

# ASSEMBLY INSTRUCTIONS

TECHART Vario threaded chassis

TECHART Vario Plus threaded chassis (for PASM only)  
for Porsche 997

**Part no. 097.200.350.009**  
**Part no. 097.200.450.009**

**Vario threaded chassis**  
**Vario Plus threaded chassis**





# ASSEMBLY INSTRUCTIONS












TECHART Vario/Vario plus threaded chassis

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### I Important safety information

All of the necessary work must be performed by qualified persons with an appropriate level of expertise.

	<p style="text-align: center;"><b>⚠ WARNING</b></p> <p>Vehicle lifts with an insufficient lifting capacity can collapse under the weight of the vehicle and crush any persons standing underneath.</p> <p>Compare the weight of the vehicle with the lifting capacity of your vehicle lift. The weight of the vehicle must not exceed the lifting capacity of your vehicle lift. The weight of the vehicle can be found in the vehicle operating manual.</p>	
	<p style="text-align: center;"><b>⚠ WARNING</b></p> <p>Risk of injury from electric current.</p> <p>Switch off the ignition and disconnect the battery when working on the vehicle electrical/electronics systems.</p>	
 	<p style="text-align: center;"><b>⚠ CAUTION</b></p> <p>Risk of injury from hands and arms being crushed, cut or lacerated when working with sharp-edged and bulky objects.</p> <p>Wear protective clothing and protective gloves. Keep limbs out of narrow and inaccessible areas of the vehicle and/or avoid dangerous situations by using special tools and suitable aids.</p>	 
	<p style="text-align: center;"><b>⚠ CAUTION</b></p> <p>Risk of injury to back, muscles, joints, tendons and ligaments from lifting and carrying heavy and/or bulky objects.</p> <p>Lift and transport heavy and/or bulky objects with the help of other people and/or with suitable aids.</p>	
	<p style="text-align: center;"><b>NOTICE</b></p> <p>Before starting the assembly procedure, carefully read the assembly instructions in full and pay attention to the safety information and sequence of the individual operation steps.</p>	



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TECHART Vario/Vario plus threaded chassis

## II Preparation

### Number of people required



For the installation of this product at least two persons are needed.

### Help and support

In case of technical questions you immediately contact us: [support@techart.de](mailto:support@techart.de)

### Check TECHART parts kit for completeness

Item	Quantity	Part number	Part designation
1	1	097.200.350.009	Vario threaded chassis
Consisting of:			
2	2	097.200.350.100	Vario front-axle threaded suspension strut for 997 / 987
2	2	097.200.350.101	Vario rear-axle threaded suspension strut for 997 , 997 S
2	2	097.200.250.100	Primary spring for Vario front-axle threaded suspension strut for 997 / 987
2	2	097.200.250.101	Helper spring for Vario front-axle threaded suspension strut for 997 / 987
2	2	097.200.350.200	Primary spring for rear-axle threaded chassis for 997C2/C4/Turbo
2	2	097.200.350.201	Helper spring for rear-axle threaded chassis for 997 VA 997C4/T
2	2	097.200.250.102	Front-axle upper spring cap for threaded chassis
2	4	097.200.250.103	Plastic base, 60mm, blue
2	2	999.200.110.060	Intermediate spring plate, double spring
2	2	097.200.250.202	Rear-axle upper spring cap for threaded chassis
2	4	097.200.350.203	Plastic base, 70mm, blue
2	2	097.200.250.201	Rear-axle intermediate ring for threaded chassis
2	2	097.200.350.204	Rubber base on rear axle
2	1	097.200.X50.099	TECHART assembly instructions
2	1	099.200.000.9	TECHART inspection



