston rod.

1. Install adjusting wheel on the upper end of the piston rod.
2. Turn adjusting wheel clockwise (+) as far as it will go (valve is closed).
3. Then turn the valve counterclockwise (-) by the number of clicks indicated in the adjustment recommendation.

### **Setting range = maximum 16 clicks:**

- Harder: turning clockwise (+)
- Softer: turning counterclockwise (-)

### **Adjusting pressure level**

The pressure level is adjusted via the integrated adjusting wheel at the bottom of the damper.

1. Turn adjusting wheel clockwise (+) as far as it will go (valve is closed).

2. Then turn the valve counterclockwise (-) by the number of clicks indicated in the adjustment recommendation.

- Harder: turning clockwise (+)

- Softer: turning counterclockwise (-)

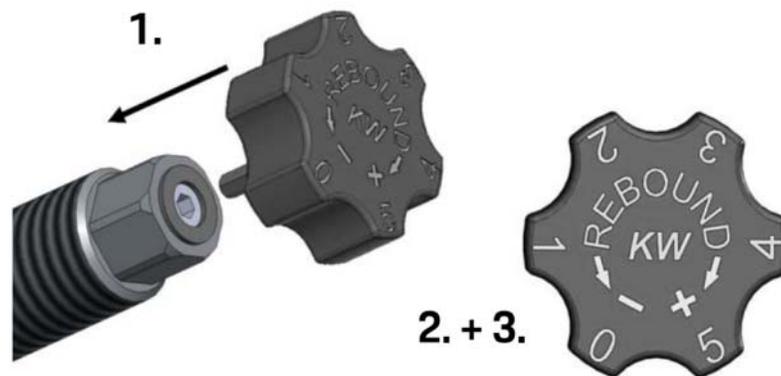


Figure 10

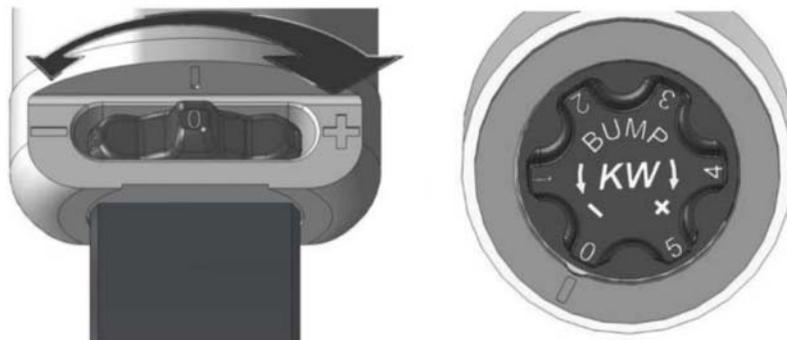


Figure 11

## 2.1 Adjustment values

Adjustment values with 18" wheel	Front axle		Rear axle	
	Wheel	Total	Wheel	Total
Toe	+1 mm/ +0°7	+2 mm/ +0°14	+2 mm/ +0°14	+4 mm/ +0°28
Tolerance	±0.5 mm/ ±0°3	±1 mm/ ±0°6	±0.5 mm/ +0°3	±1 mm/ ±0°6
<b>Camber</b>	-1°30' / -1.5°		-2° / -2°	
Tolerance	±15' / ±0.25°		±15' / ±0.25°	
<b>Ride height</b>	118 mm		123 mm	
Tolerance	+10 mm		+10 mm	
<b>Damper setting</b>	Pressure level	Rebound level	Pressure level	Rebound level
Performance	5	6	11	15
Race track	3	6	5	6

Labor time: Conversion of Manthey threaded suspension

Labor time: **560 TU**

Includes: Remove and install all four wheels, remove and install front spring struts, disassemble and assemble front spring struts, remove and install rear spring struts, disassemble and assemble rear spring struts, measure vehicle in full.

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