AJ04 - Replacing Longitudinal and Transverse Control Arms on Front and Rear Axles (Recall Campaign)

Important: **CRITICAL WARNING** - This campaign includes steps where control unit(s) in the vehicle will be programmed with the PIWIS Tester. The vehicle voltage must be maintained at 13.8 volts during this programming. Failure to maintain this voltage could result in damaged control unit(s). Damage caused by inadequate voltage during programming is not a warrantable defect. The technician must verify the actual vehicle voltage in the PIWIS Tester before starting the campaign and also document the actual voltage on the repair order.

Model Year: **As of 2014 up to 2015**

Vehicle Type: **918 Spyder**

Subject: **Longitudinal and transverse control arms on front axle and rear axle**

Informatin: **Internal tests have shown that the longitudinal and transverse control arms installed on the affected vehicles may be prone to corrosion. The durability of these components cannot therefore be unequivocally guaranteed.**

If the fastening bolts on the longitudinal and transverse control arms crack due to corrosion, vehicle handling in extreme situations, e.g. during race track driving, may be restricted and this can increase the risk of an accident.

Remedial Action: Replace the affected longitudinal and transverse control arms on front axle and rear axle with control arms made of more robust material.

Information

If a vehicle is affected by **recall campaign AE03** in addition to this campaign, but recall campaign AE03 has not yet been carried out, **campaign AE03 must not be carried out** as this affects the identical trailing arms on the rear axle.

For warranty processing for both campaigns, proceed as follows in this case:

- Mark **campaign AE03** as **'cannot be carried out'** with the reason **"Other"** in PQIS. The **"Warranty relevance"** flag must be activated in order to be able to set a warranty claim and close the campaign.
- A warranty claim must be submitted for **campaign AE03** in which **0 TU** is entered as the specified **working time** and **no material items** are specified.
- Invoice **campaign AJ04** in the usual way using a **regular warranty claim** as described under ⇒ *Technical Information 'Warranty processing'*.

Information

The vehicle must be checked for defects and damage (damage to paintwork, missing parts, etc.) **each time** it is handed over, transferred or delivered. Confirmation that the vehicle is in good condition or details of any damage to the vehicle must be documented and archived for feedback purposes.

Service Level: **This campaign must be carried out by a Service Level 2 Porsche dealership.**

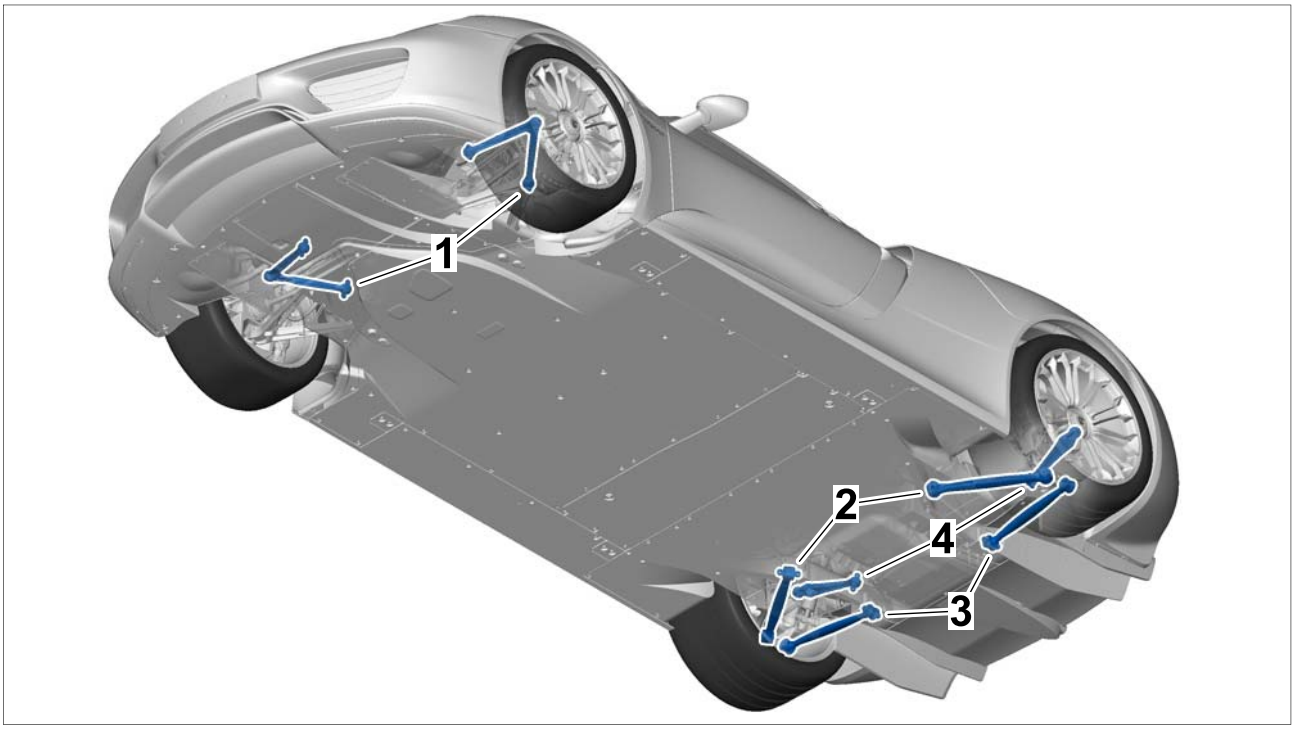
Service Level 0 or 1 Porsche dealerships are **not** authorized to carry out this campaign.
In accordance with the service concept for the 918 Spyder, the vehicle must be transferred to the nearest Service Level 2 Porsche dealership in order to carry out this campaign.

In this case, please contact the nearest Service Level 2 Porsche dealership and arrange for the transfer of the vehicle and implementation of the measure. Please refer to the PIWIS vehicle information to find out about other campaigns assigned to the vehicle and their service levels in order to schedule the workshop visit for the vehicle.

Information on invoicing for the transfer of the vehicle can be found under ⇒ *Technical Information 'Warranty processing'* at the end of this document.

Affected Vehicles: Only the vehicles assigned to the campaign (see also PIWIS Vehicle information). This campaign affects 306 vehicles in North America.

Installation Position:



Installation position overview

1 – Transverse control arm on front axle, upper (**replace**)
2 – Longitudinal control arm on rear axle, lower (**replace**)
3 – Transverse control arm on rear axle, lower (**replace**)
4 – Transverse control arm on rear axle, upper (**replace**)

Parts required

Parts Info: **Please Note: Parts will NOT be automatically allocated to your dealership. All parts must be ordered via email submission to recallrelease@porsche.us. Please make sure to include VIN in order. PLEASE DO NOT ORDER PARTS UNTIL RECALL REPAIR APPOINTMENT HAS BEEN SCHEDULED.**

Parts required:

Part No.	Designation	Qty.
00004330668	⇒ Transverse control arm on front axle, upper	2 ea.
00004330669	⇒ Longitudinal control arm on rear axle, lower	2 ea.
00004330670	⇒ Transverse control arm on rear axle, lower	2 ea.
00004330671	⇒ Transverse control arm on rear axle, upper	2 ea.

Additional parts required for vehicles **without** Racetrack package (I-no. 808):

Part No.	Designation – Use	Qty.
00004330672	⇒ Set of fastening parts for front axle – **without** Racetrack package	1 ea.
00004330674	⇒ Set of fastening parts for rear axle – **without** Racetrack package	1 ea.

or

Additional parts required for vehicles **with Racetrack package (I-no. 808)**:

Part No.	Designation – Use	Qty.
00004330673	⇒ Set of fastening parts for front axle – with **Racetrack package**	1 ea.
00004330675	⇒ Set of fastening parts for rear axle – with **Racetrack package**	1 ea.

