

WF99 - Replacing Porsche Doppelkupplung (PDK) (Workshop Campaign)

Vehicle type: **911 GT3 (991)/911 GT3 RS (991)**

Model Year: **2016**

Subject: **Porsche Doppelkupplung (PDK) (PDK transmission)**

Issue: **There is a possibility that a gear synchronization component in the PDK transmission does not comply with the specified dimensions on the affected vehicles.**

This can result in noises after a gear change while driving. Continued use of the vehicle can cause the PDK transmission to switch to the reduced driving program and a corresponding warning will be displayed in the instrument cluster.

Remedial Action: Replace PDK transmission.

Affected Vehicles: Only the vehicles assigned to the campaign (see also PIWIS Vehicle information). This campaign affects 38 vehicles in North America.

Parts Info: **NOTE: PARTS WILL NOT BE AUTOMATICALLY ALLOCATED TO YOUR DEALERSHIP. ALL PARTS MUST BE ORDERED VIA A PTEC/PAV.**

- Specific parts for **911 GT3**:

Part No.	Designation – Use	Qty.
000 043 210 40	⇒ PDK transmission, GT3	1 ea.
9P1 501 375	⇒ Plate, GT3 – Drive shaft to transmission	6 ea.
999 072 859 01	⇒ Hexagon-head bolt, M12 x 1.5 x 58 – Upper cross member to side panel	2 ea.

- Specific parts for **911 GT3 RS**:

Part No.	Designation – Use	Qty.
000 043 210 41	⇒ PDK transmission, GT3 RS	1 ea.

955 332 191 21	⇒ Plate, GT3 RS – Drive shaft to transmission	6 ea.
N 911 489 01	⇒ Hexagon-head bolt, M12 x 1.5 x 60 – Upper cross member to side panel	2 ea.

Additional parts required for 911 GT3 **and** 911 GT3 RS:

Part No.	Designation – Use	Qty.
999 385 009 01	⇒ Hexagon round-head bolt, M12 x 1.5 x 55 – Transmission to engine flange	6 ea.
999 073 443 01	⇒ Combination screw, M12 x 1.5 x 40 – Diagonal brace to body front	2 ea.
999 073 095 01	⇒ Round head screw, M8 x 30 – Diagonal brace to body centre	2 ea.
999 072 869 01	⇒ Hexagon-head bolt, M12 x 1.5 x 45 – Diagonal brace to body rear	2 ea.
999 073 517 01	⇒ Cheese head bolt, M10 x 1 x 46.5 – Drive shaft to transmission	12 ea.
999 072 868 01	⇒ Hexagon-head bolt, M12 x 1.5 x 80 – Lower cross member to side panel	2 ea.
999 084 445 01	⇒ Hexagon nut, M12 x 1.5 – Cross member to side panel	4 ea.
999 072 063 02	⇒ Hexagon-head bolt, M10 x 40 – Transmission bracket to body – Brace plate to body	6 ea.
999 072 083 01	⇒ Combination screw, M10 x 58 – Transmission bracket to body	2 ea.
999 076 053 01	⇒ Hexagon nut, M10 – Transmission bracket to body	2 ea.
900 385 164 01	⇒ Hexagon round-head bolt, M12 x 1.5 x 140 – Transmission bracket to transmission	1 ea.
999 086 009 02	⇒ Hexagon round nut, M12 x 1.5 – Transmission bracket to transmission	1 ea.
999 073 209 01	⇒ Cheese head bolt, M10 x 20 – Impact absorber to transmission	2 ea.

999 084 649 01	⇒ Hexagon nut, M8 – Tailpipe to rear silencer	3 ea.
999 084 123 09	⇒ Hexagon nut, M8 – Swaybar	2 ea.
900 076 064 02	⇒ Hexagon nut, M8 – Swaybar bracket	4 ea.

