

Transmission Symptom - Oil Leaks on Transfer Box: Observe Specified Procedure (SY 206/20)

Model Line: **Cayenne (9YA/9YB)**

Model Year: **As of 2018**

Concerns: **Transfer box**

Symptom: Oil leaks are found on the vehicle in the area of the hang-on transfer box and at the transition to the automatic transmission.

Cause: We have discovered that the location and cause could not always be clearly determined in the dealer organization when attempting to resolve the complaint "Oil leak". As a result, some of the repair measures that were carried out were not always effective.

Oil migration in the area of the automatic transmission and transfer box can result in incorrect diagnoses when locating oil leaks. For example, the radial shaft seal on the automatic transmission or transfer box side may leak at the connection point of the automatic transmission and transfer box.

In addition, oil leaks in the area of the automatic transmission can result in escaping oil contaminating the transfer box, due to the air flow at the vehicle underbody.



Information

In the case of oil leaks in the area of the transfer box, see also ⇒ *Technical Information 'Transmission symptom - Oil leaks on automatic transmission: Observe specified procedure (SY 205/20)'*.

Remedial Action: Find oil leaks and carry out the relevant repair measure.

Preparatory work

Work Procedure:



Information

- Oil leaks must be clearly identifiable and reproducible.
 - Engine oil and coolant must have reached operating temperature during a test drive.
- 1 Document the original complaint condition with meaningful photos.
 - 2 Attach documentation to PQIS line.
 - 3 Clean automatic transmission and transfer box thoroughly.

- 4 Spray large areas of the automatic transmission and transfer box with SpotCheck around the suspected leakage points.
- 5 Perform a test drive.
- 6 Locate the oil leak:
 - The oil leak is located on the transfer box, continue with \Rightarrow *Technical Information 'Transmission symptom - Oil leaks on transfer box'*
 - The oil leak is located on the automatic transmission, continue with \Rightarrow *Technical Information 'Transmission symptom - Oil leaks on automatic transmission: Observe specified procedure (SY 205/20)'*
 - The oil leak cannot be clearly identified, continue with \Rightarrow *Technical Information 'Oil leaks on transfer box'*.
- 7 Produce photo documentation of the leakage point located using SpotCheck.
- 8 Attach documentation to PQIS line.

Oil leaks on the transfer box



Information

Either the radial shaft seal on the automatic transmission or the transfer box may be damaged at the transition from automatic transmission to transfer box.



Information

Oil penetration of the connection point on the transfer box housing (housing cover) can result in incorrect interpretations.

Check for oil leaks in the area of the input shaft for hang-on transfer box \Rightarrow *Oil migration* and \Rightarrow *Oil leak on input-shaft radial shaft*.

- 1 Oil leak on transfer box housing with drops forming in the area of the input shaft. The upswinging motion of the input shaft in the axial direction causes the transmission oil ahead of the radial shaft seal to surge with strong pressure fluctuations. This can result in an oil leak complaint.
 - 1.1 In the event of a complain, first check the technical status of the transfer box using the differentiation table:

Differentiation of measures via hang-on serial numbers			
Start of production as of:	Part No.:	Description of change:	Start of production VIN:
All vehicles as of hang-on serial number * 265 NVG0023783F Start of production: 12.04.2018	0F2341011F	Swirl-free input shaft through modified partly automated grinding process	WP1AA29Y9KDA05830 Part No. VTG: 265 NVG0023783F

- If the serial number on the transfer box corresponds to the specified differentiation data from the table, the entire transfer box must be replaced, see ⇒ *Technical Information 'Replacing transfer box'*. Replacing the radial shaft seal alone would not be effective in the long term and the radial shaft seal would leak again.
- However, if the serial number corresponds to a newer version than that in the differentiation list, only the radial shaft seal may then be replaced, see ⇒ *Technical Information 'Replacing sealing ring for transfer box (front transmission side)'*. The hardware version of the transfer box corresponds to the latest technical status.



Information

If the repair history of the vehicle indicates that the radial shaft seal was already replaced in the past, a PRMS ticket must be created before carrying out repairs in order to coordinate the relevant repair with Technical Support.

- 1.2 If the radial shaft seal on the automatic transmission is damaged, see ⇒ *Technical Information 'Complaint - Oil leaks on automatic transmission: Observe specified procedure (205/20)'*.