Optional parts required for **all vehicles** during chassis adjustment:

Part No.	Designation – Use	Qty.
91834154300	⇒ Adjusting shim, 0.5 mm – Front axle	As many as required (up to 4 ea.)
91834154301	⇒ Adjusting shim, 1.0 mm – Front axle	As many as required (up to 4 ea.)
91834154302	⇒ Adjusting shim, 2.0 mm – Front axle	As many as required (up to 4 ea.)
91834154303	⇒ Adjusting shim, 4.0 mm – Front axle	As many as required (up to 4 ea.)
91833154324	⇒ Adjusting shim, 0.5 mm – Rear axle	As many as required (up to 4 ea.)
91833154325	⇒ Adjusting shim, 1.0 mm – Rear axle	As many as required (up to 4 ea.)

91833154326	⇒ Adjusting shim, 2.0 mm – Rear axle	As many as required (up to 4 ea.)
91833154327	⇒ Adjusting shim, 4.0 mm – Rear axle	As many as required (up to 4 ea.)

Materials: **Required materials** (usually already available in the Porsche dealership):

Part No.	Designation – Use	Qty.
00004330035	⇒ McLube Sailkote High Performance Dry Lube – Central wheel lock	428g spraying can As much as required
00004330508	⇒ Optimoly TA grease – Centring surface on wheel hub	100g tube As much as required

Overview: **Contents of sets of fastening parts**

Information

The overview of the contents of the various sets of fastening parts are provided for information purposes only.
The parts listed below do **not** have to be **ordered** in addition to the required sets of fastening parts.

- **Set of fastening parts for front axle without** Racetrack package, Part No. 00004330672

Part No.	Designation – Use	Qty.
99907357201	Lens-head screw, M6 x 8 – Brake disc to wheel hub	4 ea.
99908465601	Hexagon nut, M10 – Upper transverse control arm to wheel carrier – Upper transverse control arm to monocoque – Brake calliper to wheel carrier	14 ea.
99931160201	Fit bolt, M10 x 1.5 x 65 – Upper transverse control arm to wheel carrier	2 ea.

- **Set of fastening parts for front axle** with **Racetrack package (I-no. 808)**, Part No. 00004330673

Part No.	Designation – Use	Qty.
99907357201	Lens-head screw, M6 x 8 – Brake disc to wheel hub	4 ea.
99908465601	Hexagon nut, M10 – Upper transverse control arm to wheel carrier – Upper transverse control arm to monocoque – Brake calliper to wheel carrier	14 ea.
99931160202	Fit bolt, titanium, M10 x 1.5 x 65 – Upper transverse control arm to wheel carrier	2 ea.

- **Set of fastening parts for rear axle without** Racetrack package, Part No. 00004330674

Part No.	Designation – Use	Qty.
99907357201	Lens-head screw, M6 x 8 – Brake disc to wheel hub	4 ea.
99908465601	Hexagon nut, M10 – Upper transverse control arm to wheel carrier – Upper transverse control arm to monocoque – Brake calliper to wheel carrier – Toe eccentric adjuster on rear axle	18 ea.
99908465501	Hexagon nut, M12 – Upper longitudinal control arm to upper transverse control arm – Lower longitudinal control arm to wheel carrier – Lower transverse control arm to wheel carrier	6 ea.
99931160201	Fit bolt, M10 x 1.5 x 65 – Upper transverse control arm to wheel carrier	2 ea.
99931150401	Fit bolt, M12 x 1.5 x 77 – Lower longitudinal control arm to wheel carrier – Lower transverse control arm to wheel carrier	4 ea.
99931150301	Fit bolt, M12 x 1.5 – Upper longitudinal control arm to upper transverse control arm	2 ea.

- **Set of fastening parts for rear axle** with **Racetrack package (I-no. 808)**, Part No. 00004330675

Part No.	Designation – Use	Qty.
99907357201	Lens-head screw, M6 x 8 – Brake disc to wheel hub	4 ea.
99908465601	Hexagon nut, M10 – Upper transverse control arm to wheel carrier – Upper transverse control arm to monocoque – Brake calliper to wheel carrier – Toe eccentric adjuster on rear axle	18 ea.
99908465501	Hexagon nut, M12 – Upper longitudinal control arm to upper transverse control arm – Lower longitudinal control arm to wheel carrier – Lower transverse control arm to wheel carrier	6 ea.
99931160202	Fit bolt, titanium, M10 x 1.5 x 65 – Upper transverse control arm to wheel carrier	2 ea.
99931150402	Fit bolt, titanium, M12 x 1.5 x 77 – Lower longitudinal control arm to wheel carrier – Lower transverse control arm to wheel carrier	4 ea.
99931150302	Fit bolt, titanium, M12 x 1.5 – Upper longitudinal control arm to upper transverse control arm	2 ea.

Required tools

Tools:

- **9002/1 - Lifting platform holders**
- **9453 - Access ramps** or equivalent race ramps
- **9003 - Socket wrench** for central wheel lock
- **9004/1 - Socket wrench** for central wheel lock cover
- **VAS 6933 - Disassembly tool** or equivalent trim pad removal tool
- Torque wrench, 150 – 800 Nm (111 – 592 ftlb.), e.g. **V.A.G. 1601 - Torque wrench 150-800 Nm (111-592 ftlb.)** or use equivalent torque wrench in 3/4" drive (Ie. Snap-On QDR5RN800)
- Torque wrench, 6 – 50 Nm (4.5 – 37 ftlb.), e.g. **V.A.G 1331 - Torque wrench, 6-50 Nm (4.5-37 ftlb.)**
- Torque wrench, 20 – 100 Nm (15 – 74 ftlb.), e.g. **VAS 5820 - Torque wrench, 20-100 Nm (15-74 ftlb.)** (same as Stahlwille 730/10)
- **9768 - Electronic torque wrench, 2 - 100 Nm (1.5 - 74 ftlb.)**
- **VAS 6828 - Central Locking with Precision Aluminium Spoiler Adapter**
- **VAS 6826 - Steering wheel balance**
- **9647 - Hook wrench**
- Suitable engine jack, e.g. **VAS 6931 - Engine and gearbox jack**
- **9900 - PIWIS Tester 3** for sensor calibration following suspension alignment

- Suitable battery charger, e.g. **VAS 5908 - Battery charger 90A** (charging current limit of max. 60 A required)

Preparatory work

Work Procedure:

Please reference > Workshop Manual 9X00IN Battery Trickle Charging when beginning work procedure

1 Measure the vehicle height as well as the camber and toe adjustment values of the front and rear axle and take note of the measured values ⇒ *Workshop Manual '449503 Suspension alignment, complete'*.
To do this, raise the vehicle on a wheel alignment platform.

Information

Due to the large number of threaded joints on the chassis to be loosened as part of this campaign, the **wheel alignment on the front and rear axle** must be **checked after replacing the longitudinal and transverse control arms**.
Given the low setpoint value tolerances of the wheel alignment values and the different wheel alignment systems used in the dealer organisation, the wheel alignment values must therefore be determined first **before carrying out the campaign**.
After replacing the longitudinal and transverse arms, the wheel alignment positions must be compared with the **wheel alignment values determined beforehand** and may have to be reset to these values. This ensures optimal adjustment of the wheel alignment positions after replacing the longitudinal and transverse control arms.

If individual wheel alignment values are **not within the prescribed adjustment tolerance** as a result of bumping into kerbs, for example, the relevant wheel alignment positions must be set to the **wheel alignment values specified in the Workshop Manual** after **replacing** the longitudinal and transverse control arms ⇒ *Workshop Manual '4X00IN Adjustment values for suspension alignment'*.
A visual check for damage must also be performed on all relevant chassis components in this case.