Materials:

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

Part No.	Designation – Use	Qty.
000 043 301 48	Antifreeze	20-liter container (approx. 1 liter required per vehicle)
000 043 004 00	Optimoly HT mounting paste – For greasing sliding base on tailpipe covers	90g tube (approx. 5–10 grams required per vehicle)
000 043 020 00	Optimoly TA mounting paste – For greasing central wheels bolts	100g tube (approx. 5–10 grams required per vehicle)

Tools:

- 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.)**
- Torque wrench, 80 – 400 Nm (59 – 296 ftlb.), e.g. **V.A.G 1576 - Torque wrench, 80-400 Nm (59-296 ftlb.)**
- Torque wrench, 150 – 800 Nm (111 – 592 ftlb.), e.g. **V.A.G 1601 - Torque wrench, 150 - 800 Nm (111 - 592 ftlb.)**
- Electronic torque wrench, 2 – 100 Nm (1.5 - 74 ftlb.), e.g. **9768 - Electronic torque wrench, 2 - 100 Nm (1.5 - 74 ftlb.)**
- Torque screwdriver, 1.5 – 3 Nm (1 – 2 ftlb.), e.g. **VAS 6494 - Torque screwdriver**
- **9453 - Access ramps** (only if required, depending on the type of lifting platform used)
- **9794 - Assembly aid**
- **9796 - Socket wrench**
- Suitable hose clamps, e.g. **3093 - Hose clamp**
- Suitable transmission and engine jack, e.g. **VAS 6931 - Transmission and engine jack**
- **VAS 6933 - Disassembly tool**
- Spring band clamp pliers, e.g. **VAS 6890 - Spring band clamp pliers**
- **VAS 6563 - Manual metering pumps, Porsche set**
- **9696 - Filling device**
- **9818 - PIWIS Tester II**

- Battery Charger/Power Supply - Suitable for AGM Type batteries, recommended current rating of **70A** fixed voltage 13.5V to 14.5V. Refer to Equipment Information EQ-1105.

Preparatory work

- Work Procedure: 1 Disconnect ground line at the battery ⇒ *Workshop Manual '2X00IN Work instructions after disconnecting the battery'*.
- 2 Raise the vehicle using a lifting platform ⇒ *Workshop Manual '4X00IN Lifting the vehicle'*.
- 3 Only loosen the rear wheels initially ⇒ *Workshop Manual '440519 Removing and installing wheel with central bolt'*.
- 4 Remove support plate ⇒ *Workshop Manual '421419 Removing and installing support plate'*.
- 5 Remove rear underbody cover ⇒ *Workshop Manual '519419 Removing and installing cover for rear underbody'*.
- 6 Remove tailpipe cover on the exhaust system ⇒ *Workshop Manual '263519 Removing and installing tailpipe cover'*.

Replacing PDK transmission

- Work Procedure: 1 Remove PDK transmission ⇒ *Workshop Manual '373419 Removing and installing Porsche Doppelkupplung (PDK)'*.

Important: Removing the sway bar and impact absorber, will allow for easier PDK removal.

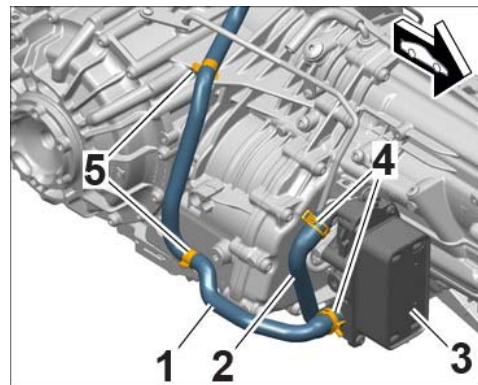
After loosening the drive shafts on the PDK transmission, but **before removing the rear axle cross member**, remove the rear wheels completely ⇒ *Workshop Manual '440519 Removing and installing wheel with central bolt'*.

- 2 Remove coolant lines on the PDK transmission you have just removed.

- 2.1 Remove coolant lines ⇒ *Disconnecting coolant lines for final drive oil -1-, 2- on heat exchanger for final drive oil ⇒ Disconnecting coolant lines for final drive oil -3-.* To do this, open the clamps ⇒ *Disconnecting coolant lines for final drive oil -4-* and pull off the lines.

