

Complaint - Repair Instructions in the Event of Transfer Case Oil Leaks: Follow recommended course of action (34/19)

Model Line: **Cayenne (92A)**

Model Year: **As of 2011 up to 2018**

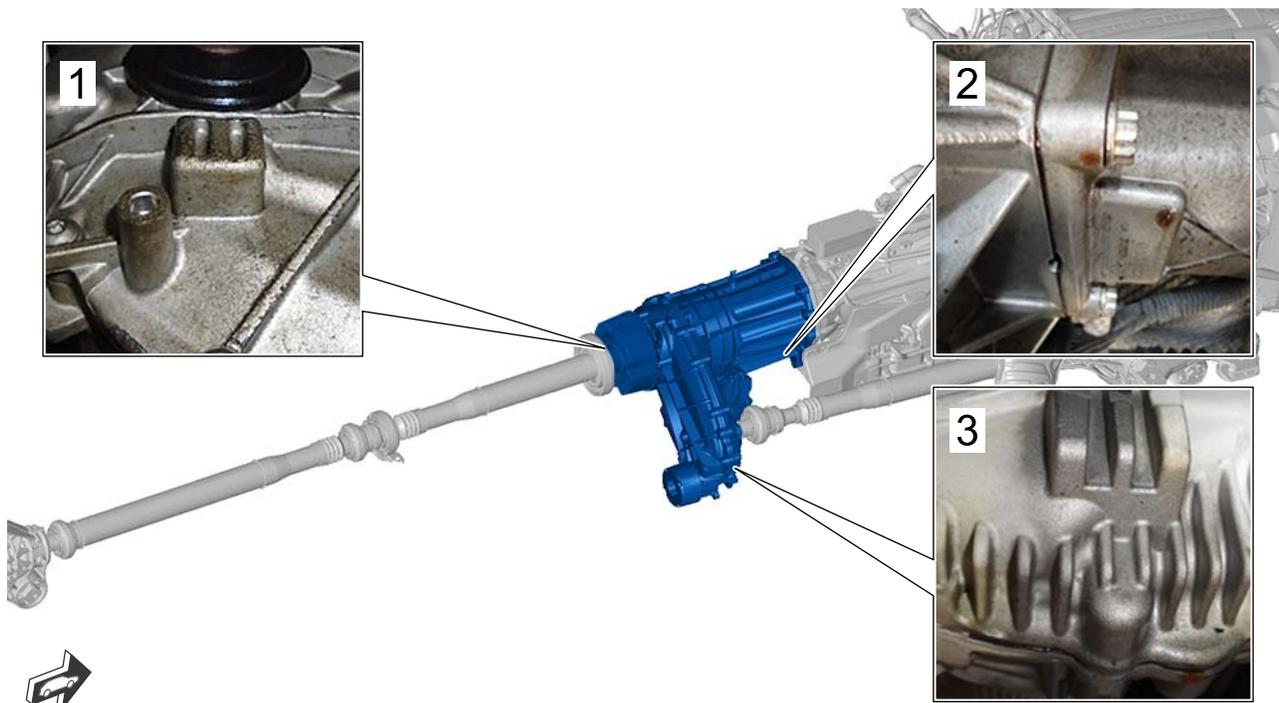
Subject: **Transfer Case**

Information: **Measures and repair instructions for repairing oil leaks on the transfer case depending on the exact location of the leak.**

Note: Transfer case is also known as Transfer gear.

Remedial Action: Before doing any other work, identify the exact cause(s) of the leak(s) based on the examples and carry out the relevant repair measure(s).

Overview - Location of leaks on transfer gear



Location of leaks (transfer gear)

- 1 – Rear transfer gear housing (oil coating)
- 2 – Front transfer gear housing (bottom) (oil leak/oil coating)
- 3 – Lower transfer gear housing (oil coating)

Overview — Location of leaks and exact leak area, possible causes and repair measures

You will find detailed repair descriptions for the relevant leak areas at the end of this overview.

