

WPH8 - Replacing Power-Steering Gear (Workshop 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 between 13.5 volts and 14.5 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 2022 up to 2023**

Model Line: **Taycan (Y1A / Y1B / Y1C)**

Concerns: **Power steering gear**

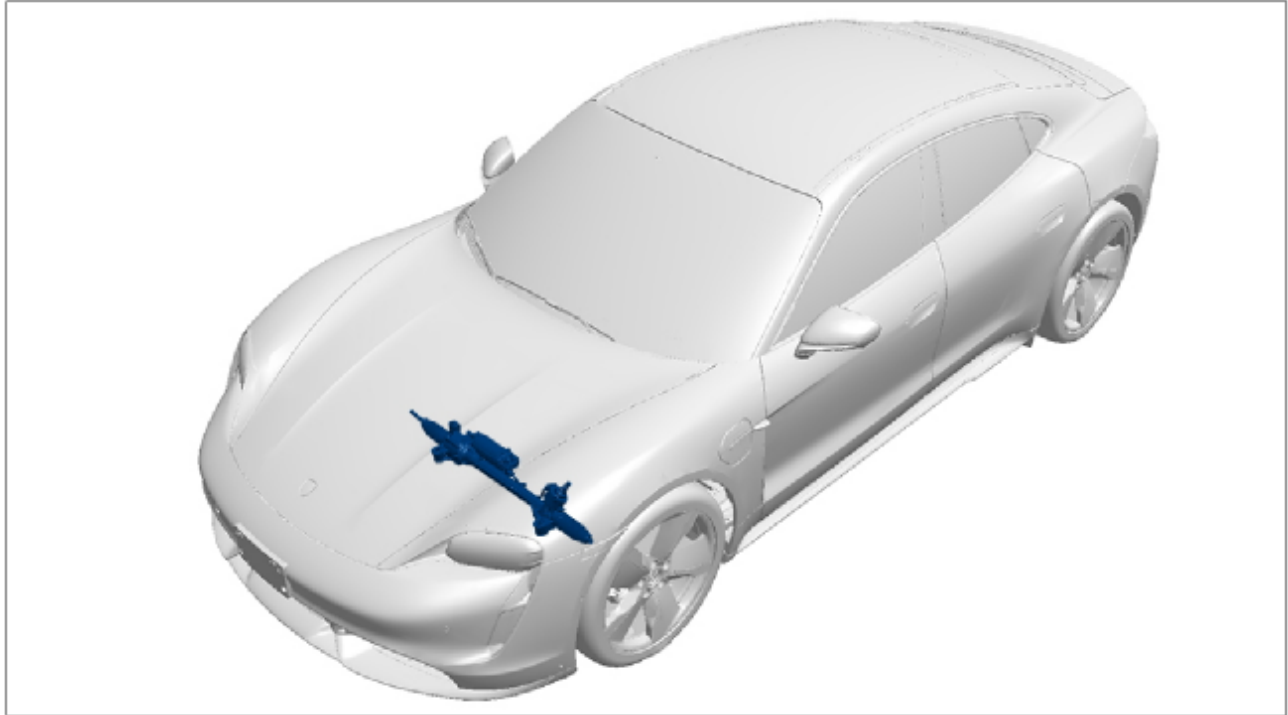
Cause: **There is a possibility that a power steering gear installed on the affected vehicles does not meet the required specifications.**

This can lead to noise and a change in the feel during steering.

Action: Replace power steering gear.

Affected Vehicles: Only vehicles assigned to the campaign (see also PCSS Vehicle Information).