# ASSEMBLY INSTRUCTIONS

TECHART Vario/Vario plus threaded chassis

Item	Quantity	Part number	Part designation
1	1	097.200.450.009	Vario Plus threaded chassis
Consisting of:			
2	2	097.200.450.100	VarioPlus rear-axle threaded suspension strut for 997 , 997 S
2	2	097.200.450.101	VarioPlus rear-axle threaded suspension strut for 997 , 997 S
2	2	097.200.250.100	Primary spring for Vario front-axle threaded suspension strut for 997 / 987
2	2	097.200.250.101	Helper spring for Vario front-axle threaded suspension strut for 997 / 987
2	2	097.200.350.200	Primary spring for rear-axle threaded chassis for 997C2/C4/Turbo
2	2	097.200.350.201	Helper spring for rear-axle threaded chassis for 997 VA 997C4/T
2	2	097.200.250.102	Front-axle upper spring cap for threaded chassis
2	4	097.200.250.103	Plastic base, 60mm, blue
2	2	999.200.110.060	Intermediate spring plate, double spring
2	2	097.200.250.202	Rear-axle upper spring cap for threaded chassis
2	4	097.200.350.203	Plastic base, 70mm, blue
2	2	097.200.250.201	Rear-axle intermediate ring for threaded chassis
2	2	097.200.350.204	Rubber base on rear axle
2	1	097.200.X50.099	TECHART assembly instructions
2	1	099.200.000.9	TECHART inspection

Use the table to check whether all of the required parts are present.

Contact us immediately if any parts are missing: [support@techart.de](mailto:support@techart.de)

Once parts have been removed from their original packaging, ensure that they are properly handled and stored.



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## III Installation

### 1 Preparing vehicle

**i** Before starting work, check that the vehicle is free of defects. Use the PIWIS system tester to read out all of the fault memories of the individual vehicle components and first rectify any faults displayed.

- 1 Raise vehicle at the factory-fitted jacking points.

### 2 Removing/installing front spring strut

- 1 Detach connector for wheel carrier plug connection. Detach plug connection from wheel carrier and unclip electrical lines on spring strut.
- 2 Remove support for brake line/brake hose on wheel carrier. Remove brake caliper from wheel carrier and hang-up in wheelhouse.
- 3 Undo suspension gear on anti-roll bar (counterhold using open-end wrench).
- 4 Detach tie rod and control arm on wheel carrier and pry off the ball joints using the puller. When undoing the lock nuts, counterhold with Torx screwdriver on ball joint pin.

**i** On vehicles equipped with PASM, the damper connection cable has to be detached.



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- 5 Undo threaded joint for suspension-strut supporting mount to body (3 M8 lock nuts).
- 6 Release clamp connection for spring strut/wheel carrier (ball joint of suspension gear). Counterhold using open-end wrench. Withdraw spring strut from wheel carrier.
- 7 Pretighten coil spring with spring compressor far enough until the piston rod is relieved.
- 8 Dismantle supporting mount.
- 9 Assemble TECHART shock absorbers with TECHART springs and accessories and original supporting mount (see drawing). Make sure that the stripped shim supplied, is mounted under the dome support.
- 10 Use new lock nut to tighten supporting mount on piston rod.



**On spring struts with a PASM system, the electrical cable is to be attached using a plug-in cable tie to pos. A, and then routed along the ABS cable and fastened in place with cable ties.**

### TECHART front-axle threaded suspension strut

Code	Designation
1	Parts adopted from vehicle
2	Stripped shim
3	TECHART spring, cobalt blue identification: TA 097 VA
4	TECHART spring, signal red identification: TA 097 VA Z
5	Vario Plus threaded suspension strut
6	Vario threaded suspension strut