- 2.2 Unclip coolant line ⇒ *Disconnecting coolant lines for final drive oil -1-* from the fastening clamps ⇒ *Disconnecting coolant lines for final drive oil -5-.*

Pull off fastening clamps ⇒ *Disconnecting coolant lines for final drive oil -5-* on the PDK transmission and set them aside.



Disconnecting coolant lines for final drive oil

2.3 Remove coolant lines ⇒ *Disconnecting coolant lines for clutch fluid -1, 2-* on heat exchanger for clutch fluid ⇒ *Disconnecting coolant lines for clutch fluid -3-*. To do this, open the clamps ⇒ *Disconnecting coolant lines for clutch fluid -4-* and pull off the lines.

2.4 Unclip coolant line ⇒ *Disconnecting coolant lines for clutch fluid -2-* from the fastening clamp ⇒ *Disconnecting coolant lines for clutch fluid -5-*.

Pull off fastening clamp ⇒ *Disconnecting coolant lines for clutch fluid -5-* on the PDK transmission and set it aside.

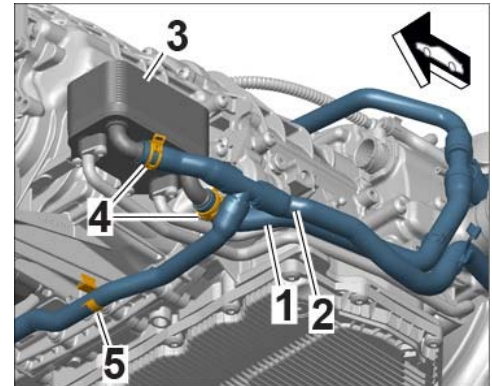
2.5 Loosen and unscrew fastening screws ⇒ *Loosening disc valve -2-* on retaining bracket for the disc valve ⇒ *Loosening disc valve -1-* on the PDK transmission.

Important: Transfer any remaining vent hoses and black anti-chafing strap located on the top of transmission to the exchange transmission.

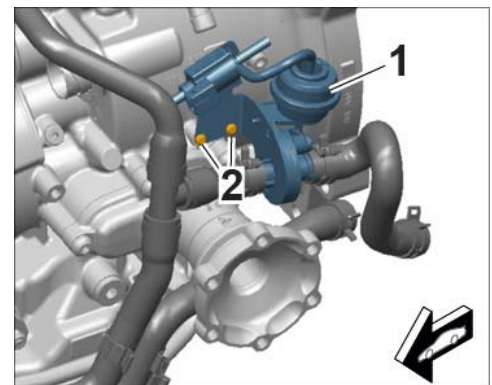
2.6 Guide out and remove coolant lines ⇒ *Removing coolant lines -1-* together with the disc valve on the PDK transmission.

3 Remove pulse sender from the PDK transmission you removed earlier and fit it on the new PDK transmission.
For information on how to do this, see ⇒ *Workshop Manual '287319 Removing and installing pulse sender'*.

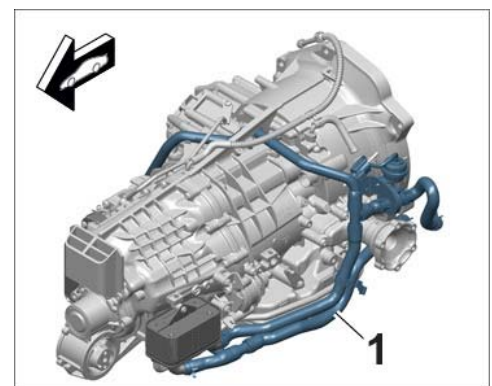
Important: Ensure PDK bell housing dowell locating sleeves remain in place on the engine.