Installation
Position:



Installation position for power steering gear

Required parts and materials

Part No.	Designation – Location	Number
Vehicles without rear axle steering (M no. 0N1)		
PAD423051B	⇒ Power-steering gear with tie rods	1 piece
or		
Vehicles with rear axle steering incl. Power steering Plus (M no. 0N5):		
PAD423051C	⇒ Power-steering gear with tie rods	1 piece
Additionally required parts:		
9A700499500	⇒ Hexagon collar nut, M12 x 1.5 – Tie-rod ball	2 pieces

WHT004955A	⇒ Hex socket head screw – Universal joint on power steering gear	1 piece
N 91243301	⇒ Hexagon-head bolt with hexagon socket head (Duo) M12 x 1.5 x 90 – Mounting anti-roll bar to body	6 pieces
N 91006202	⇒ Hexagonal bolt (combination) M10 x 35 Anti-roll bar on anti-roll bar mounting	4 pieces
N 0150818	⇒ Hexagon collar nut, M12 x 1.5 – Connecting link to anti-roll bar	2 pieces
N 10793603	⇒ Hexagon-head screw M12 x 1.5 x 60 – Connecting link to anti-roll bar	2 pieces
N 10628301	⇒ Hexagon-head bolt, M12 x 90 – Power steering gear on front axle carrier	2 pieces
PAF909664	⇒ Hexagon collar nut, self-locking M12 x 1.5 – Power steering gear on front axle carrier	2 pieces
N 10782201	⇒ Hexagonal bolt M8 x 95 - Power steering gear on anti-roll bar mounting	1 piece
N 10435506	⇒ Hexagon collar nut, self-locking M8 - Power steering gear on anti-roll bar mounting	1 piece
N 10664503	⇒ Hexagon-head bolt – Mounting anti-roll bar on mounting saddle	4 pieces
9A700837900	⇒ Tie-wrap – Cover on lower trailing arm	2 pieces

Material: **Required materials** (usually already available in the Porsche Center):

Part No.	Designation – Location	Quantity
00004330508	⇒ Optimoly TA (aluminium paste) – Wheel centring surfaces on the wheel hub	0.02 pieces

Required tools

- Tools:
- Threaded bolts for installing wheel
 - Assembly wedge

- Plastic-coated assembly lever
- Torque wrench, 2–10 Nm (1.5–7.5 ftlb.), e.g. **V.A.G 1783 - torque wrench, 2–10 Nm (1.5–7.5 ftlb.)**
- Torque wrench, 6–50 Nm (4.5–37 ftlb.), e.g. **V.A.G 1331A - torque wrench, 6–50 Nm (4.5–37 ftlb.)**
- Torque wrench 40–200 Nm (30–148 ftlb.), e.g. **V.A.G 1332A - Torque wrench 40–200 Nm (30–148 ftlb.)**
- Battery charger with a current rating of **at least 90 A**, e.g. **VAS 5908 - battery charger 90 A**
- **P90999 - PIWIS Tester 4**
- **P90009 - Puller**
- **VAS 6883A - Insulated tool set**
- **VAS 6931 - Transmission and gearbox jack**
- **VAS 6918 - Quick-clamping unit**
- **VAS 6826 - Steering wheel balance**
- **VAS 6430/4 - Lane Keep Assist calibration board**
- **VAS 6350A - Calibration unit**
- **9768 - Electronic torque wrench, 2–100 Nm (1.5–74 ftlb.)**
- **VAS 6942 - Torque–torque angle–key, 20–400 Nm (14–295 ftlb.)**
- **T40010A - Ball-joint extractor**
- **T90009 - Insert tool**
- **VAS 261 019 - Ratchet ring wrench socket, a/f 19**
- **VAS 6959 - Torx screwdriver insert T30**

Additionally required tools for vehicles with Night View Assist (M no. 9R1)

- **VAS 6430/1A - Adjustment device with reflector**
- **VAS 6430/3 - Mirror for adjustment device**
- **VAS 6430/6 - Night View Assist calibration unit**

Additionally required tools for vehicles with adaptive cruise control ACC (M no. 3V2 or 3V9)

- **VAS 6430/1A - Adjustment device with reflector**
- **VAS 6430/3 - Mirror for adjustment device**

Additionally required tools for vehicles with ParkAssist incl. Surround View (M no. KA6)

- **VAS 721 001 - Calibration System**

Additionally required tools for vehicles with City Assist / Intersection Assist (M no. JX1)

- **VAS 6350/2A - Spacing laser**
- **VAS 6350/4 - Calibration unit for Lane Change Assist**
- **VAS 6350A - Calibration unit**

Additionally required tools for vehicles with LED headlights (M no. 8IS)