2 Raise the vehicle on a lifting platform ⇒ *Workshop Manual '4X00IN Lifting the vehicle'*.

2.1 Position the vehicle between the arms of the lifting platform and push it onto the **9453 - access ramps**.

2.2 Remove underbody covers and fit mounting plates **9002/1 - Lifting platform holders**, ⇒ *Workshop Manual '518119 Removing and installing jacking points'*.

2.3 Jack and raise the vehicle at the mounting plates.

3 Remove all wheels ⇒ *Workshop Manual '440519 Removing and installing wheel'*.

Replacing upper transverse control arm on front axle

Work Procedure: 1 Remove front PCCB brake disc.

Information

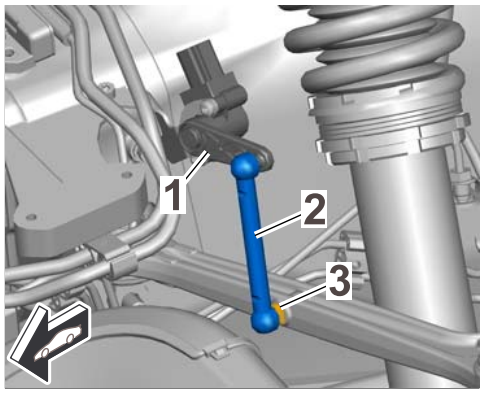
- **Do not open the brake hydraulic system (brake line remains connected).**

1.1 Remove front brake caliper ⇒ *Workshop Manual '473919 Removing and installing front brake calliper'*.
Suspend the brake caliper on the vehicle using a tie-wrap, for example.

1.2 Remove front PCCB brake disc ⇒ *Workshop Manual '465119 Removing and installing front PCCB brake disc'*.

2 Carefully press off connecting link ⇒ *Loosening connecting link for level sensor* **-2-** for the level sensor ⇒ *Loosening connecting link for level sensor* **-1-** using **VAS 6933 - disassembly tool** and remove it from the ball joint ⇒ *Loosening connecting link for level sensor* **-3-** on the transverse control arm.

3 **Replace upper transverse control arm** on the front axle.



Loosening connecting link for level sensor

NOTICE

Damage to the drive shaft

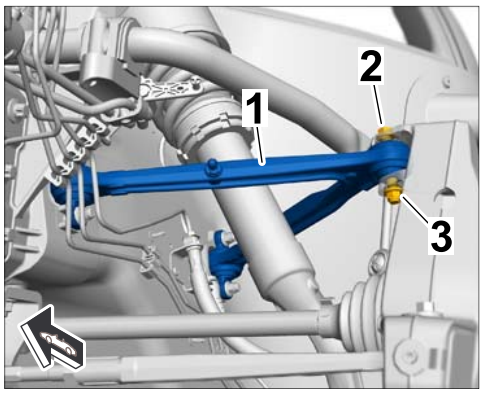
- **Bellows can be overstrained or crack**
- **Damage to the tripod joint**

⇒ **Support loosened wheel carrier using a suitable engine jack.**

⇒ **Carefully pull the wheel carrier outwards in order to remove the suspension arms.**

⇒ **Do NOT attempt to remove drive shafts!**

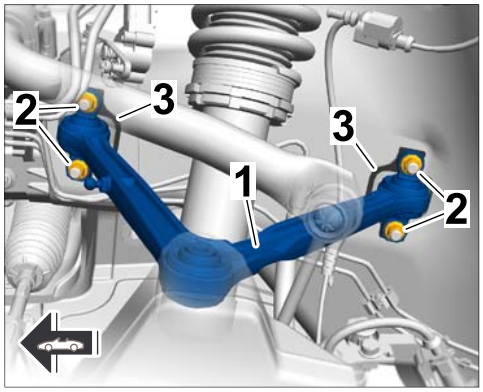
3.1 Loosen and unscrew fastening nut ⇒*Upper transverse control arm on wheel carrier* **-3-** for the transverse control arm ⇒*Upper transverse control arm on wheel carrier* **-1-** at the wheel carrier.
Then pull out and remove the fit bolt ⇒*Upper transverse control arm on wheel carrier* **-2-** for the transverse control arm.



Upper transverse control arm on wheel carrier

3.2 Loosen and unscrew fastening nuts ⇒*Upper transverse control arm at monocoque* **-2-** for the transverse control arm ⇒*Upper transverse control arm at monocoque* **-1-** at the monocoque.

3.3 Pull transverse control arm ⇒*Upper transverse control arm at monocoque* **-1-** at the top off the monocoque. Make sure to leave the adjusting shims ⇒*Upper transverse control arm at monocoque* **-3-** on the monocoque and do not interchange them.
Then guide out the transverse control arm at the wheel carrier and remove it by pulling it forward.

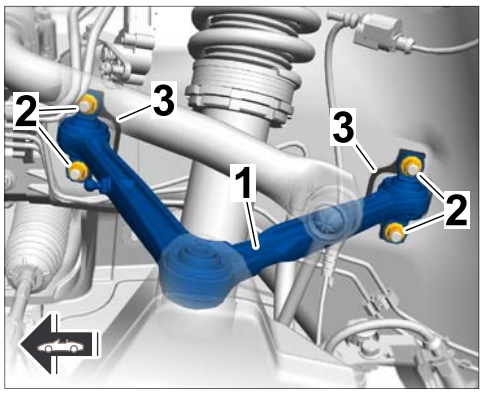


Upper transverse control arm at monocoque

Information

Check adjusting shims and spacers.
A stainless-steel shim must always be fitted at the carbon-fibre reinforced structure of the monocoque.

3.4 Guide in the new transverse control arm ⇒ *Upper transverse control arm at monocoque* **-1-** at the top and fit it at the fastening points on the monocoque.
The **old adjusting shims** ⇒ *Upper transverse control arm at monocoque* **-3-** for camber adjustment must be **retained initially** and secure the transverse control arm **provisionally** using the **previously removed fastening nuts** ⇒ *Upper transverse control arm at monocoque* **-2-**.



Upper transverse control arm at monocoque

Part No.	Designation	Qty.
00004330668	Transverse control arm on front axle, upper	1 ea.

Information

The camber on the front axle is adjusted by adding, removing or replacing adjusting shims at both fastening points for the upper transverse control arm at the monocoque.
Since the **fastening nuts** at these fastening points must only be **used once**, secure the new transverse control arm using the previously removed fastening nuts initially until suspension alignment is complete.

Once suspension alignment has been performed and the wheel alignment values have been adjusted, **new fastening nuts** must be fitted at **all fastening points** for the transverse control arms at the monocoque and they must be tightened to the prescribed tightening torque.

NOTICE

Dirty fit bolts and fitting bores

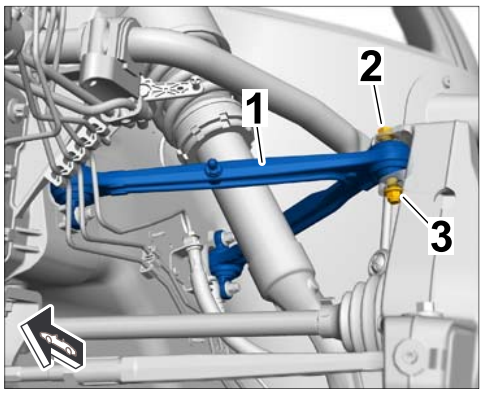
- **Damage to the shaft of the fit bolt**
- **Damage to the fitting bore**

⇒ **Clean the fit bolt and bore before fitting.**

⇒ **Push fit bolt through the fitting bore as a test before installation.**

⇒ **If the fit bolt is difficult to install, replace the fit bolt.**

3.5 Position upper transverse control arm ⇒ *Upper transverse control arm on wheel carrier* **-1-** on the wheel carrier and secure with a new fit bolt ⇒ *Upper transverse control arm on wheel carrier* **-2-** and new fastening nut ⇒ *Upper transverse control arm on wheel carrier* **-3-**.
Tightening torque 42 Nm (31 ftlb.)