Disconnecting coolant lines for clutch fluid

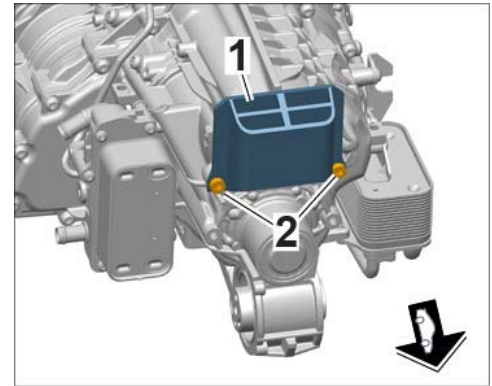


Loosening disc valve



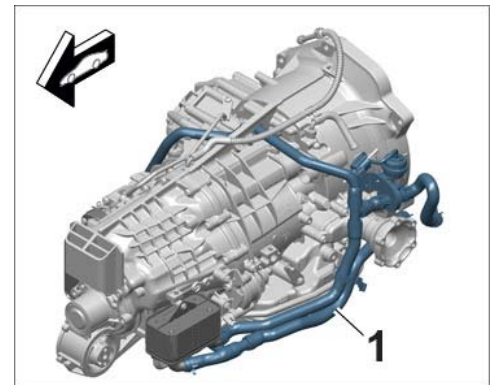
Removing coolant lines

- 4 Remove impact absorber \Rightarrow *Converting impact absorber -1-* from the transmission you removed earlier and fit it on the new transmission.
To do this, loosen and unscrew the fastening screws \Rightarrow *Converting impact absorber -2-* for the impact absorber. Then position the impact absorber \Rightarrow *Converting impact absorber -1-* on the new PDK transmission and secure it with the fastening screws \Rightarrow *Converting impact absorber -2-*.
Tightening torque 30 Nm (22 ftlb.)



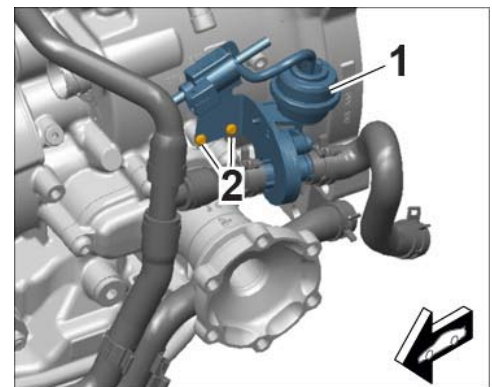
Converting impact absorber

- 5 Fit coolant lines on the new PDK transmission.
- 5.1 Position the coolant lines you removed earlier \Rightarrow *Positioning coolant lines -1-* on the new PDK transmission and guide them in.



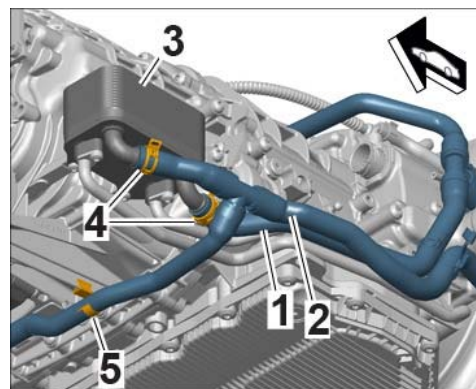
Positioning coolant lines

- 5.2 Position disc valve \Rightarrow *Securing disc valve -1-* with retaining bracket on the PDK transmission and secure with the fastening screws \Rightarrow *Securing disc valve -2-* on the PDK transmission.
Tightening torque 3 Nm (2 ftlb.)



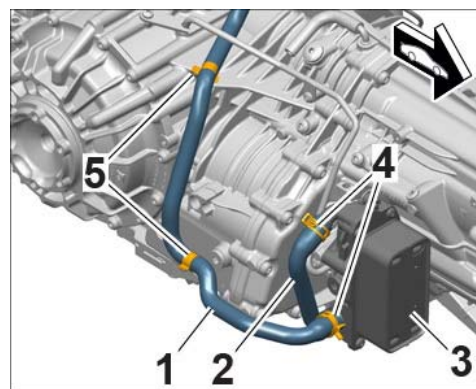
Securing disc valve

- 5.3 Push coolant lines ⇒ *Securing coolant lines for clutch fluid-1, 2-* onto the heat exchanger for clutch fluid ⇒ *Securing coolant lines for clutch fluid-3-* and secure with the clamps ⇒ *Securing coolant lines for clutch fluid-4-*.
- 5.4 Fit fastening clamp ⇒ *Securing coolant lines for clutch fluid-5-* as far as it will go onto the PDK transmission and clip in the coolant line ⇒ *Securing coolant lines for clutch fluid-2-*.