Oil migration



Oil leak on input-shaft radial shaft

- 2 Oil leaks in the area of the output shaft to the rear axle ⇒ *Oil leak on output-shaft radial shaft seal.*
If the output-shaft radial shaft seal is damaged, see ⇒ *Technical Information 'Replacing sealing ring for transfer box (rear transmission side)'.*



Oil leak on output-shaft radial shaft seal

Replacing transfer box

- Work Procedure: 1 Check permitted combinations of transfer box/automatic transmission, see ⇒ *Technical Information 'Spare parts requirements - (hang-on) transfer box/automatic transmission: Observe permitted combinations (22/19)'.*
- 2 Replace transfer box, see ⇒ *Workshop Manual '396519 Removing and installing transfer box'.*
- 3 Check and top up oil for transfer box, see ⇒ *Workshop Manual '399035 Checking and topping up oil for transfer box'.*

Parts Info:

Parts required:

Part No.	Designation – Location	Qty.
0F2341011x ¹⁾	⇒ Transfer box	1 ea.
N 91239302	⇒ Bi-hexagonal flange screw – Input shaft	6 ea.
PAF107722	⇒ Hose clamp – Rear cardan shaft	1 ea.
PAF107599	⇒ Cheese head bolt with multiple-tooth head – Rear cardan shaft	6 ea.
95534919121	⇒ Plate – Rear Cardan shaft	3 ea.
PAF00072900	⇒ Hexagon socket head bolt – Front underbody cover	3 ea.
95530111501	⇒ Screw plug – Checking and topping up oil for transfer box	1 ea.

¹⁾ Part number varies depending on transmission type**Additional parts required (V6 monoturbo):**

Part No.	Designation – Location	Qty.
PAB25311520	⇒ Seal – Primary catalytic converter	1 ea.
or		
PAB253115	⇒ Seal – Particle filter	2 ea.
N 91130802	⇒ Hexagon collar nut, self-locking – Primary catalytic converter	3 ea.
or		
N 91130802	⇒ Hexagon collar nut, self-locking – Particle filter	6 ea.
N 10518405 ¹⁾	⇒ Cheese head bolt with multiple-tooth head – Universal joint	1 ea.

¹⁾ Only for vehicles with particle filter

Additional parts required (V6 and V8 biturbo):

Part No.	Designation – Location	Qty.
PAB25311500	⇒ Seal – Primary catalytic converter/particle filter	2 ea.
N 91130802	⇒ Hexagon collar nut, self-locking – Primary catalytic converter/particle filter	6 ea.

Materials: **Required materials** (usually already available at the Porsche dealer):

Part No.	Designation – Use	Qty.
00004321030	⇒ Lubricating grease – Transfer box	20 gram/ 0.7 oz tube 1)
00004330563	⇒ Transfer box oil – Checking and topping up oil for transfer box	20 liter/ 5.28 gal container 2)

1) approx. 2 grams/ 0.07 oz required per vehicle.

2) approx. 0.1 liter/ 3.38 fl oz required per vehicle.

Invoicing: For documentation and warranty invoicing, enter the labor operations, PQIS coding and relevant part numbers specified below in the warranty claim:

APOS	Labor operation	I No.
39650140	Checking transfer box	
39651950	Removing and installing transfer box	
39903556	Checking and topping up oil for transfer box	

PQIS coding:

Location (FES5)	39650	Transfer box
Damage type (SA4)	5043	Oil loss

References: ⇒ *Workshop Manual '396519 Removing and installing transfer box'*
 ⇒ *Workshop Manual '399035 Checking and topping up oil for transfer box'*
 ⇒ *Technical Information '399035 Spare parts requirements for (hang-on) transfer box/automatic transmission: Observe permitted combinations (22/19)'*
 ⇒ *Technical Information '399035 Transmission symptom - Oil leaks on automatic transmission: Observe specified procedure (SY 205/20)'*

Replacing radial shaft seal on input shaft

- Work Procedure: 1 Replace radial shaft seal on input shaft for hang-on transfer box, see ⇒ *Workshop Manual '399255 Replacing sealing ring for transfer box'*.
- 2 Check and top up oil for transfer box, see ⇒ *Workshop Manual '399035 Checking and topping up oil for transfer box'*.

Parts Info:

Parts required:

Part No.	Designation – Location	Qty.
9Y0321199B	⇒ Shaft sealing ring – Input shaft	1 ea.
N 91239302	⇒ Bi-hexagonal flange screw – Input shaft	6 ea.
PAF107722	⇒ Hose clamp – Rear cardan shaft	1 ea.
PAF107599	⇒ Cheese head bolt with multiple-tooth head – Rear cardan shaft	6 ea.
95534919121	⇒ Plate – Rear Cardan shaft	3 ea.
PAF00072900	⇒ Hexagon socket head bolt – Front underbody cover	3 ea.
95530111501	⇒ Screw plug – Checking and topping up oil for transfer box	1 ea.

Additional parts required (V6 monoturbo):

Part No.	Designation – Location	Qty.
PAB25311520	⇒ Seal – Primary catalytic converter	1 ea.
or		
PAB253115	⇒ Seal – Particle filter	2 ea.
N 91130802	⇒ Hexagon collar nut, self-locking – Primary catalytic converter	3 ea.
or		

N 91130802	⇒ Hexagon collar nut, self-locking – Particle filter	6 ea.
N 10518405 ¹⁾	⇒ Cheese head bolt with multiple-tooth head – Universal joint	1 ea.