Upper transverse control arm on wheel carrier

– Vehicles **without** Racetrack package (l-no. 808):

Part No.	Designation	Qty.
99931160201	Fit bolt, M10 x 1.5 x 65 – from set of fastening parts, Part No. 00004330672	1 ea.
99908465601	Hexagon nut, M10 – from set of fastening parts, Part No. 00004330672	1 ea.

– Vehicles with **Racetrack package (l-no. 808)**:

Part No.	Designation	Qty.
99931160202	Fit bolt, titanium, M10 x 1.5 x 65 – from set of fastening parts, Part No. 00004330673	1 ea.
99908465601	Hexagon nut, M10 – from set of fastening parts, Part No. 00004330673	1 ea.

NOTICE

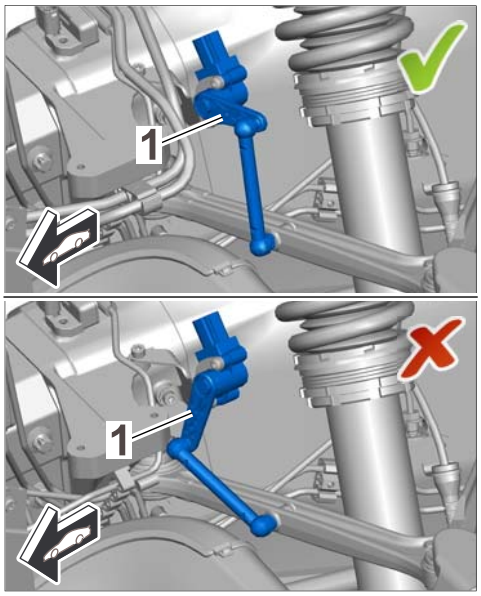
Incorrect positioning of the horizontal banner arm (lever arm) for level sensor

- **Damage to the level sensor**
- **Damage to the connecting link for the level sensor**

⇒ **Make sure that the ride height sensors and linkage is pointing outwards towards the wheel.**

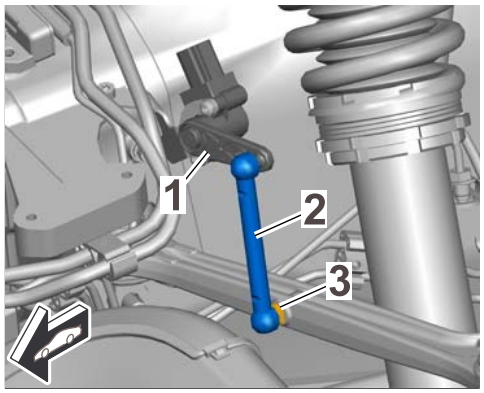
⇒ **Do not bend the horizontal banner arm (lever arm) and connecting link or press them aside.**

4 Secure connecting link for level sensor to the transverse control arm.
To do this, position the horizontal banner arm (lever arm) ⇒*Installation position of the level sensor* **-1-** of the level sensor in such a way that the horizontal banner arm is facing **outwards towards the front wheel** (⇒*Installation position of the level sensor* **-top-**).



Installation position of the level sensor

Then, carefully press connecting link ⇒*Securing connecting link for level sensor* **-2-** for the level sensor ⇒*Securing connecting link for level sensor* **-1-** onto the ball joint ⇒*Securing connecting link for level sensor* **-3-** until the connecting link engages securely.



Securing connecting link for level sensor

5 Fit front PCCB brake disc.

5.1 Install front PCCB brake disc ⇒*Workshop Manual '465119 Removing and installing front PCCB brake disc'*.

Part No.	Designation	Qty.
99907357201	Lens-head screw, M6 x 8 – from set of fastening parts, Part No. 00004330672 or 00004330673	2 ea.

5.2 Install front brake caliper ⇒*Workshop Manual '473919 Removing and installing front brake calliper'*.

Part No.	Designation	Qty.
99908465601	Hexagon nut, M10 – from set of fastening parts, Part No. 00004330672 or 00004330673	2 ea.

6 Replace upper transverse control arm on the front axle on the **other side of the vehicle**.
To do this, repeat steps 1 – 5 on the other side of the vehicle.

Replacing longitudinal and transverse control arms on rear axle

Work Procedure: 1 Remove rear PCCB brake disc.

Information

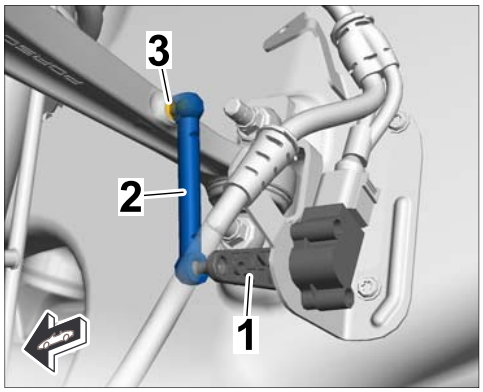
- **Do not open the brake hydraulic system (brake line remains connected).**

1.1 Remove rear brake caliper ⇒ *Workshop Manual '474119 Removing and installing rear brake calliper'*.
Suspend the brake caliper on the vehicle using a tie-wrap, for example.

1.2 Remove rear PCCB brake disc ⇒ *Workshop Manual '465419 Removing and installing rear PCCB brake disc'*.

2 Carefully press off connecting link ⇒ *Loosening connecting link for level sensor* **-2-** for the level sensor ⇒ *Loosening connecting link for level sensor* **-1-** using **VAS 6933 - disassembly tool** and remove it from the ball joint ⇒ *Loosening connecting link for level sensor* **-3-** on the upper transverse control arm.

3 **Replace upper transverse control arm** on the rear axle.



Loosening connecting link for level sensor

NOTICE

Damage to the drive shaft

- **Bellows can be overstrained or crack**
- **Damage to the tripod joint**

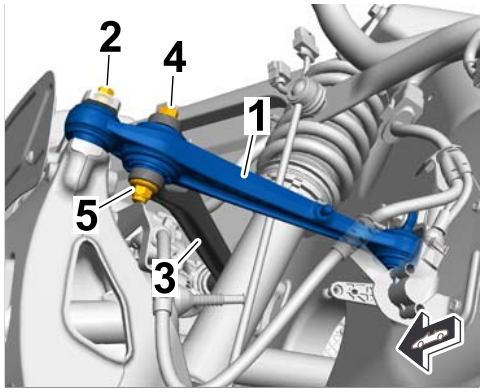
⇒ **Support loosened wheel carrier using a suitable engine jack.**

⇒ **Carefully pull the wheel carrier outwards in order to remove the suspension arms.**

⇒ **Do NOT attempt to remove drive shafts!**

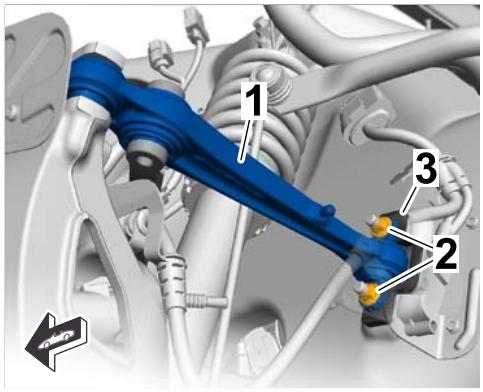
3.1 Loosen and unscrew fit bolt ⇒*Upper transverse control arm on wheel carrier* **-2-** for the **upper transverse control arm** ⇒*Upper transverse control arm on wheel carrier* **-1-** at the wheel carrier.