Leak	Leak area	Possible cause	Repair measure/procedure
1 – Rear transfer gear housing	Leak areas 1A - 1C	Sealing ring on rear output shaft leaking	Replace sealing ring on output shaft for rear transfer gear. For instructions, see description of leak areas 1A – 1C below.
2 – Front transfer gear housing (bottom)	Leak area 2	Sealing ring on drive shaft for transfer gear leaking	Replace inner sealing ring on drive shaft for transfer gear. For instructions, see description of leak area 2A below.
		Sealing ring on output shaft for main transmission leaking	Replace rear sealing ring on output shaft for main transmission. For instructions, see description of leak area 2B below.
		Transfer gear housing leaking (cracked)	Replace transfer gear. For instructions, see description of leak area 2C below.
3 – Lower transfer gear housing	Leak area 3	Sealing ring on output shaft for front transfer gear leaking	Replace sealing ring on output shaft for front transfer gear. For instructions, see description of leak area 3A below.
		Rear left transfer gear housing leaking (sealant defective)	Replace transfer gear. For instructions, see description of leak area 3B below.

		Outer right transfer gear housing leaking (sealant defective)	Replace transfer gear. For instructions, see description of leak area 3C below.
		Oil leak from leak area "Front transfer gear housing (bottom)"	See Location of leak "2 – Front transfer gear housing (bottom)"

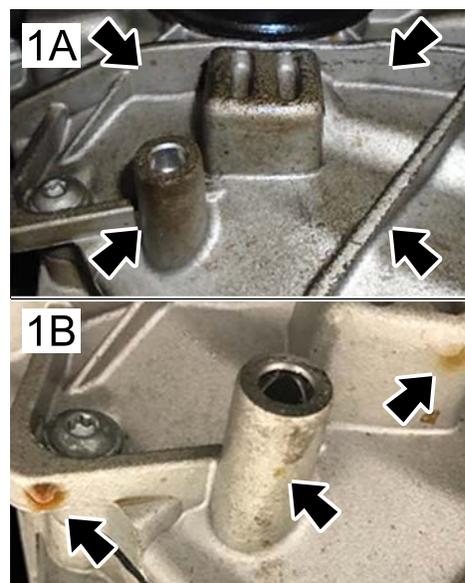
1 - Rear transfer gear housing - Damage, possible causes and repair measures

Work Procedure: In the event of leaks on the rear transfer gear housing, check possible cause(s) and carry out the suggested repair measure.

Leak areas (1A-1C):

Leak areas 1A and 1B

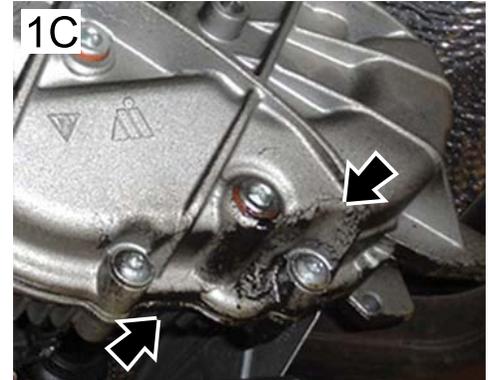
Rear transfer gear in output shaft area (⇒ *Rear transfer gear — output shaft area*): Oil coating, with some drops forming (⇒ *Rear transfer gear — output shaft area -Arrows-*)



Rear transfer gear — output shaft area

Leak area 1C

Rear transfer gear in lower housing area (⇒ *Rear transfer gear — lower housing area*): Coating of oil (⇒ *Rear transfer gear — lower housing area -Arrows-*)



Rear transfer gear — lower housing area

Cause (1A-1C): Cause of leaks at leak areas 1A-1C: Sealing ring on output shaft for rear transfer gear leaking
⇒ *Sealing ring leaking*



Sealing ring leaking

Repair measure (1A-1C): Replace sealing ring on output shaft for rear transfer gear, see ⇒ *Workshop Manual '399255 Replacing sealing ring for transfer gear (rear output shaft)'*.