Securing coolant lines for clutch fluid

- 5.5 Push coolant lines ⇒ *Securing coolant lines for final drive oil-1, 2-* onto the heat exchanger for final drive oil ⇒ *Securing coolant lines for final drive oil-3-* and secure with the clamps ⇒ *Securing coolant lines for final drive oil-4-*.
- 5.6 Fit fastening clamps ⇒ *Securing coolant lines for final drive oil-5-* as far as they will go onto the PDK transmission and clip in the coolant line ⇒ *Securing coolant lines for final drive oil-1-*.



Securing coolant lines for final drive oil

- 6 Install the new PDK transmission you have just completed ⇒ *Workshop Manual '373419 Removing and installing Porsche Doppelkupplung (PDK)'*.

Concluding work

- Work Procedure: 1 Install tailpipe covers on the exhaust system ⇒ *Workshop Manual '263519 Removing and installing tailpipe cover'*.
- 2 Connect the battery ⇒ *Workshop Manual '2X00IN Work instructions after disconnecting the battery'*.
- 3 Fill in coolant and bleed the cooling system ⇒ *Workshop Manual '193817 Draining and filling coolant (incl. bleeding the cooling system)'*.
- 4 Install rear wheels ⇒ *Workshop Manual '440519 Removing and installing wheel with central bolt'*.
- 5 Lower the vehicle and remove it from the lifting platform.

- 6 Perform function test on the parking lock.
For information on how to do this, see ⇒ *Workshop Manual '371319 Removing and installing locking cable'*.

**WARNING**

The vehicle can move automatically while you are calibrating the transmission control unit (PDK).

- The raised vehicle can fall from the lifting platform, for example.
 - Danger of crushing.
 - Risk of damage to or from objects.
- ⇒ During calibration, the brake pedal must be blocked using a commercially available brake pedal lock.
- ⇒ The handbrake must be engaged.
- ⇒ The vehicle must not be raised and must be standing on its wheels.

- 7 Calibrate control unit for PDK transmission.
The procedure for doing this is described in the Workshop Manual ⇒ *Workshop Manual '373055 Replacing PDK transmission control unit'*.
- 8 Install rear underbody cover ⇒ *Workshop Manual '519419 Removing and installing cover for rear underbody'*.
- 9 Install support plate ⇒ *Workshop Manual '421419 Removing and installing support plate'*.
- 10 Enter the workshop campaign in the Warranty and Maintenance booklet.

Warranty Invoicing

Scope 1: **Replacing Porsche Doppelkupplung (PDK)**

- **911 GT3**

Working time:

Replacing PDK transmission

Labor time: **523 TU**

Includes:

- Connecting and disconnecting battery
- Raising and lowering the vehicle
- Removing and installing support plate
- Removing and installing cover for rear underbody
- Removing and installing rear wheels
- Removing and installing tailpipe covers
- Converting coolant lines for PDK transmission
- Converting pulse sender
- Converting impact absorber
- Filling coolant and bleeding the cooling system

Calibrating control unit for PDK transmission

Parts required:

000 043 210 40	PDK transmission, GT3	1 ea.
9P1 501 375	Plate, GT3	6 ea.
999 072 859 01	Hexagon-head bolt, M12 x 1.5 x 58	2 ea.
999 385 009 01	Hexagon round-head bolt, M12 x 1.5 x 55	6 ea.
999 073 443 01	Combination screw, M12 x 1.5 x 40	2 ea.
999 073 095 01	Round head screw, M8 x 30	2 ea.
999 072 869 01	Hexagon-head bolt, M12 x 1.5 x 45	2 ea.
999 073 517 01	Cheese head bolt, M10 x 1 x 46.5	12 ea.
999 072 868 01	Hexagon-head bolt, M12 x 1.5 x 80	2 ea.
999 084 445 01	Hexagon nut, M12 x 1.5	4 ea.
999 072 063 02	Hexagon-head bolt, M10 x 40	6 ea.
999 072 083 01	Combination screw, M10 x 58	2 ea.
999 076 053 01	Hexagon nut, M10	2 ea.
900 385 164 01	Hexagon round-head bolt, M12 x 1.5 x 140	1 ea.
999 086 009 02	Hexagon round nut, M12 x 1.5	1 ea.
999 073 209 01	Cheese head bolt, M10 x 20	2 ea.
999 084 649 01	Hexagon nut M8	3 ea.