3.2 **Loosen upper longitudinal control arm** ⇒*Upper transverse control arm on wheel carrier* **-3-** at the transverse control arm.
To do this, unscrew the fastening nut ⇒*Upper transverse control arm on wheel carrier* **-5-** and remove it together with the fit bolt ⇒*Upper transverse control arm on wheel carrier* **-4-**.



Upper transverse control arm on wheel carrier

3.3 Loosen and unscrew fastening nuts ⇒*Upper transverse control arm at monocoque* **-2-** for the **upper transverse control arm** ⇒*Upper transverse control arm at monocoque* **-1-** at the monocoque.
Then pull off the transverse control arm at the monocoque and guide it out to the rear.
Make sure to leave the spacers ⇒*Upper transverse control arm at monocoque* **-3-** at the monocoque.



Upper transverse control arm at monocoque

Information

Check adjusting shims and spacers.
A stainless-steel shim must always be fitted at the carbon-fibre reinforced structure of the monocoque.

3.4 Guide in new **upper transverse control arm** ⇒*Upper transverse control arm at monocoque* **-1-** and fit it onto the fastening points on the monocoque.
Secure transverse control arm with new fastening nuts ⇒*Upper transverse control arm at monocoque* **-2-** at the monocoque using the **three-step tightening procedure**:

- Step 1 – **Initial tightening**: **Tightening torque 50 Nm (37 ftlb.)**
- Step 2 – **Loosening process**: **Torque angle 180°**
- Step 3 – **Final tightening**: **Tightening torque 50 Nm (37 ftlb.)**

Part No.	Designation	Qty.
00004330671	Transverse control arm on rear axle, upper	1 ea.
99908465601	Hexagon nut, M10 – from repair kit, Part No. 00004330674 or 00004330675	2 ea.

NOTICE

Dirty fit bolts and fitting bores

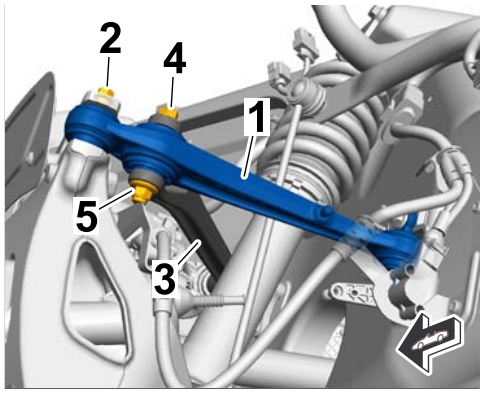
- **Damage to the shaft of the fit bolt**
- **Damage to the fitting bore**

⇒ **Clean the fit bolt and bore before fitting.**

⇒ **Push fit bolt through the fitting bore as a test before installation.**

⇒ **If the fit bolt is difficult to install, replace the fit bolt.**

3.5 **Secure upper longitudinal control arm** ⇒*Upper transverse control arm on wheel carrier* **-3-** to the transverse control arm ⇒*Upper transverse control arm on wheel carrier* **-1-** using a new fit bolt ⇒*Upper transverse control arm on wheel carrier* **-4-** and a new fastening nut ⇒*Upper transverse control arm on wheel carrier* **-5-**.
Tightening torque 80 Nm (59 ftlb.)



Upper transverse control arm on wheel carrier

– Vehicles **without** Racetrack package (I-no. 808):

Part No.	Designation	Qty.
99931150301	Fit bolt, M12 x 1.5 – from repair kit, Part No. 00004330674	1 ea.
99908465501	Hexagon nut, M12 – from repair kit, Part No. 00004330674	1 ea.

– Vehicles with **Racetrack package (I-no. 808)**:

Part No.	Designation	Qty.
99931150302	Fit bolt, titanium, M12 x 1.5 – from repair kit, Part No. 00004330675	1 ea.
99908465501	Hexagon nut, M12 – from repair kit, Part No. 00004330675	1 ea.

3.6 **Position upper transverse control arm** ⇒ *Upper transverse control arm on wheel carrier* **-1-** on the wheel carrier and secure with a new fit bolt ⇒ *Upper transverse control arm on wheel carrier* **-2-**.
Tightening torque 42 Nm (31 ftlb.)

– Vehicles **without** Racetrack package (I-no. 808):

Part No.	Designation	Qty.
99931160201	Fit bolt, M10 x 1.5 x 65 – from repair kit, Part No. 00004330674	1 ea.

– Vehicles with **Racetrack package (I-no. 808)**:

Part No.	Designation	Qty.
99931160202	Fit bolt, titanium, M10 x 1.5 x 65 – from repair kit, Part No. 00004330675	1 ea.

4 **Replace lower longitudinal and transverse control arms** on the rear axle.

NOTICE

Damage to the drive shaft

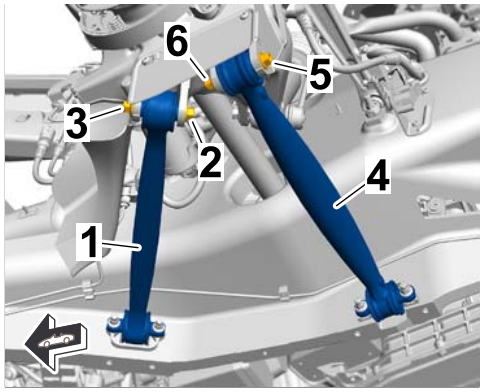
- **Bellows can be overstrained or crack**
- **Damage to the tripod joint**

⇒ **Support loosened wheel carrier using a suitable engine jack.**

⇒ **Carefully pull the wheel carrier outwards in order to remove the suspension arms.**

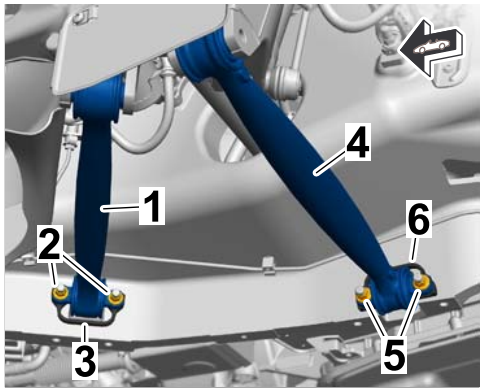
⇒ **Do NOT attempt to remove drive shafts!**

4.1 Loosen and unscrew fastening nuts ⇒*Lower trailing arm on wheel carrier* **-2 and 5-** for the **longitudinal control arm** ⇒*Lower trailing arm on wheel carrier* **-1-** and **transverse control arm** ⇒*Lower trailing arm on wheel carrier* **-4-** at the wheel carrier.
Then pull out and remove the fit bolts ⇒*Lower trailing arm on wheel carrier* **-3 and 6-**.



Lower trailing arm on wheel carrier

4.2 Loosen and unscrew fastening nuts ⇒*Lower trailing arm on monocoque* **-5-** for the **lower transverse control arm** ⇒*Lower trailing arm on monocoque* **-4-** at the monocoque.
Then pull off the transverse control arm at the monocoque and guide it out. Make sure to leave the adjusting shims ⇒*Lower trailing arm on monocoque* **-6-** on the monocoque.