Parts required (1A-1C):	Part No.	Designation - Use	Qty.
	958 341 199 00	⇒ Sealing ring (35 x 72 x 8) - Output shaft for rear transfer gear	1 ea.
	N 900 639 05	⇒ Hex flange bolt, M8 X 18 - Damper to transfer gear	4 ea.
	958 349 493 00	⇒ Circlip - Rear cardan shaft to rear axle differential/transfer gear	2 ea.
	958 111 220 XX ¹⁾	⇒ Clamping sleeve - Exhaust system	X ea. ²⁾
	955 301 115 01	⇒ Screw plug - Oil inspection plug on transfer gear	1 ea.

- 1) The complete part number must be determined for each vehicle using PET2.
- 2) The actual number of clamping sleeves required for each vehicle type must be determined using PET2.

Required materials (1A-1C):

Additional materials required for vehicles **with** hang-on transfer gear:

Sample Porsche part number.

Part No.	Designation	Qty.
000 043 305 63	⇒ Transfer gear oil	0.85-liter container (smaller quantity as required)

Additional materials required for vehicles **with** Torsen transfer gear:

Sample Porsche part number.

Part No.	Designation	Qty.
958 341 536 00	⇒ Transfer gear oil	1-liter container (smaller quantity as required)



Information

Only the quantities that are actually added must be invoiced when using original Porsche fluids. Invoicing of 1-liter container is not permitted.

Labor operations (1A-1C):

LO	Designation
39925550	Replacing sealing ring for transfer gear
39903550	Checking and topping up oil for final drive
393519XX ¹⁾	Removing and installing rear cardan shaft

¹⁾ The relevant labour operation for each vehicle type must be determined using the PCSS by specifying the VIN.

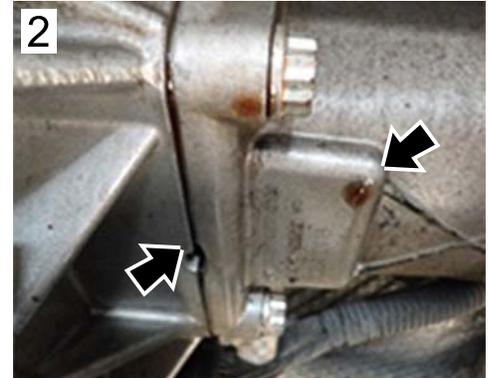
PQIS coding: For invoicing and documentation using PQIS, enter the following coding:

Location (FES5)	39650	Transfer gear
Damage type (SA4)	5400	Oil leak

2 - Front transfer gear housing (bottom) - Damage, possible causes and repair measures

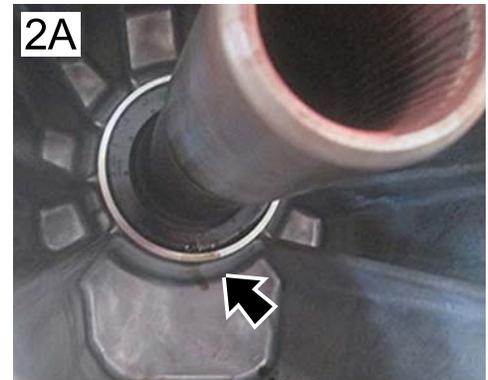
Work Procedure: In the event of leaks on the front transfer gear housing (bottom), check possible cause(s) and carry out the suggested repair measure(s).

Leak area (2): **Leak area 2**
 Front transfer gear (⇒ *Front transfer gear housing (bottom)*): Oil leak/oil coating in area where it joins main transmission (⇒ *Front transfer gear housing (bottom)*)
-Arrows-



Front transfer gear housing (bottom)

Cause (2A): Sealing ring on drive shaft for transfer gear leaking
 ⇒ *Sealing ring leaking*



Sealing ring leaking

Repair measure (2A): Replace sealing ring for transfer gear, see ⇒ *Workshop Manual '399255 Removing and installing sealing ring for transfer gear (inner drive)'*.

Parts required (2A):	Part No.	Designation	Qty.
		- Use	
	958 341 199 20	⇒ Sealing ring (55 x 80 x 8)	1 ea.
	WHT 003 211	- Drive shaft for transfer gear ⇒ 12 point socket	10 ea.
	N 909 913 02	- Transfer gear screws ⇒ Hex flange bolt (combination)	4 ea.
	N 105 167 02	- Cross member to outer body ⇒ Hex flange bolt, self-locking - Cross member to inner body	2 ea.