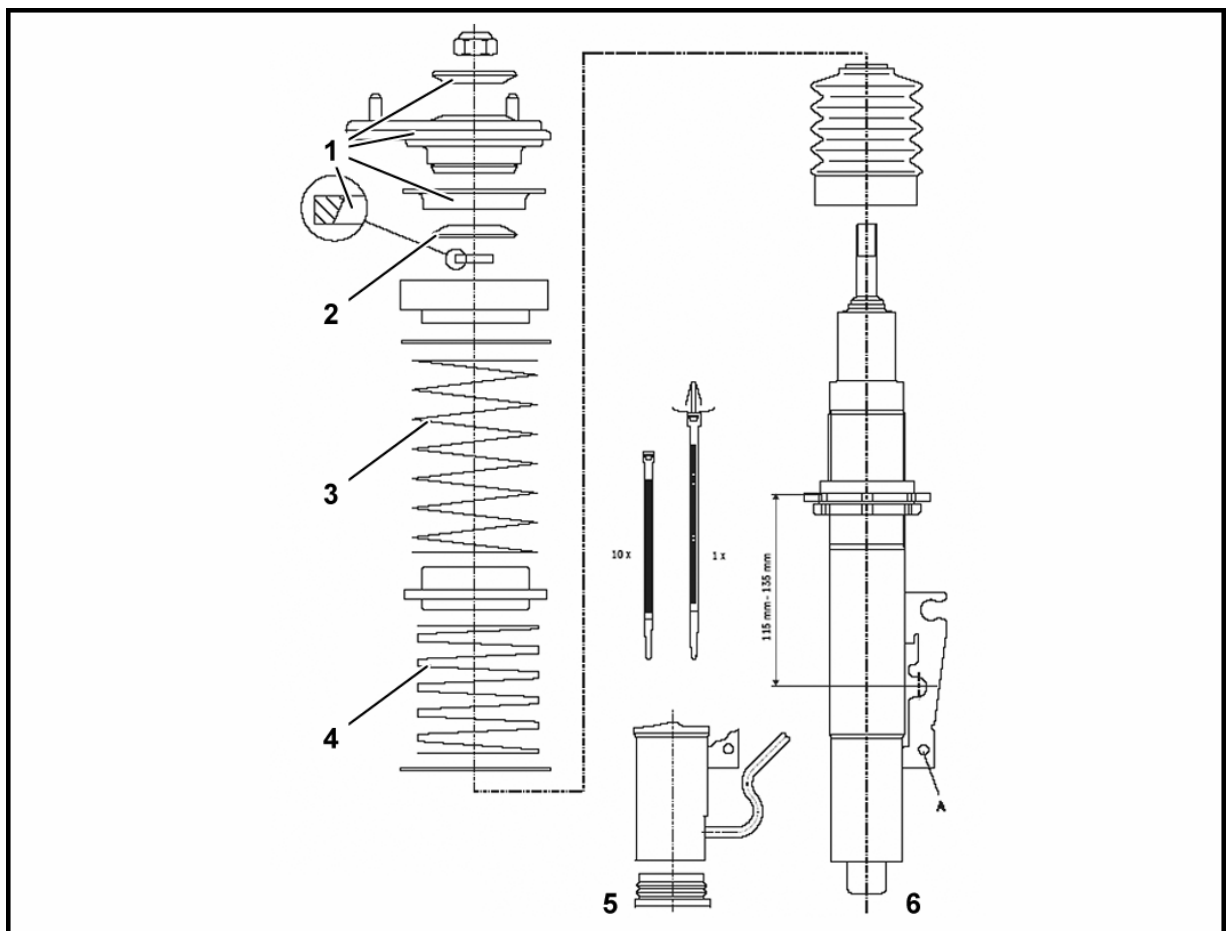


Fig. 01



Installation is in the reverse order.

Replace the lock nuts and brake caliper fastening bolts.

Adjust height of vehicle to match customer requirements. Front-axle adjustment range:

115-135mm (see drawing).