Lower trailing arm on monocoque

4.3 Loosen and unscrew fastening nuts ⇒*Lower trailing arm on monocoque* **-2-** for the **lower longitudinal control arm** ⇒*Lower trailing arm on monocoque* **-1-** at the monocoque.
Then, pull off the longitudinal control arm at the monocoque and guide it out. Make sure to leave the adjusting shims ⇒*Lower trailing arm on monocoque* **-3-** on the monocoque.

Information

Check adjusting shims and spacers.
A stainless-steel shim must always be fitted at the carbon-fibre reinforced structure of the monocoque.

4.4 Guide in new **lower longitudinal control arm** ⇒*Lower trailing arm on monocoque* **-2-** and fit it onto the fastening points on the monocoque.
The **old adjusting shims** ⇒*Lower trailing arm on monocoque* **-3-** for camber adjustment must be **retained initially** and secure the longitudinal control arm **provisionally** using the **previously removed fastening nuts** ⇒*Lower trailing arm on monocoque* **-2-**.

Part No.	Designation	Qty.
00004330669	Longitudinal control arm on rear axle, lower	1 ea.

Information

The camber on the rear axle is adjusted by adding, removing or replacing adjusting shims at the fastening points for the lower longitudinal and transverse control arms at the monocoque.
Since the **fastening nuts** at these fastening points must only be **used once**, secure the new longitudinal and transverse control arms using the previously removed fastening nuts initially until suspension alignment is complete.

Once suspension alignment has been performed and the wheel alignment values have been adjusted, **new fastening nuts** must be fitted at **all fastening points** of the longitudinal and transverse control arms at the monocoque and they must be tightened to the prescribed tightening torque.

NOTICE

Dirty fit bolts and fitting bores

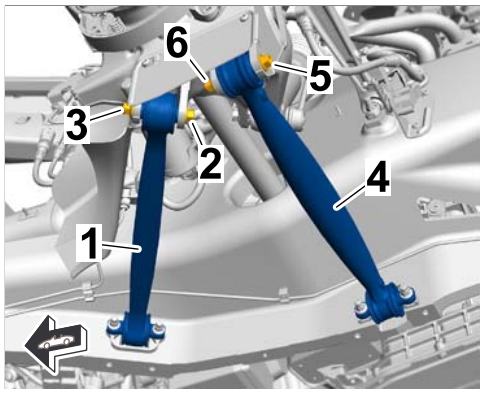
- **Damage to the shaft of the fit bolt**
- **Damage to the fitting bore**

⇒ **Clean the fit bolt and bore before fitting.**

⇒ **Push fit bolt through the fitting bore as a test before installation.**

⇒ **If the fit bolt is difficult to install, replace the fit bolt.**

4.5 **Position lower longitudinal control arm** ⇒*Lower trailing arm on wheel carrier* **-1-** on the wheel carrier. Screw in a new fit bolt ⇒ *Lower trailing arm on wheel carrier* **-3-** and new fastening nut ⇒*Lower trailing arm on wheel carrier* **-2-**, but **do not tighten them initially**.



Lower trailing arm on wheel carrier

– Vehicles **without** Racetrack package (I-no. 808):

Part No.	Designation	Qty.
99931150401	Fit bolt, M12 x 1.5 x 77 – from repair kit, Part No. 00004330674	1 ea.

99908465501	Hexagon nut, M12 – from repair kit, Part No. 00004330674	1 ea.

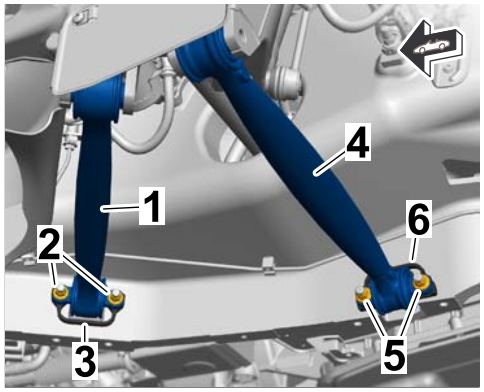
– Vehicles with **Racetrack package (I-no. 808)**:

Part No.	Designation	Qty.
99931150402	Fit bolt, titanium, M12 x 1.5 x 77 – from repair kit, Part No. 00004330675	1 ea.
99908465501	Hexagon nut, M12 – from repair kit, Part No. 00004330675	1 ea.

Information

Check adjusting shims and spacers.
A stainless-steel shim must always be fitted at the carbon-fibre reinforced structure of the monocoque.

4.6 Guide in new **lower transverse control arm** ⇒*Lower trailing arm on monocoque* **-4-** and fit it onto the fastening points on the monocoque.
The **old adjusting shims** ⇒*Lower trailing arm on monocoque* **-6-** for camber adjustment must be **retained initially** and secure the longitudinal control arm **provisionally** using the **previously removed fastening nuts** ⇒*Lower trailing arm on monocoque* **-5-**.



Lower trailing arm on monocoque

Part No.	Designation	Qty.
00004330670	Transverse control arm on rear axle, lower	1 ea.

NOTICE

Dirty fit bolts and fitting bores

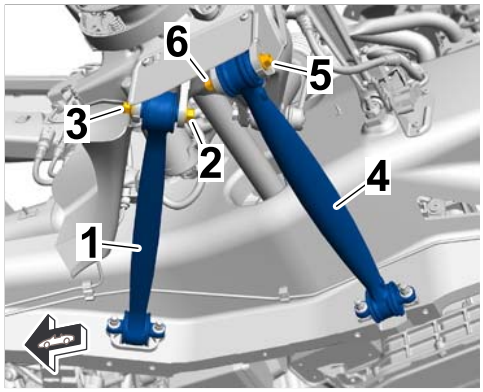
- **Damage to the shaft of the fit bolt**
- **Damage to the fitting bore**

⇒ **Clean the fit bolt and bore before fitting.**

⇒ **Push fit bolt through the fitting bore as a test before installation.**

⇒ **If the fit bolt is difficult to install, replace the fit bolt.**

4.7 **Position lower transverse control arm** ⇒ *Lower trailing arm on wheel carrier* **-4-** on the wheel carrier and secure with a new fit bolt ⇒ *Lower trailing arm on wheel carrier* **-6-** and new fastening nut ⇒ *Lower trailing arm on wheel carrier* **-5-**.
Tightening torque 70 Nm (52 ftlb.)



Lower trailing arm on wheel carrier

– Vehicles **without** Racetrack package (I-no. 808):

Part No.	Designation	Qty.
99931150401	Fit bolt, M12 x 1.5 x 77 – from repair kit, Part No. 00004330674	1 ea.
99908465501	Hexagon nut, M12 – from repair kit, Part No. 00004330674	1 ea.

– Vehicles with **Racetrack package (I-no. 808)**:

Part No.	Designation	Qty.
99931150402	Fit bolt, titanium, M12 x 1.5 x 77 – from repair kit, Part No. 00004330675	1 ea.
99908465501	Hexagon nut, M12 – from repair kit, Part No. 00004330675	1 ea.

4.8 Tighten fit bolt ⇒ *Lower trailing arm on wheel carrier* **-3-** and fastening nut ⇒ *Lower trailing arm on wheel carrier* **-2-** for **lower longitudinal control arm** ⇒ *Lower trailing arm on wheel carrier* **-1-** at the wheel carrier.
Tightening torque 70 Nm (52 ftlb.)