N 900 639 05	⇒ Hex flange bolt - Damper to transfer gear	4 ea.
958 349 493 00	⇒ Circlip - Rear cardan shaft to transfer gear	1 ea.
958 349 490 10	⇒ Circlip - Front cardan shaft to front-axle final drive	1 ea.
958 349 491 10	⇒ Circlip - Front cardan shaft to transfer gear	1 ea.
955 301 115 01	⇒ Screw plug - Oil inspection plug on transfer gear	1 ea.
958 111 220 XX ¹⁾	⇒ Clamping sleeve - Exhaust system	X ea. ²⁾

¹⁾ The complete part number must be determined for each vehicle using PET2.

²⁾ The actual number of clamping sleeves required for each vehicle type must be determined using PET2.

Required materials (2A):	Part No.	Designation	Qty.
	000 043 305 73	⇒ Extreme pressure grease	100g tube (approx. 5–10 grams required per vehicle)

Additional materials required for vehicles **with** hang-on transfer gear:

Sample Porsche part number.

Part No.	Designation	Qty.
000 043 305 63	⇒ Transfer gear oil	0.85-liter container (smaller quantity as required)

Additional materials required for vehicles **with** Torsen transfer gear:

Sample Porsche part number.

Part No.	Designation	Qty.
958 341 536 00	⇒ Transfer gear oil	1-liter container (smaller quantity as required)



Information

Only the quantities that are actually added must be invoiced when using original Porsche fluids. Invoicing of 1-liter container is not permitted.

Labor operations
(2A):

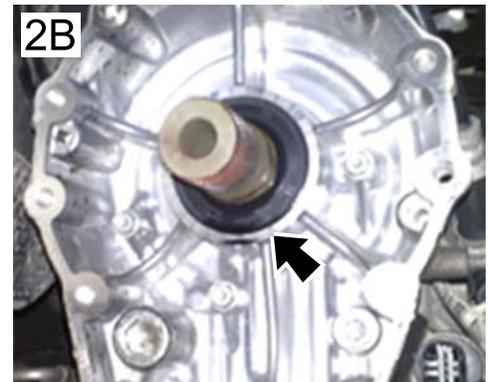
LO	Designation
39925552	Replacing sealing ring for transfer gear
39903550	Checking and topping off oil for final drive
396519XX ¹⁾	Removing and installing transfer gear

¹⁾ The relevant labor operation for each vehicle type must be determined using the PCSS by specifying the VIN.

PQIS coding: For invoicing and documentation using PQIS, enter the following coding:

Location (FES5)	39650	Transfer gear
Damage type (SA4)	5400	Oil leak

Cause (2B): Sealing ring on output shaft for main transmission leaking
⇒ *Sealing ring leaking*



Sealing ring leaking

Repair measure (2B): Replace sealing ring on rear output shaft, see ⇒ *Workshop Manual '387055 Replacing sealing ring for rear output shaft'*.

Parts required (2B):	Part No.	Designation	Qty.
		- Use	
	955 321 189 00	⇒ Sealing ring (41 x 72 x 11)	1 ea.
		- Output shaft for main transmission	
	WHT 003 211	⇒ 12 point socket	10 ea.
		- Transfer gear screws	
	N 909 913 02	⇒ Hex flange bolt (combination)	4 ea.
		- Cross member to outer body	

N 105 167 02	⇒ Hex flange bolt, self-locking - Cross member to inner body	2 ea.
N 900 639 05	⇒ Hex flange bolt - Damper to transfer gear	4 ea.
958 349 493 00	⇒ Circlip - Rear cardan shaft to transfer gear	1 ea.
958 349 490 10	⇒ Circlip - Front cardan shaft to front-axle final drive	1 ea.
958 349 491 10	⇒ Circlip - Front cardan shaft to transfer gear	1 ea.
958 321 581 00	⇒ Sealing ring - ATF inspection plug	1 ea.
958 111 220 XX ¹⁾	⇒ Clamping sleeve - Exhaust system	X ea. ²⁾

¹⁾ The complete part number must be determined for each vehicle using PET2.

