PORSCHE'

Technical Information

46/21 ENU 4898

Service

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Replacing the Hydraulic Pump - Observe Specified Procedure (46/21)

Model Line:	Panamera (970)	
Model Year:	As of 2010 up to 2018	
Concerns:	Replacing hydraulic pump for steering	
Information:	Following a change in hydraulic pump supplier, new hydraulic pumps no longer come installed with a pulsation damper. For this reason, the pulsation damper must be removed from the old hydraulic pump and installed on the new hydraulic pump.	
Component		

Overview:



Hydraulic pump with pulsation damper
Pulsation damper (no longer supplied with the hydraulic pump)
Hydraulic pump

Action required: Remove pulsation damper from the old hydraulic pump and install it on the new hydraulic pump.

Parts Info:

Overview of affected components:

Part No.	Designation
97035905103	Tandem vane type pump Includes sealing ring for pulsation damper
97035905152	Tandem vane type pump Includes sealing ring for pulsation damper

Required tools and parts

Parts Info: An auxiliary tool in the form of a screw (M14 x 1.5) and a nut (M14 x 1.5) is required for removing and installing the pulsation damper. The following parts, for example, can be used for this (these may already be available at the Porsche dealer).

Part No.	Designation
PAF105556	Cheese head bolt with multiple-tooth head (M14 x 1.5)
5B4423895	Twist lock (M14 x 1.5)

Tools:

- Torque wrench, 6-50 Nm (4.5-37 ftlb.), e.g. V.A.G 1331A Torque wrench, 6-50 Nm (4.5-37 ftlb.)
- Suitable open-ended wrench (commercially available)
- Suitable support clamp (commercially available)
- Felt-tipped pen (commercially available)

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Converting pulsation damper

Work Procedure: 1 Clamp the hydraulic pump in a support clamp.

2 Install nut (M14 x 1.5) \Rightarrow Auxiliary tool (screw and nut, M14 x 1.5)-3- on screw (M14 x 1.5) \Rightarrow Auxiliary tool (screw and nut, M14 x 1.5)-4-.



Auxiliary tool (screw and nut, M14 x 1.5)

Installing auxiliary tool

3 Screw in screw \Rightarrow *Installing auxiliary tool* -4- with nut as far as possible into the pulsation damper by hand.

4 Tighten nut ⇒ Tightening auxiliary tool -3- against the pulsation damper ⇒ Tightening auxiliary tool -1- and counter at the screw ⇒ Tightening auxiliary tool -4- using a torque wrench to tighten the screw on the pulsation damper.



Tightening auxiliary tool

5 Loosen pulsation damper \Rightarrow Loosening pulsation damper -1 - at the screw \Rightarrow Loosening pulsation damper -4 - using a torque wrench.



Information

If the screw - not the pulsation damper - loosens during this process, repeat Steps 3 to 5.



Loosening pulsation damper

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- 6 Remove pulsation damper from the hydraulic pump. To do this, turn the pulsation damper *⇒ Removing pulsation damper* **-1**- in *⇒ Removing pulsation damper* **-direction** of **arrow A**- and remove it in *⇒ Removing pulsation damper* **-direction** of **arrow B**-.
- 7 Remove the old hydraulic pump from the support clamp and dispose of it in accordance with regulations.
- 8 Clamp the new hydraulic pump in the support clamp. Make sure not to damage it.
- 9 Remove sealing ring from the pulsation damper and replace it with a new one (supplied with the hydraulic pump).

Removing pulsation damper

10 Screw pulsation damper into the new hydraulic pump by hand.

To do this, position the pulsation damper \Rightarrow *Installing pulsation damper*-**1**- and turn it in \Rightarrow *Installing pulsation damper*-**direction of arrow C**- until it is touching the hydraulic pump in \Rightarrow *Installing pulsation damper*-**direction of arrow D**-.



Installing pulsation damper

11 Secure the pulsation damper ⇒ Securing pulsation damper -1- to the new hydraulic pump using the screw ⇒ Securing pulsation damper -4- and a torque wrench and tighten to Tightening torque 41 Nm (30 ftlb.) +4 Nm (+3 ftlb.).



Securing pulsation damper

- 12 Mark the pulsation damper on the hydraulic pump using a felt-tipped pen \Rightarrow *Marking pulsation damper*.
- 13 Loosen the nut ⇒ Loosening auxiliary tool-Yellowby countering with the torque wrench to prevent the pulsation damper from loosening. After loosening the nut, check the marking on the pulsation damper and hydraulic pump.
 - If the marking on the pulsation damper still matches the marking on the hydraulic pump and the pulsation damper has not loosened when loosening the auxiliary tool, continue with ⇒ Step 14.
 - If the two markings no longer match and the pulsation damper has loosened when loosening the auxiliary tool, the nut must be tightened again as described in ⇒ Step 4. Then repeat ⇒ Steps 11 to 13.



Marking pulsation damper

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Loosening auxiliary tool

14 Unscrew screw \Rightarrow *Removing auxiliary tool*-4- from the pulsation damper.

End of action required; the new hydraulic pump can be installed.



Removing auxiliary tool

Invoicing

Invoicing: For documentation and warranty invoicing, enter the labor operation and PQIS coding specified below in the warranty claim:

APOS	Labor operation	I No.
48984950	Reworking hydraulic pump for steering	

PQIS coding:

Location (FES5)	48980	Hydraulic pump for steering
Damage type (SA4)	9744	Part not available

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