NOTICE

Incorrect positioning of the horizontal banner arm (lever arm) for level sensor

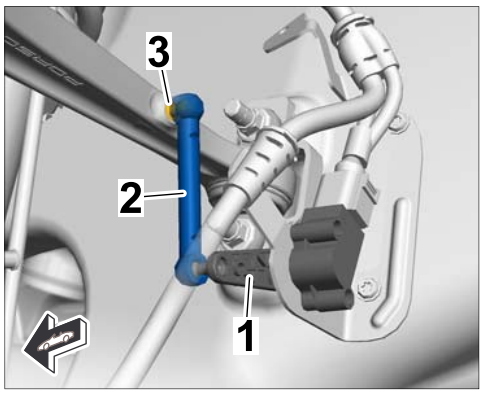
- **Damage to the level sensor**
- **Damage to the connecting link for the level sensor**

⇒ **Make sure that the ride height sensors and linkage is pointing outwards towards the wheel.**

⇒ **Do not bend the horizontal banner arm (lever arm) and connecting link or press them aside.**

5 Secure connecting link for level sensor to the upper transverse control arm.
To do this, position the horizontal banner arm (lever arm) ⇒*Securing connecting link for level sensor* **-1-** of the level sensor in such a way that the horizontal banner arm is facing **outwards towards the rear wheel**.

Then, carefully press the connecting link ⇒*Securing connecting link for level sensor* **-2-** of the level sensor onto the ball joint ⇒*Securing connecting link for level sensor* **-3-** until the connecting link engages securely.



Securing connecting link for level sensor

6 Fit rear PCCB brake disc.

6.1 Install rear PCCB brake disc ⇒*Workshop Manual '465419 Removing and installing rear PCCB brake disc'*.

Part No.	Designation	Qty.
99907357201	Lens-head screw, M6 x 8 – from repair kit, Part No. 00004330674 or 00004330675	2 ea.

6.2 Install rear brake calliper ⇒*Workshop Manual '474119 Removing and installing rear brake calliper'*.

Part No.	Designation	Qty.
99908465601	Hexagon nut, M10 – from repair kit, Part No. 00004330674 or 00004330675	2 ea.

7 Replace longitudinal and transverse control arms on the rear axle on the other side of the vehicle.
To do this, repeat steps 1 – 6 on the other side of the vehicle.

Concluding work

Work Procedure: 1 Fit all wheels ⇒ *Workshop Manual '440519 Removing and installing wheel'*.

2 Lower the vehicle and remove it from the lifting platform ⇒ *Workshop Manual '4X00IN Lifting the vehicle'*.

Information

Due to the large number of threaded joints on the chassis to be loosened as part of this campaign, the **wheel alignment** on the front axle must be checked **after replacing the longitudinal and transverse control arms**.
Given the low setpoint value tolerances of the wheel alignment values and the different wheel alignment systems used in the dealer organization, the wheel alignment positions must therefore be compared with the **wheel alignment values determined beforehand during the initial measurement** and may have to be reset to these values after carrying out the campaign.
This ensures optimal adjustment of the wheel alignment positions after replacing the longitudinal and transverse control arms.

If individual wheel alignment values are **not within the prescribed adjustment tolerance** during the **initial measurement** as a result of bumping into curb, for example, the relevant wheel alignment positions must be set to the **wheel alignment values specified in the Workshop Manual**, ⇒ *Workshop Manual '4X00IN Adjustment values for suspension alignment'*.
A visual check for damage must also be performed on all relevant chassis components in this case.

3 Measure the vehicle height as well as the camber and toe adjustment values of the **front and rear axle** and adjust to the previously determined values if necessary ⇒ *Workshop Manual '449503 Suspension alignment, complete'*.
To do this, raise the vehicle on a wheel alignment platform and perform alignment.
Toe adjustment is performed using the tie rods on the front axle or the relevant toe eccentric adjuster on the rear axle, while camber adjustment is performed at the front and rear axle by adding, removing or replacing adjusting shims.

Information

Check adjusting shims and spacers.
A stainless-steel shim must always be fitted at the carbon-fiber reinforced structure of the monocoque.

The adjusting shims to be replaced have an open fastening bore and can be removed after loosening the fastening nuts. The closed spacers are part of the structure and must not be removed.
It is important to use the **least possible number** of individual adjusting shims during camber adjustment.

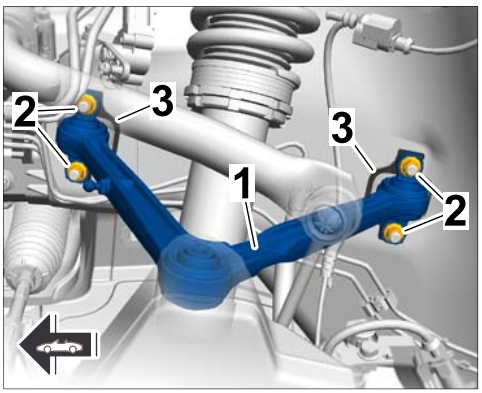
Part No.	Designation – Use	Qty.
99908465601	Hexagon nut, M10 – Toe eccentric adjuster on rear axle – from repair kit, Part No. 00004330674 or 00004330675	2 ea. (only if required)
91834154300	Adjusting shim, 0.5 mm – Front axle	As required
91834154301	Adjusting shim, 1.0 mm – Front axle	As required
91834154302	Adjusting shim, 2.0 mm – Front axle	As required
91834154303	Adjusting shim, 4.0 mm – Front axle	As required
91833154324	Adjusting shim, 0.5 mm – Rear axle	As required
91833154325	Adjusting shim, 1.0 mm – Rear axle	As required
91833154326	Adjusting shim, 2.0 mm – Rear axle	As required
91833154327	Adjusting shim, 4.0 mm – Rear axle	As required

4 Replace fastening nuts for the longitudinal and transverse control arms on front and rear axle.

4.1 Raise the vehicle on the alignment platform using a pit jack at the front axle.
Alternatively, the vehicle can also be raised again using a lifting platform ⇒*Workshop Manual '4X00IN Lifting the vehicle'*.

4.2 Unscrew previously re-used fastening nuts ⇒*Upper transverse control arm on front axle to monocoque* **-2-** on the **upper transverse control arms at the left and right** ⇒*Upper transverse control arm on front axle to monocoque* **-1-** of the **front axle** at the monocoque **one after the other** and screw on new fastening nuts.
Tighten fastening nuts using the **three-step tightening procedure**:

- Step 1 – **Initial tightening**: **Tightening torque 50 Nm (37 ftlb.)**
- Step 2 – **Loosening process**: **Torque angle 180°**
- Step 3 – **Final tightening**: **Tightening torque 50 Nm (37 ftlb.)**



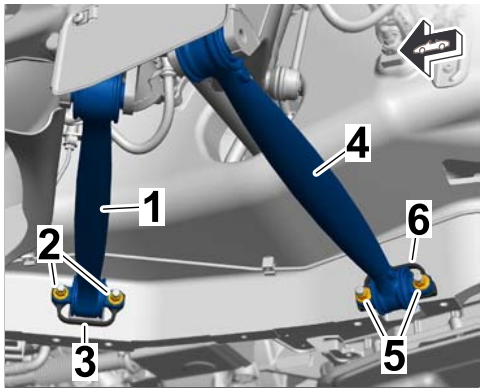
Upper transverse control arm on front axle to monocoque

Part No.	Designation	Qty.
99908465601	Hexagon nut, M10 – from repair kit, Part No. 00004330672 or 00004330673	8 ea.