²⁾ The actual number of clamping sleeves required for each vehicle type must be determined using PET2.

Required materials (2B):

Sample Porsche part number.

Part No.	Designation	Qty.
000 043 305 73	⇒ Extreme pressure grease	100g tube (approx. 5–10 grams required per vehicle)
000 043 305 05	⇒ Transmission oil	1-liter container (smaller quantity as required)



Information

Only the quantities that are actually added must be invoiced when using original Porsche fluids. Invoicing of 1-liter container is not permitted.

Labor operations (2B):

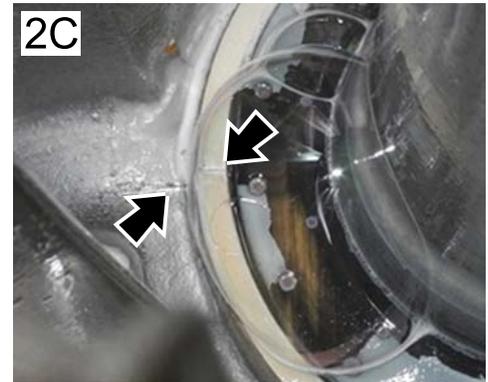
LO	Designation
38705550	Replacing output shaft seal
37023550	Checking and topping off ATF
396519XX ¹⁾	Removing and installing transfer gear

¹⁾ The relevant labor operation for each vehicle type must be determined using the PCSS by specifying the VIN.

PQIS coding: For invoicing and documentation using PQIS, enter the following coding:

Location (FES5)	39650	Transfer gear
Damage type (SA4)	5400	Oil leak

Cause (2C): Transfer gear housing leaking (cracked)
⇒ *Transfer gear housing leaking (cracked)*



Transfer gear housing leaking (cracked)

Repair measure Replace transfer gear, see ⇒ *Workshop Manual '396519 Removing and installing transfer gear'*.
(2C):

Parts required (2C):	Part No.	Designation - Use	Qty.
	958 341 010 XX ¹⁾	Hang-on transfer gear	1 ea.
	or		
	958 341 020 XX ¹⁾	Torsen transfer gear	1 ea.
	WHT 003 211	⇒ 12 point socket	10 ea.
	N 909 913 02	⇒ Hex flange bolt (combination)	4 ea.
		- Cross member to outer body	
	N 105 167 02	⇒ Hex flange bolt, self-locking	2 ea.
		- Cross member to inner body	
	N 900 639 05	⇒ Hex flange bolt	4 ea.
		- Damper to transfer gear	
	958 349 493 00	⇒ Circlip	1 ea.
		- Rear cardan shaft to transfer gear	
	958 349 490 10	⇒ Circlip	1 ea.
		- Front cardan shaft to front-axle final drive	
	958 349 491 10	⇒ Circlip	1 ea.
		- Front cardan shaft to transfer gear	

955 301 115 01	⇒ Screw plug – Oil inspection plug on transfer gear	1 ea.
958 111 220 XX ¹⁾	⇒ Clamping sleeve – Exhaust system	X ea. ²⁾

¹⁾ The complete part number must be determined for each vehicle using PET2.

²⁾ The actual number of clamping sleeves required for each vehicle type must be determined using PET2.

Required materials (2C):	Part No.	Designation	Qty.
	000 043 305 73	⇒ Extreme pressure grease	100g tube (approx. 5–10 grams required per vehicle)

Additional materials required for vehicles **with** hang-on transfer gear:

Sample Porsche part number.

Part No.	Designation	Qty.
000 043 305 63	⇒ Transfer gear oil	0.85-liter container (smaller quantity as required)

Additional materials required for vehicles **with** Torsen transfer gear:

Sample Porsche part number.

Part No.	Designation	Qty.
958 341 536 00	⇒ Transfer gear oil	1-liter container (smaller quantity as required)



Information

Only the quantities that are actually added must be invoiced when using original Porsche fluids. Invoicing of 1-litre container is not permitted.