¹⁾ Only for vehicles with particle filter

Additional parts required (V6 and V8 biturbo):

Part No.	Designation – Location	Qty.
PAB25311500	⇒ Seal – Primary catalytic converter/particle filter	2 ea.
N 91130802	⇒ Hexagon collar nut, self-locking – Primary catalytic converter/particle filter	6 ea.

Materials: **Required materials** (usually already available at the Porsche dealer):

Part No.	Designation – Use	Qty.
00004321030	⇒ Lubricating grease – Transfer box	20 gram/ 0.7 oz tube ¹⁾
00004330563	⇒ Transfer box oil – Checking and topping up oil for transfer box	20 liter/ 5.28 gal container ²⁾

¹⁾ approx. 2 grams/ 0.07 oz required per vehicle.

²⁾ approx. 0.1 liter, 3.38 fl oz required per vehicle.

Invoicing: For documentation and warranty invoicing, enter the labor operations, PQIS coding and relevant part numbers specified below in the warranty claim:

APOS	Labor operation	I No.
39650140	Checking transfer box	
39925551	Replacing radial shaft seal on transfer box (input shaft)	
39903556	Checking and topping up oil for transfer box	

PQIS coding:

Location (FES5)	39650	Transfer box
Damage type (SA4)	5043	Oil loss

- References:
- ⇒ *Workshop Manual '399255 Replacing sealing ring for transfer box'*
 - ⇒ *Workshop Manual '399035 Checking and topping up oil for transfer box'*
 - ⇒ *Technical Information '399035 Spare parts requirements for (hang-on) transfer box/automatic transmission: Observe permitted combinations (22/19)'*
 - ⇒ *Technical Information '399035 Transmission symptom - Oil leaks on automatic transmission: Observe specified procedure (SY 205/20)'*

Replacing radial shaft seal on output shaft

- Work Procedure: 1 Replace radial shaft seal on output shaft for hang-on transfer box, see ⇒ *Workshop Manual '399255 Replacing sealing ring for transfer box'*.
- 2 Check and top up oil for transfer box, see ⇒ *Workshop Manual '399035 Checking and topping up oil for transfer box'*.

Parts Info: **Parts required:**

Part No.	Designation – Location	Qty.
9Y0321199	⇒ Radial shaft seal – Output shaft	1 ea.
9Y0341375	⇒ Protective ring – Output shaft	1 ea.
PAF107722	⇒ Hose clamp – Rear cardan shaft	1 ea.
PAF107599	⇒ Cheese head bolt with multiple-tooth head – Rear cardan shaft	6 ea.
95534919121	⇒ Plate – Rear Cardan shaft	3 ea.
PAF00072900	⇒ Hexagon socket head bolt – Front underbody cover	3 ea.
95530111501	⇒ Screw plug – Checking and topping up oil for transfer box	1 ea.

Additional parts required (V6 monoturbo):

Part No.	Designation – Location	Qty.
PAB25311520	⇒ Seal – Primary catalytic converter	1 ea.

	or	
PAB253115	⇒ Seal – Particle filter	2 ea.
N 91130802	⇒ Hexagon collar nut, self-locking – Primary catalytic converter	3 ea.
	or	
N 91130802	⇒ Hexagon collar nut, self-locking – Particle filter	6 ea.
N 10518405 ¹⁾	⇒ Cheese head bolt with multiple-tooth head – Universal joint	1 ea.

¹⁾ Only for vehicles with particle filter

Additional parts required (V6 and V8 biturbo):

Part No.	Designation – Location	Qty.
PAB25311500	⇒ Seal – Primary catalytic converter/particle filter	2 ea.
N 91130802	⇒ Hexagon collar nut, self-locking – Primary catalytic converter/particle filter	6 ea.

Materials:

Required materials (usually already available at the Porsche dealer):

Part No.	Designation – Use	Qty.
00004321030	⇒ Lubricating grease – Transfer box	20 gram/ 0.7 oz tube ¹⁾
00004330563	⇒ Transfer box oil – Checking and topping up oil for transfer box	20 liter/ 5.28 gal container ²⁾

¹⁾ approx. 2 grams/ 0.07 oz required per vehicle.

²⁾ approx. 0.1 liter/ 3.38 fl oz required per vehicle.

Invoicing: For documentation and warranty invoicing, enter the labor operations, PQIS coding and relevant part numbers specified below in the warranty claim:

APOS	Labor operation	I No.
39650140	Checking transfer box	
39925550	Replacing radial shaft seal on output shaft	
39903556	Checking and topping up oil for transfer box	

PQIS coding:

Location (FES5)	39650	Transfer box
Damage type (SA4)	5043	Oil loss

References: ⇒ *Workshop Manual '399255 Replacing sealing ring for transfer box'*
 ⇒ *Workshop Manual '399035 Checking and topping up oil for transfer box'*
 ⇒ *Technical Information '399035 Spare parts requirements for (hang-on) transfer box/automatic transmission: Observe permitted combinations (22/19)'*
 ⇒ *Technical Information '399035 Transmission symptom - Oil leaks on automatic transmission: Observe specified procedure (SY 205/20)'*

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