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## 3 Removing/installing rear spring strut

- 1 Remove suspension gear from wheel carrier.
- 2 Undo threaded joint on wheel carrier.
- 3 Detach and remove the trim in the interior (or Bose system box).
- 4 Remove upper suspension-strut supporting mount. On vehicles equipped with the PASM system, the electrical connecting cable is to be unclipped.
- 5 Remove spring strut.
- 6 Pretighten coil spring with spring compressor far enough until the piston rod is relieved.
- 7 Dismantle supporting mount from spring strut.
- 8 Dismantle adjusting mechanism on the TECHART shock absorber. (For Vario threaded suspension strut only).

### 3.1 Removal

- 1 Move the adjusting washer (A) to position 9 first.
- 2 Then undo the threaded pin (B) to enable the adjusting washer (A) to be removed.
- 3 Use a suitable tool (WAF 21) to hold the adjusting head (C) firmly in place, to then be able to undo the lock nut (D; WAF 17).
- 4 The adjusting head (C) and lock nut (D) for mounting the shock absorber can now be removed.

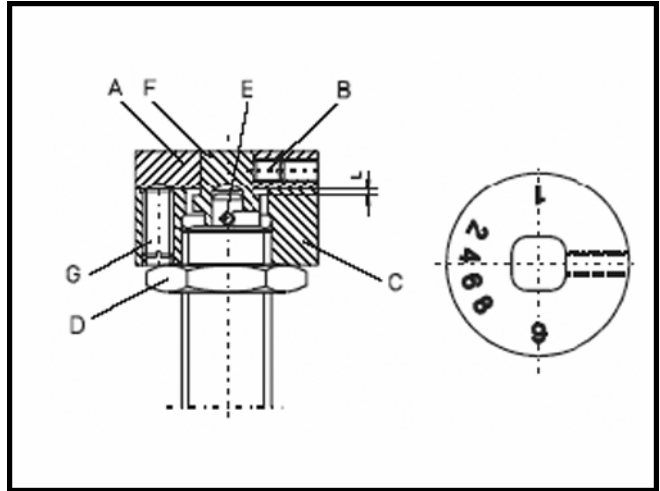


Fig. 02

- 5 Fit the shock absorber together as shown below, and then mount using new lock nut and tighten in place (see drawing).
- 6 Assemble adjusting mechanism again.

**i** For Vario threaded suspension strut only.

### 3.2 Installation

- 1 Rotate the stop (F) on the piston rod in a clockwise direction up to the end point (bypass open).
- 2 Screw the lock nut first, then the adjusting head (C) back onto the piston rod.

**i** The upper side of the adjusting head (C) may not be screwed on lower than the lower edge of the square stud (dimension L~ 0 to 1mm).

The notch mark on the adjusting head (C) must be located in the center of the wrench area of the square stud.

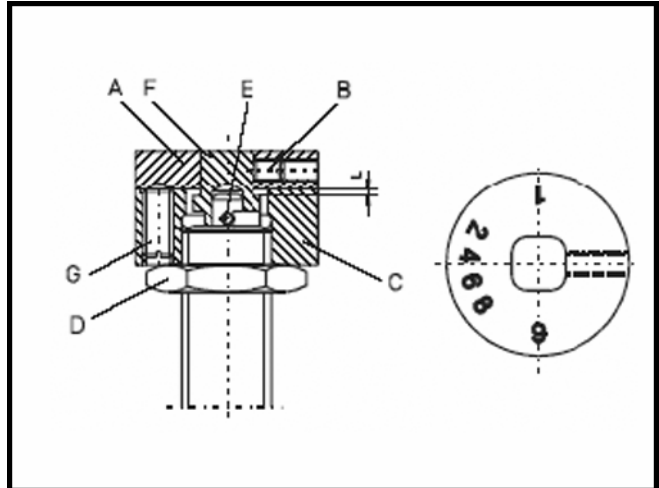


Fig. 02

- 3 Secure adjusting head(C) in place using the lock nut (D).
- 4 Fit adjusting washer (A) level with the adjusting head (C).

**i** The resilient pressure piece (G) is slightly pretightened. This serves to ensure that a clearly felt engagement occurs during the adjustment procedure.

