

Little or No Cooling Power from the Air-Conditioning System: Checking Refrigerant Lines on Air-Conditioning Compressor (174/23)

Model Line: **Panamera (971)**
Cayenne (9YA / 9YB)

Model Year: **As of 2019 up to 2024**

Equipment: Without alternative drive system **(M-No. OK0)**

Concerns: **Air-conditioning compressor**

Information: **Customers complain that the air-conditioning system cooling performance is too low. Drop formation of refrigerant compressor oil is detected at the low point of the air-conditioning compressor housing. ⇒ Drop formation on air-conditioning compressor**

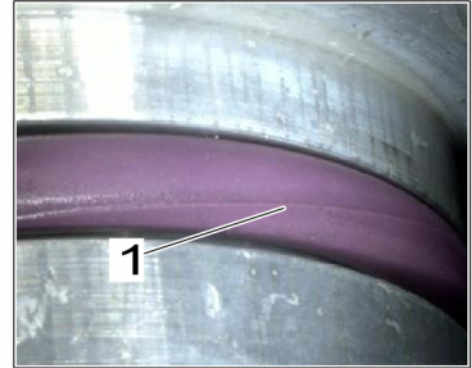


Drop formation on air-conditioning compressor

Cause: Insufficient sealing of the refrigerant lines on the air-conditioning compressor can lead to a leak in the air-conditioning system.

This leak can be caused by a twisted O-ring \Rightarrow *Twisted O-ring* installed in conjunction with the design-related burr on the O-ring \Rightarrow *Twisted O-ring -1-* or by a damaged O-ring on the refrigerant line.

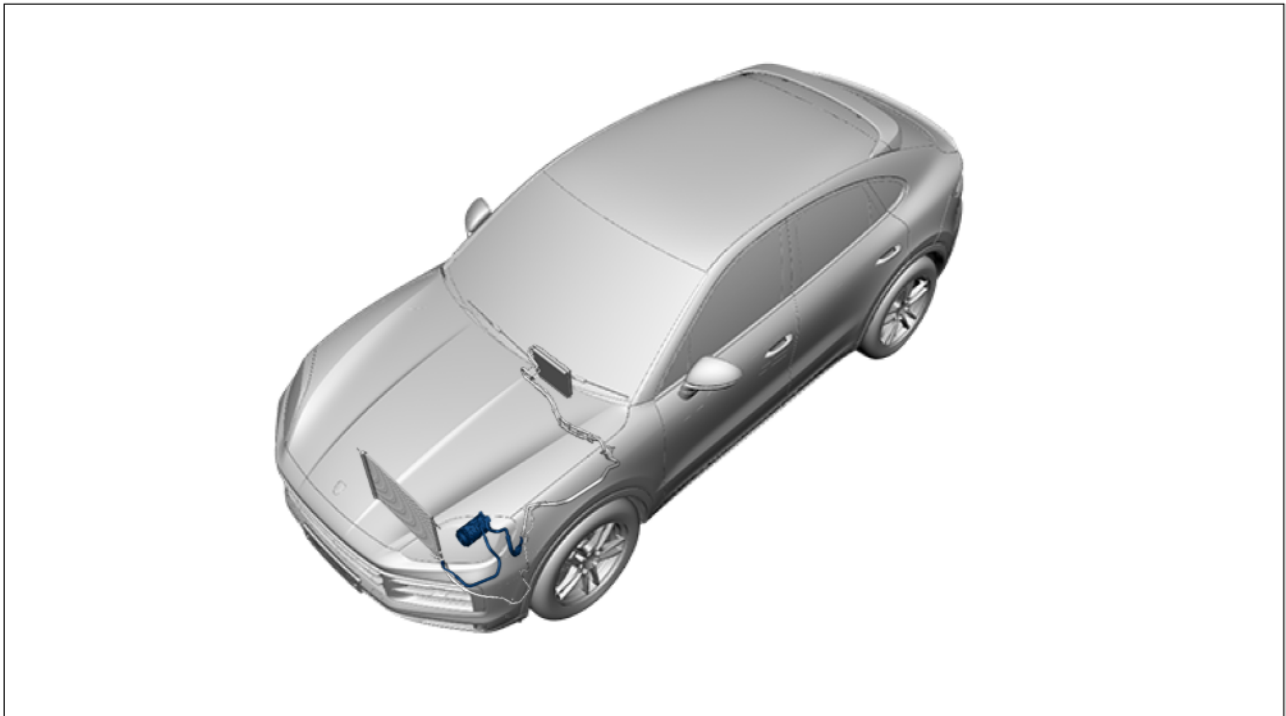
As a result, refrigerant compressor oil can leak and collect at the flange of the refrigerant line and at the lowest point of the air-conditioning compressor.