Required materials:

000 043 301 48	Antifreeze (20-liter container)	0.05 ea. (= approx. 1 liter)
000 043 004 00	Optimoly HT mounting paste (90g tube)	0.08 ea. (= approx. 7 g)
000 043 020 00	Optimoly TA mounting paste (100 g tube)	0.05 ea. (= approx. 5 g)

⇒ Damage Code WF99 0 66 000 2

Scope 2: **Replacing Porsche Doppelkupplung (PDK)**

- **911 GT3 RS**

Working time:

Replacing PDK transmission

Labor time: **523 TU**

Includes:

- Connecting and disconnecting battery
- Raising and lowering the vehicle
- Removing and installing support plate
- Removing and installing cover for rear underbody
- Removing and installing rear wheels
- Removing and installing tailpipe covers
- Converting coolant lines for PDK transmission
- Converting pulse sender
- Converting impact absorber
- Filling coolant and bleeding the cooling system
- Calibrating control unit for PDK transmission

Parts required:

000 043 210 41	PDK transmission, GT3 RS	1 ea.
955 332 191 21	Plate, GT3 RS	6 ea.
N 911 489 01	Hexagon-head bolt, M12 x 1.5 x 60	2 ea.
999 385 009 01	Hexagon round-head bolt, M12 x 1.5 x 55	6 ea.
999 073 443 01	Combination screw, M12 x 1.5 x 40	2 ea.
999 073 095 01	Round head screw, M8 x 30	2 ea.
999 072 869 01	Hexagon-head bolt, M12 x 1.5 x 45	2 ea.
999 073 517 01	Cheese head bolt, M10 x 1 x 46.5	12 ea.
999 072 868 01	Hexagon-head bolt, M12 x 1.5 x 80	2 ea.
999 084 445 01	Hexagon nut, M12 x 1.5	4 ea.
999 072 063 02	Hexagon-head bolt, M10 x 40	6 ea.
999 072 083 01	Combination screw, M10 x 58	2 ea.
999 076 053 01	Hexagon nut, M10	2 ea.
900 385 164 01	Hexagon round-head bolt, M12 x 1.5 x 140	1 ea.
999 086 009 02	Hexagon round nut, M12 x 1.5	1 ea.
999 073 209 01	Cheese head bolt, M10 x 20	2 ea.
999 084 649 01	Hexagon nut M8	3 ea.

Required materials:

000 043 301 48	Antifreeze (20-liter container)	0.05 ea. (= approx. 1 liter)
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000 043 004 00	Optimoly HT mounting paste (90g tube)	0.08 ea. (= approx. 7 g)
000 043 020 00	Optimoly TA mounting paste (100 g tube)	0.05 ea. (= approx. 5 g)

⇒ Damage Code WF99 066 000 2

- References:
- ⇒ Workshop Manual '193817 Draining and filling coolant (incl. bleeding the cooling system)'
 - ⇒ Workshop Manual '2X00IN Work instructions after disconnecting the battery'
 - ⇒ Workshop Manual '263519 Removing and installing tailpipe cover'
 - ⇒ Workshop Manual '287319 Removing and installing pulse sender'
 - ⇒ Workshop Manual '371319 Removing and installing locking cable'
 - ⇒ Workshop Manual '373055 Replacing PDK transmission control unit'
 - ⇒ Workshop Manual '373419 Removing and installing Porsche Doppelkupplung (PDK)'
 - ⇒ Workshop Manual '4X00IN Lifting the vehicle'
 - ⇒ Workshop Manual '421419 Removing and installing support plate'
 - ⇒ Workshop Manual '440519 Removing and installing wheel with central bolt'
 - ⇒ Workshop Manual '519419 Removing and installing cover for rear underbody'

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