Position 9 on the adjusting washer (A) must be located directly above the notch mark on the adjusting head (C). The threaded pin (B) can be tightened again in this position.

The adjusting washer (A) must turn freely after this.

### TECHART rear-axle threaded suspension strut

Code	Designation
1	Parts adopted from vehicle
2	Parts no longer applicable
3	TECHART spring, cobalt blue (dark blue) identification TA 097 HA
4	TECHART spring, signal red identification: TA 097 HA Z

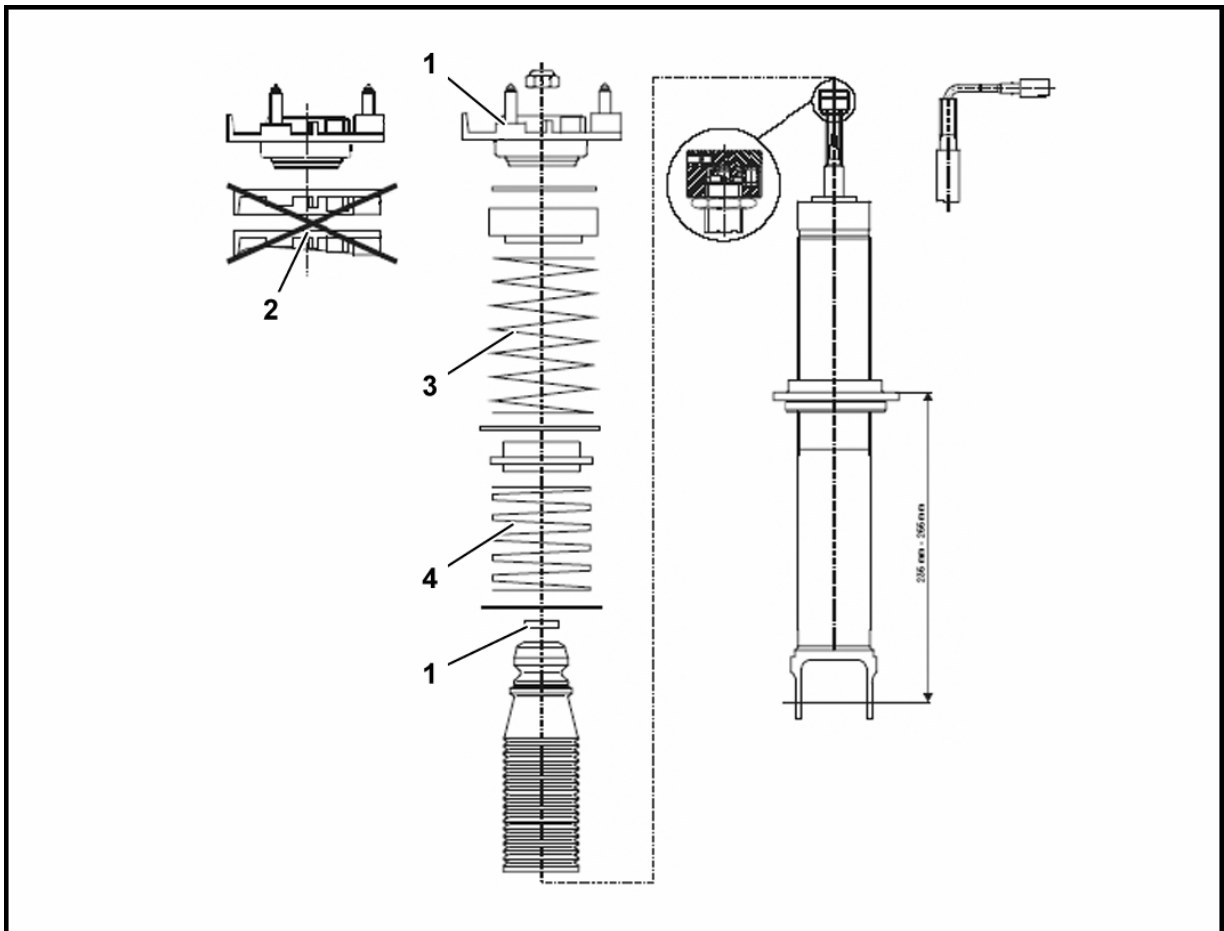


Fig. 03

- The threaded suspension strut is installed in the reverse order. For the threaded suspension strut with PASM, the electrical cable is to be routed at the top through the dome and plugged into the wiring harness.

**(i) Adjust height of vehicle to match customer requirements. Rear-axle adjustment range: 235-255mm (see drawing).**

**When assembling the front-axle and rear-axle spring struts, make sure that the sprung coils make contact at the spring collar's stop!**

### 4 Suspension alignment

**i** Make sure that the steering gear is located in the center position during the alignment process.

- 1 Move wheels to straight-ahead position and - on the steering gear - check whether driver 1 lines up with steering gear 3.
- 2 Use suitable tool to lock steering wheel in position.