- **VAS 5208A - Headlight aiming device**

or

- VAS 5209B - Headlight aiming device

Additionally required tools for vehicles with LED matrix headlights (M no. 8IU and 8JU)

- VAS 5208A - Headlight aiming device

or

- VAS 621 001 - Headlight aiming device

Replacing power steering gear

- Work Procedure: 1 Remove power steering gear and install **new** power steering gear. ⇒ *Workshop Manual '489019 Removing and installing power steering gear'*
- 2 Code **new** power steering gear using **P90999 - PIWIS Tester 4**. ⇒ *Workshop Manual '489055 Replacing power steering gear'*
- 3 Teach **new** power steering gear. ⇒ *Workshop Manual '489025 Teach power steering gear'*
- 4 Adjust headlights. ⇒ *Workshop Manual '941516 Adjusting headlights'*
- 5 **If available:** Calibrate front corner radar. ⇒ *Workshop Manual '916625 Calibrating front corner radar'*
- 6 **If available:** Calibrating Surround View camera. ⇒ *Workshop Manual '917225 Calibrating Surround View camera'*
- 7 Enter the campaign in the Warranty and Maintenance logbook.

Warranty processing



Information

The specified labor times were determined specifically for carrying out this campaign and include all necessary preliminary and subsequent rework. The labor times may differ from the Labor times published in the Labor Operation List in PCSS.

Scope 1 and Scope 2: Not relevant for this vehicle type.

Scope 3: **Replacing power steering gear**

Relevant for **Taycan (Y1B)** with the following equipment:

- LED matrix headlights (PDLs Plus) **(M no. 8IU and 8JU)**
- Adaptive cruise control ACC **(M no. 3V2 or 3V9)**
- City Assist / Intersection Assist **(M no. JX1)**

Labor time:

Includes:	Removing and installing power steering gear Removing and installing mounting anti-roll bar Performing suspension alignment of the vehicle Connecting and disconnecting battery charger Connecting and disconnecting PIWIS Tester Coding and teaching power steering gear Adjusting headlights Adjusting distance measuring sensor control unit Calibrating front corner radar Reading out and erasing fault memories	Labor time: 769 TU
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Required parts:**Vehicles without rear axle steering (M no. 0N1)**

PAD423051B	Power-steering gear with tie rods	1 piece
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or**Vehicles with rear axle steering (M no. 0N5)**

PAD423051C	Power-steering gear with tie rods	1 piece
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Additionally required parts:

9A700499500	Hexagon collar nut, M12 x 1.5	2 pieces
WHT004955A	Hex socket head screw	1 piece
N 91243301	Hexagon-head bolt with hexagon socket head (Duo) M12 x 1.5 x 90	6 pieces
N 91006202	Hexagonal bolt (combination), M10 x 35	4 pieces
N 0150818	Hexagon collar nut, M12 x 1.5	2 pieces
N 10793603	Hexagon-head bolt, M12 x 1.5 x 60	2 pieces
N 10628301	Hexagon-head bolt, M12 x 90	2 pieces
PAF909664	Hexagon collar nut, self-locking, M12 x 1.5	2 pieces
N 10782201	Hexagonal bolt M8 x 95	1 piece
N 10435506	Hexagon collar nut, self-locking M8	1 piece
N 10664503	Hexagon-head bolt	4 pieces
9A700837900	Tie-wrap	2 pieces

Required materials (usually already available in the Porsche Center):

00004330508	Optimoly TA (aluminium paste)	0.02 pieces
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⇒ **Damage number WPH8 0000 2**

Scope 4: **Replacing power steering gear**

Relevant for **Taycan (Y1A)** with the following equipment:

- LED headlights (PDLS Plus) **(M no. 8IS)**
- Adaptive cruise control ACC **(M no. 3V2 or 3V9)**
- Night View Assist **(M no. 9R1)**
- City Assist / Intersection Assist **(M no. JX1)**
- Park Assist assistance systems incl. Surround View **(M no. KA6)**

Labor time:

Includes:	Removing and installing power steering gear Removing and installing mounting anti-roll bar Performing suspension alignment of the vehicle Connecting and disconnecting battery charger Connecting and disconnecting PIWIS Tester Coding and teaching power steering gear Adjusting headlights Adjusting distance measuring sensor control unit Calibrating camera for night vision system Calibrating front corner radar Calibrating Surround View camera Reading out and erasing fault memories	Labor time: 903 TU
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Required parts:

Vehicles without rear axle steering (M no. 0N1)

PAD423051B	Power-steering gear with tie rods	1 piece
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or

Vehicles with rear axle steering (M no. 0N5)

PAD423051C	Power-steering gear with tie rods	1 piece
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Additionally required parts:

9A700499500	Hexagon collar nut, M12 x 1.5	2 pieces
WHT004955A	Hex socket head screw	1 piece
N 91243301	Hexagon-head bolt with hexagon socket head (Duo) M12 x 1.5 x 90	6 pieces
N 91006202	Hexagonal bolt (combination), M10 x 35	4 pieces
N 0150818	Hexagon collar nut, M12 x 1.5	2 pieces

N 10793603	Hexagon-head bolt, M12 x 1.5 x 60	2 pieces
N 10628301	Hexagon-head bolt, M12 x 90	2 pieces
PAF909664	Hexagon collar nut, self-locking, M12 x 1.5	2 pieces
N 10782201	Hexagonal bolt M8 x 95	1 piece
N 10435506	Hexagon collar nut, self-locking M8	1 piece
N 10664503	Hexagon-head bolt	4 pieces
9A700837900	Tie-wrap	2 pieces

Required materials (usually already available in the Porsche Center):

00004330508	Optimoly TA (aluminium paste)	0.02 pieces
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⇒ **Damage number WPH8 0000 2**

Scope 5:

Replacing power steering gear

Valid for **Taycan (Y1A / Y1C)** with the following equipment:

- LED matrix headlights (PDLS Plus) **(M no. 8IU and 8JU)**
- Adaptive cruise control ACC **(M no. 3V2 or 3V9)**

Labor time:

Includes:	Removing and installing power steering gear Removing and installing mounting anti-roll bar Performing suspension alignment of the vehicle Connecting and disconnecting battery charger Connecting and disconnecting PIWIS Tester Coding and teaching power steering gear Adjusting headlights Adjusting distance measuring sensor control unit Reading out and erasing fault memories	Labor time: 718 TU
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Required parts:

Vehicles without rear axle steering (M no. 0N1)

PAD423051B	Power-steering gear with tie rods	1 piece
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or

Vehicles with rear axle steering (M no. 0N5)

PAD423051C	Power-steering gear with tie rods	1 piece
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Additionally required parts:

9A700499500	Hexagon collar nut, M12 x 1.5	2 pieces
WHT004955A	Hex socket head screw	1 piece
N 91243301	Hexagon-head bolt with hexagon socket head (Duo) M12 x 1.5 x 90	6 pieces
N 91006202	Hexagonal bolt (combination), M10 x 35	4 pieces
N 0150818	Hexagon collar nut, M12 x 1.5	2 pieces
N 10793603	Hexagon-head bolt, M12 x 1.5 x 60	2 pieces
N 10628301	Hexagon-head bolt, M12 x 90	2 pieces
PAF909664	Hexagon collar nut, self-locking, M12 x 1.5	2 pieces
N 10782201	Hexagonal bolt M8 x 95	1 piece
N 10435506	Hexagon collar nut, self-locking M8	1 piece
N 10664503	Hexagon-head bolt	4 pieces
9A700837900	Tie-wrap	2 pieces

Required materials (usually already available in the Porsche Center):

00004330508	Optimoly TA (aluminium paste)	0.02 pieces
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⇒ **Damage number WPH8 0000 2**

Scope 6:

Replacing power steering gear

Relevant for **Taycan (Y1A)** with the following equipment:

- LED matrix headlights (PDLs Plus) **(M no. 8IU and 8JU)**
- Adaptive cruise control ACC **(M no. 3V2 or 3V9)**
- City Assist / Intersection Assist **(M no. JX1)**
- Park Assist assistance systems incl. Surround View **(M no. KA6)**
- Porsche Dynamic Chassis Control (PDCC) **(M no. 1P7)**