Labor operations (2C):

LO	Designation
39903550	Checking and topping off oil for final drive
396519XX ¹⁾	Removing and installing transfer gear

¹⁾ The relevant labor operation for each vehicle type must be determined using the PCSS by specifying the VIN.

PQIS coding: For invoicing and documentation using PQIS, enter the following coding:

Location (FES5)	39650	Transfer gear
Damage type (SA4)	5400	Oil leak

3 - Lower transfer gear housing - Damage, possible causes and repair measures

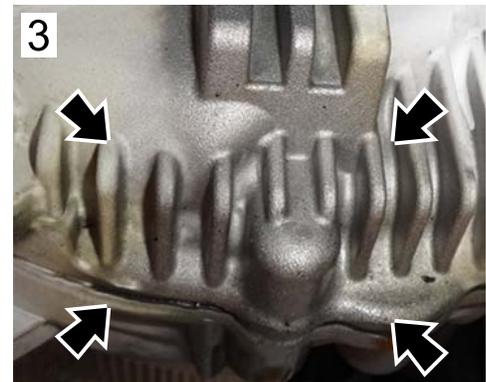


Information

- A (misleading) coating of oil on the bottom of the transfer gear (front and/or rear) can be caused by a minimal leak on one of the drive train components (engine, main transmission, steering gear or front-axle final drive).
- This is an oil leak caused by heat and air flow while driving.
- The component(s) responsible for this must be checked while warm by performing a leak test. The leak must then be corrected if necessary and the transfer gear must be cleaned carefully.

Work Procedure: In the event of leaks on the lower transfer gear housing, check possible cause(s) and carry out the suggested repair measure(s).

Leak area (3): **Leak area 3**
Front transfer gear in lower housing area (⇒ *Front transfer gear — lower housing area*): Coating of oil (⇒ *Front transfer gear — lower housing area -Arrows-*)



Front transfer gear — lower housing area

Cause (3A): Sealing ring on output shaft for front transfer gear leaking
 ⇒ *Sealing ring leaking*



Sealing ring leaking

Repair measure (3A): Replace sealing ring on output shaft for front transfer gear, see ⇒ *Workshop Manual '399255 Replacing sealing ring for transfer gear (front output shaft)'*.

Parts required (3A):	Part No.	Designation	Qty.
		- Use	
	958 341 199 10	⇒ Sealing ring (35 x 62 x 8)	1 ea.
	958 349 490 10	⇒ Circlip - Output shaft for front transfer gear	1 ea.
	958 349 491 10	⇒ Circlip - Front cardan shaft to front-axle final drive	1 ea.
	955 301 115 01	⇒ Screw plug - Front cardan shaft to transfer gear - Oil inspection plug/oil drain plug on transfer gear	2 ea.

Required materials (3A): **Additional** materials required for vehicles **with** hang-on transfer gear:

Sample Porsche part number.

Part No.	Designation	Qty.
000 043 305 63	⇒ Transfer gear oil	0.85-liter container (smaller quantity as required)

Additional materials required for vehicles **with** Torsen transfer gear:

Sample Porsche part number.

Part No.	Designation	Qty.
958 341 536 00	⇒ Transfer gear oil	1-liter container (smaller quantity as required)

**Information**

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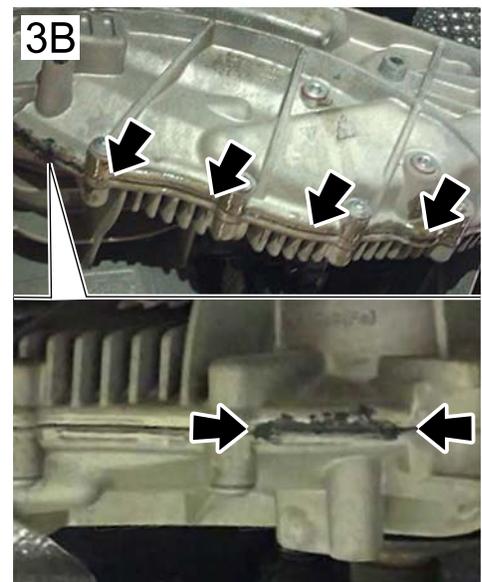
Labor operations
(3A):