- 3 During axle alignment, the vehicle is to be set to standard-production values, only the camber values will increase, depending on the vehicle height at the front axle up to  $-0^{\circ}50'$  and at the rear axle to  $1^{\circ}45'$ .

**i** When mounting new suspension components, it is advisable to check the axle setting after 4000 – 6000 km!

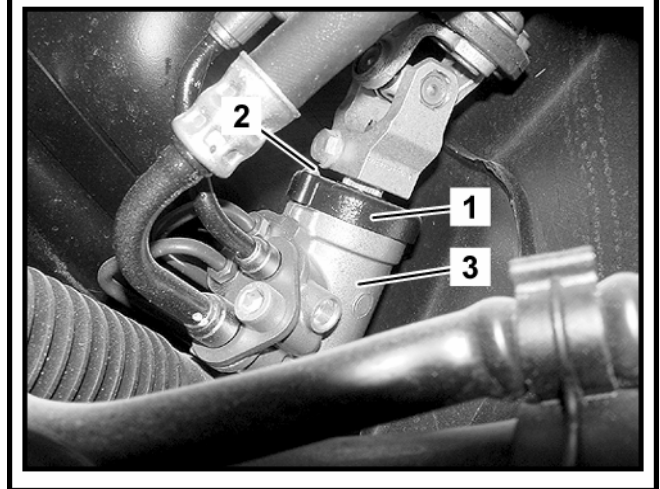


Fig. 04



# ASSEMBLY INSTRUCTIONS

TECHART Vario/Vario plus threaded chassis

## Tightening torques for Porsche 997

Brake caliper on wheel carrier	M 12 x 1.5	85	Nm
Piston rod on front-axle supporting mount	M 14 x 1.5	80	Nm
Piston rod on rear-axle supporting mount without PASM	M 12 x 1.5	60	Nm
Piston rod on rear-axle supporting mount with PASM	M 12 x 1	32	Nm
Control arm on ball joint	M 12 x 1.5	75	Nm
Tie rod /linkage steering on wheel carrier	M 12 x 1.5	75	Nm
Control arm – camber eccentric	M 12 x 1.5	100	Nm
Diagonal link on control arm	M 14 x 1.5	160	Nm
Suspension-strut supporting mount front axle	on body, M 8	33	Nm
Suspension-strut supporting mount rear axle	on body, M10	46	Nm
Anti-roll-bar mount on anti-roll bar	M 10 x 1.5	46	Nm
Spring strut on wheel carrier, front axle	M 12 x 1.5	85	Nm
Spring strut on wheel carrier, rear axle	M 12 x 1.5	110	Nm
Wheel on wheel hub	M 14 x 1.5	130	Nm
Central lock nut axle shaft	M 22 x 1.5	460	Nm



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