Labor time:

Includes:	Removing and installing power steering gear Disconnecting 48 V vehicle electrical system Removing and installing mounting anti-roll bar Performing suspension alignment of the vehicle Connecting and disconnecting battery charger Connecting and disconnecting PIWIS Tester Coding and teaching power steering gear Adjusting headlights Adjusting distance measuring sensor control unit Calibrating front corner radar	Labor time: 805 TU
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Calibrating Surround View camera
Reading out and erasing fault memories

Required parts:**Vehicles without rear axle steering (M no. 0N1)**

PAD423051B Power-steering gear with tie rods 1 piece

or

Vehicles with rear axle steering (M no. 0N5)

PAD423051C Power-steering gear with tie rods 1 piece

Additionally required parts:

9A700499500	Hexagon collar nut, M12 x 1.5	2 pieces
WHT004955A	Hex socket head screw	1 piece
N 91243301	Hexagon-head bolt with hexagon socket head (Duo) M12 x 1.5 x 90	6 pieces
N 91006202	Hexagonal bolt (combination), M10 x 35	4 pieces
N 0150818	Hexagon collar nut, M12 x 1.5	2 pieces
N 10793603	Hexagon-head bolt, M12 x 1.5 x 60	2 pieces
N 10628301	Hexagon-head bolt, M12 x 90	2 pieces
PAF909664	Hexagon collar nut, self-locking, M12 x 1.5	2 pieces
N 10782201	Hexagonal bolt M8 x 95	1 piece
N 10435506	Hexagon collar nut, self-locking M8	1 piece
N 10664503	Hexagon-head bolt	4 pieces
9A700837900	Tie-wrap	2 pieces

Required materials (usually already available in the Porsche Center):

00004330508 Optimoly TA (aluminium paste) 0.02 pieces

⇒ Damage number WPH8 0000 2

Scope 7:

Replacing power steering gear

Relevant for **Taycan (Y1A)** with the following equipment:

- LED headlights (PDLS Plus) **(M no. 8IS)**
- Park Assist assistance systems incl. Surround View **(M no. KA6)**

Labor time:

- Includes:
- Removing and installing power steering gear
 - Removing and installing mounting anti-roll bar
 - Performing suspension alignment of the vehicle
 - Connecting and disconnecting battery charger
 - Connecting and disconnecting PIWIS Tester
 - Coding and teaching power steering gear
 - Adjusting headlights
 - Calibrating Surround View camera
 - Reading out and erasing fault memories

Labor time: **707 TU**

Required parts:

Vehicles without rear axle steering (M no. 0N1)

PAD423051B Power-steering gear with tie rods 1 piece

or

Vehicles with rear axle steering (M no. 0N5)

PAD423051C Power-steering gear with tie rods 1 piece

Additionally required parts:

- | | | |
|-------------|--------------------------------------------------------------------|----------|
| 9A700499500 | Hexagon collar nut, M12 x 1.5 | 2 pieces |
| WHT004955A | Hex socket head screw | 1 piece |
| N 91243301 | Hexagon-head bolt with hexagon socket head (Duo)
M12 x 1.5 x 90 | 6 pieces |
| N 91006202 | Hexagonal bolt (combination), M10 x 35 | 4 pieces |
| N 0150818 | Hexagon collar nut, M12 x 1.5 | 2 pieces |
| N 10793603 | Hexagon-head bolt, M12 x 1.5 x 60 | 2 pieces |
| N 10628301 | Hexagon-head bolt, M12 x 90 | 2 pieces |
| PAF909664 | Hexagon collar nut, self-locking, M12 x 1.5 | 2 pieces |
| N 10782201 | Hexagonal bolt M8 x 95 | 1 piece |
| N 10435506 | Hexagon collar nut, self-locking M8 | 1 piece |
| N 10664503 | Hexagon-head bolt | 4 pieces |
| 9A700837900 | Tie-wrap | 2 pieces |

Required materials (usually already available in the Porsche Center):

00004330508 Optimoly TA (aluminium paste) 0.02 pieces

⇒ Damage number WPH8 0000 2

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