4.3 If the vehicle was raised on both sides of the axle, lower the front axle and raise the rear axle.

4.4 Unscrew previously re-used fastening nuts ⇒*Lower trailing arm on rear axle to monocoque* **-2 and 5-** for the **lower longitudinal control arms at the left and right** ⇒*Lower trailing arm on rear axle to monocoque* **-1-** and **lower transverse control arms at the left and right** ⇒*Lower trailing arm on rear axle to monocoque* **-4-** at the monocoque **one after the other** and screw on new fastening nuts.
Tighten fastening nuts using the **three-step tightening procedure**:

- Step 1 – **Initial tightening**: **Tightening torque 50 Nm (37 ftlb.)**
- Step 2 – **Loosening process**: **Torque angle 180°**
- Step 3 – **Final tightening**: **Tightening torque 50 Nm (37 ftlb.)**



Lower trailing arm on rear axle to monocoque

Part No.	Designation	Qty.
99908465601	Hexagon nut, M10 – from repair kit, Part No. 00004330674 or 00004330675	8 ea.

4.5 Lower the vehicle and remove it from the alignment or lifting platform.

5 Remove mounting plates **9002 - Lifting platform holders** and install the covers on the underbody ⇒*Workshop Manual '518119 Removing and installing jacking points'*.

6 Ensure High Voltage Battery is fully charged prior to delivery back to customer.

7 Enter the campaign in the Warranty and Maintenance booklet.

References:
⇒*Workshop Manual '4X00IN Lifting the vehicle'*
⇒*Workshop Manual '4X00IN Adjustment values for suspension alignment'*
⇒*Workshop Manual '440519 Removing and installing wheel'*
⇒*Workshop Manual '449503 Suspension alignment, complete'*
⇒*Workshop Manual '465119 Removing and installing front PCCB brake disc'*
⇒*Workshop Manual '465419 Removing and installing rear PCCB brake disc'*
⇒*Workshop Manual '473919 Removing and installing front brake calliper'*
⇒*Workshop Manual '474119 Removing and installing rear brake calliper'*
⇒*Workshop Manual '518119 Removing and installing jacking point'*

For further information, see:
⇒*Workshop Manual '4X00IN Tightening torques for front axle'*
⇒*Workshop Manual '4X00IN Tightening torques for rear axle'*
⇒*Workshop Manual '401519 Removing and installing upper trailing arm'*
⇒*Workshop Manual '421119 Removing and installing lower trailing arm'*
⇒*Workshop Manual '423519 Removing and installing upper trailing arm'*

Warranty processing

Information: **This campaign must be carried out by a Service Level 2 Porsche dealership.**

Service Level 0 or 1 Porsche dealerships are **not** authorized to carry out this campaign.
In accordance with the service concept for the 918 Spyder, the vehicle must be transferred to the nearest Service Level 2 Porsche dealership in order to carry out this campaign.

In this case, Service Level 0 or 1 Porsche dealership can invoice the cost items listed below for vehicle acceptance, transporting the vehicle and accepting the vehicle following return transport using the **new vehicle warranty** for the vehicle in accordance with the specifications in the 918 Spyder After Sales Fact Book 2014:

• Vehicle acceptance	100 TU
• Transporting the vehicle	100 TU
• Acceptance of the vehicle following return transport	50 TU
• Costs for transporting the vehicle to and from the Porsche dealership	Amount as per invoice *

* Please document copy of invoice in PQIS.

Please invoice the costs by specifying **Damage code C902 97 000** and enter the technical reason by specifying **Coding C9020 9735** in PQIS. Also specify **Campaign AJ04** under Comment.

Service Level 2 Porsche dealerships must always submit an invoice for the relevant **campaign scope**.

Information

The working times specified below were determined specifically for carrying out this campaign and may differ from the working times published in the Labor Operation List in PIWIS.

The various scopes include all tasks and parts required for **measuring the vehicle height as well as the camber and toe adjustment values** on front and rear axle **before and after carrying out the campaign** and for **adjusting the wheel alignment positions**.

Scope 1: **Replacing longitudinal and transverse control arms on front axle and rear axle**

- Vehicles **without** Racetrack package

Working time:

Replacing upper transverse control arm on front axle, upper transverse control arm on rear axle, lower transverse control arm on rear axle and lower longitudinal control arm on rear axle — Labor time: **786 TU**

Includes:
- Raising and lowering the vehicle
- Removing and installing all wheels
- Loosening and securing all brake calipers
- Removing and installing all PCCB brake discs
- Measuring vehicle height as well as camber and toe adjustment values on front and rear axle (2x)
- Adjusting wheel alignment positions on front and rear axle

Parts required:

00004330668	Transverse control arm on front axle, upper	2 ea.
00004330669	Longitudinal control arm on rear axle, lower	2 ea.

00004330670	Transverse control arm on rear axle, lower	2 ea.
00004330671	Transverse control arm on rear axle, upper	2 ea.
00004330672	Set of fastening parts for front axle	1 ea.
00004330674	Set of fastening parts for rear axle	1 ea.
91834154300	Adjusting shim, 0.5 mm, front axle	As many as required (up to 4 ea.)
91834154301	Adjusting shim, 1.0 mm, front axle	As many as required (up to 4 ea.)
91834154302	Adjusting shim, 2.0 mm, front axle	As many as required (up to 4 ea.)
91834154303	Adjusting shim, 4.0 mm, front axle	As many as required (up to 4 ea.)
91833154324	Adjusting shim, 0.5 mm, rear axle	As many as required (up to 4 ea.)
91833154325	Adjusting shim, 1.0 mm, rear axle	As many as required (up to 4 ea.)
91833154326	Adjusting shim, 2.0 mm, rear axle	As many as required (up to 4 ea.)
91833154327	Adjusting shim, 4.0 mm, rear axle	As many as required (up to 4 ea.)

Additional materials required:

00004330035	McLube Sailkote High Performance Dry Lube, 428g spray can	0.1
00004330508	Optimoly TA grease, 100g tube	0.1

⇒ **Damage Code AJ04 099 000 2**

Scope 2: **Replacing longitudinal and transverse control arms on front axle and rear axle**

- Vehicles with **Racetrack package (I-no. 808)**

Working time:

Replacing upper transverse control arm on front axle, upper transverse control arm on rear axle, lower transverse control arm on rear axle and lower longitudinal control arm on rear axle — Labor time: **786 TU**

Includes:
- Raising and lowering the vehicle
- Removing and installing all wheels
- Loosening and securing all brake calipers
- Removing and installing all PCCB brake discs
- Measuring vehicle height as well as camber and toe adjustment values on front and rear axle (2x)
- Adjusting wheel alignment positions on front and rear axle

Parts required:

00004330668	Transverse control arm on front axle, upper	2 ea.
00004330669	Longitudinal control arm on rear axle, lower	2 ea.
00004330670	Transverse control arm on rear axle, lower	2 ea.
00004330671	Transverse control arm on rear axle, upper	2 ea.
00004330673	Set of fastening parts for front axle – Racetrack package	1 ea.
00004330675	Set of fastening parts for rear axle – Racetrack package	1 ea.
91834154300	Adjusting shim, 0.5 mm, front axle	As many as required (up to 4 ea.)
91834154301	Adjusting shim, 1.0 mm, front axle	As many as required (up to 4 ea.)
91834154302	Adjusting shim, 2.0 mm, front axle	As many as required (up to 4 ea.)
91834154303	Adjusting shim, 4.0 mm, front axle	As many as required (up to 4 ea.)
91833154324	Adjusting shim, 0.5 mm, rear axle	As many as required (up to 4 ea.)
91833154325	Adjusting shim, 1.0 mm, rear axle	As many as required (up to 4 ea.)
91833154326	Adjusting shim, 2.0 mm, rear axle	As many as required (up to 4 ea.)
91833154327	Adjusting shim, 4.0 mm, rear axle	As many as required (up to 4 ea.)

Additional materials required:

00004330035	McLube Sailkote High Performance Dry Lube, 428g spray can	0.1
00004330508	Optimoly TA grease, 100g tube	0.1

⇒ **Damage Code AJ04 099 000 2**