LO	Designation
39925551	Replacing sealing ring for transfer gear
39021920	Removing and installing front cardan shaft
39905556	Changing oil for final drive

PQIS coding: For invoicing and documentation using PQIS, enter the following coding:

Location (FES5)	39650	Transfer gear
Damage type (SA4)	5400	Oil leak

Cause (3B): Rear left transfer gear housing leaking (sealant defective)
⇒ *Rear left transfer gear housing leaking*



Rear left transfer gear housing leaking

Repair measure Replace transfer gear, see ⇒ *Workshop Manual '396519 Removing and installing transfer gear'*.
(3B):

Parts required (3B):	Part No.	Designation - Use	Qty.
	958 341 010 XX ¹⁾	Hang-on transfer gear	1 ea.
	or		
	958 341 020 XX ¹⁾	Torsen transfer gear	1 ea.
	WHT 003 211	⇒ 12 point socket	10 ea.
		- Transfer gear screws	
	N 909 913 02	⇒ Hex flange bolt (combination)	4 ea.
		- Cross member to outer body	
	N 105 167 02	⇒ Hex flange bolt, self-locking	2 ea.
		- Cross member to inner body	
	N 900 639 05	⇒ Hex flange bolt	4 ea.
		- Damper to transfer gear	
	958 349 493 00	⇒ Circlip	1 ea.
		- Rear cardan shaft to transfer gear	
	958 349 490 10	⇒ Circlip	1 ea.
		- Front cardan shaft to front-axle final drive	
	958 349 491 10	⇒ Circlip	1 ea.
		- Front cardan shaft to transfer gear	
	955 301 115 01	⇒ Screw plug	1 ea.
		- Oil inspection plug on transfer gear	
	958 111 220 XX ¹⁾	⇒ Clamping sleeve	X ea. ²⁾
		- Exhaust system	

¹⁾ The complete part number must be determined for each vehicle using PET2.

²⁾ The actual number of clamping sleeves required for each vehicle type must be determined using PET2.

Required materials (3B):	Part No.	Designation	Qty.
	000 043 305 73	⇒ Extreme pressure grease	100g tube (approx. 5–10 grams required per vehicle)

Additional materials required for vehicles **with** hang-on transfer gear:

Sample Porsche part number.

Part No.	Designation	Qty.
000 043 305 63	⇒ Transfer gear oil	0.85-liter container (smaller quantity as required)

Additional materials required for vehicles **with** Torsen transfer gear:

Sample Porsche part number.

Part No.	Designation	Qty.
958 341 536 00	⇒ Transfer gear oil	1-liter container (smaller quantity as required)

**Information**

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Labor
operations
(3B):

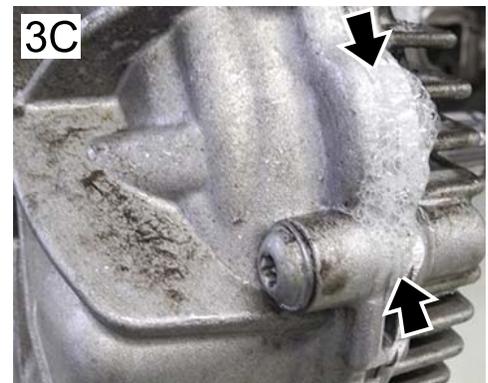
LO	Designation
39903550	Checking and topping off oil for final drive
396519XX ¹⁾	Removing and installing transfer gear

¹⁾ The relevant labor operation for each vehicle type must be determined using the PCSS by specifying the VIN.

PQIS coding: For invoicing and documentation using PQIS, enter the following coding:

Location (FES5)	39650	Transfer gear
Damage type (SA4)	5400	Oil leak

Cause (3C): Outer right transfer gear housing leaking (sealant defective)
⇒ *Outer right transfer gear housing leaking*



Outer right transfer gear housing leaking

Repair measure Replace transfer gear, see ⇒ *Workshop Manual '396519 Removing and installing transfer gear'*.
(3C):

Parts required (3C):	Part No.	Designation - Use	Qty.
	958 341 010 XX ¹⁾	Hang-on transfer gear	1 ea.
	or		
	958 341 020 XX ¹⁾	Torsen transfer gear	1 ea.
	WHT 003 211	⇒ 12 point socket	10 ea.
		- Transfer gear screws	
	N 909 913 02	⇒ Hex flange bolt (combination)	4 ea.
		- Cross member to outer body	
	N 105 167 02	⇒ Hex flange bolt, self-locking	2 ea.
		- Cross member to inner body	
	N 900 639 05	⇒ Hex flange bolt	4 ea.
		- Damper to transfer gear	
	958 349 493 00	⇒ Circlip	1 ea.
		- Rear cardan shaft to transfer gear	
	958 349 490 10	⇒ Circlip	1 ea.
		- Front cardan shaft to front-axle final drive	
	958 349 491 10	⇒ Circlip	1 ea.
		- Front cardan shaft to transfer gear	
	955 301 115 01	⇒ Screw plug	1 ea.
		- Oil inspection plug on transfer gear	
	958 111 220 XX ¹⁾	⇒ Clamping sleeve	X ea. ²⁾
		- Exhaust system	

¹⁾ The complete part number must be determined for each vehicle using PET2.

²⁾ The actual number of clamping sleeves required for each vehicle type must be determined using PET2.

Required materials (3C):	Part No.	Designation	Qty.
	000 043 305 73	⇒ Extreme pressure grease	100g tube (approx. 5–10 grams required per vehicle)

Additional materials required for vehicles **with** hang-on transfer gear:

Sample Porsche part number.

Part No.	Designation	Qty.
000 043 305 63	⇒ Transfer gear oil	0.85-liter container (smaller quantity as required)

Additional materials required for vehicles **with** Torsen transfer gear:

Sample Porsche part number.

Part No.	Designation	Qty.
958 341 536 00	⇒ Transfer gear oil	1-liter container (smaller quantity as required)

**Information**

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Labor
operations
(3C):

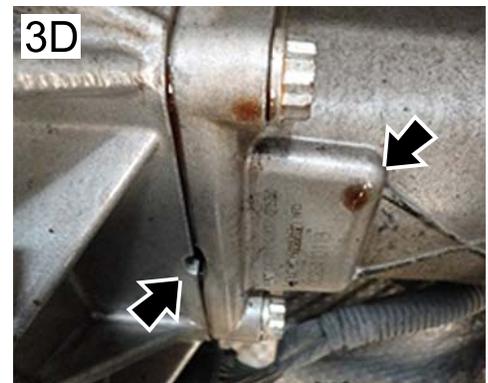
LO	Designation
39903550	Checking and topping off oil for final drive
396519XX ¹⁾	Removing and installing transfer gear

¹⁾ The relevant labor operation for each vehicle type must be determined using the PCSS by specifying the VIN.

PQIS coding: For invoicing and documentation using PQIS, enter the following coding:

Location (FES5)	39650	Transfer gear
Damage type (SA4)	5400	Oil leak

Cause (3D): Oil leak/oil coating on bottom of front transfer gear housing (area where it joins main transmission)
⇒ *Front transfer gear housing, bottom*



Front transfer gear housing, bottom

Repair measure (3D): Leaks from the area where the transfer gear joins the main transmission can spread as far as the (lower) transfer gear output shaft area, see "**Front transfer gear housing (bottom) - Damage, possible causes and repair measures**".

References: ⇒ *Workshop Manual '387055 Replacing sealing ring for rear output shaft'*

- ⇒ *Workshop Manual '399255 Replacing sealing ring for transfer gear (rear output shaft)'*
- ⇒ *Workshop Manual '399255 Removing and installing sealing ring for transfer gear (inner drive)'*
- ⇒ *Workshop Manual '399255 Replacing sealing ring for transfer gear (front output shaft)'*
- ⇒ *Workshop Manual '396519 Removing and installing transfer gear'*

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