Twisted O-ring

Action: If there is a complaint, check the respective O-ring of the affected refrigerant line and replace it if necessary.

Installation
Position:



Installation location for air-conditioning compressor / refrigerant lines (shown on the Porsche Cayenne)

Required parts and materials

Parts Info:

Part No.	Designation – Location	Number
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N 10414402	⇒ Cheese head bolt with multiple-tooth head M8 x 28 – Refrigerant line to compressor	1 piece
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95557374903	⇒ O-ring, 23.8 x 2.4 – Refrigerant line between compressor and evaporator	1 piece
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or

Only for Panamera (971)

99970755741	⇒ O-ring 11.00 x 2.50 NX – Refrigerant line between compressor and condenser	1 piece
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or

Only for Cayenne (9YA / 9YB)

95557374901	⇒ O-ring, 11,0 x 2.5 – Refrigerant line between compressor and condenser	1 piece
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Additional parts required for Cayenne (9YA / 9YB) with Porsche Dynamic Chassis Control (PDCC) (M-No. 1P7)

PAF00072900	⇒ Hexagon socket head bolt, M8 x 20 – Front section of front underbody cover	3 pieces
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or

Additional parts required for Cayenne (9YA / 9YB) with engine protective plate (M-No. 1SF)

N 10082912	⇒ Hexagon screw (instrument cluster), self-locking M6 x 16 – Front engine protection on holder	3 pieces
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Materials: **Required materials** (usually already available in the Porsche Center)

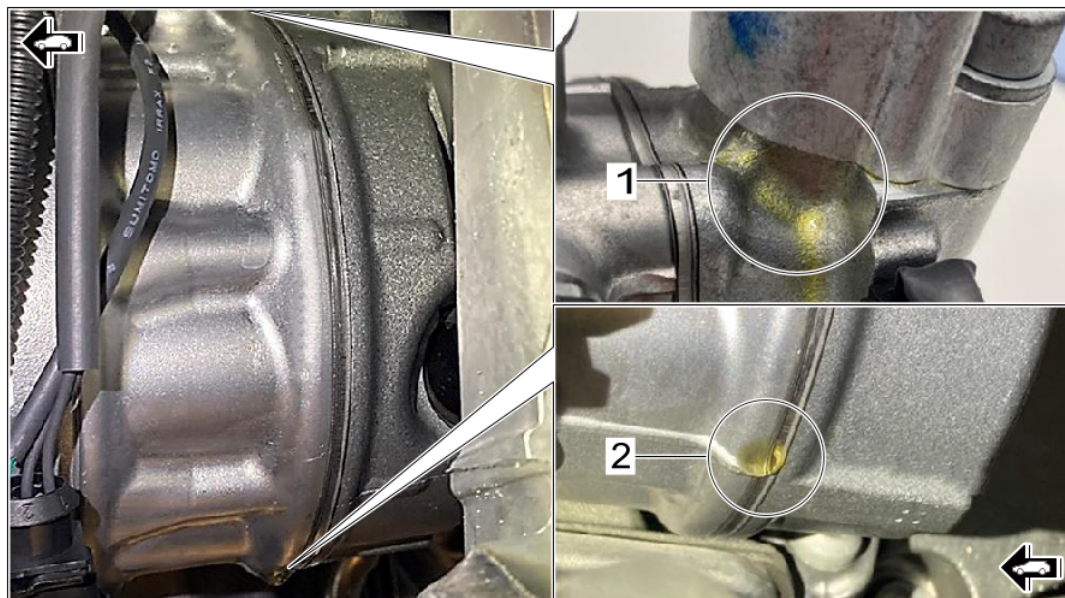
Part No.	Designation – Location	Quantity
Vehicles with refrigerant R1234yf		
9A757390010	⇒ Refrigerant compressor oil 1234yf – Air-conditioning system	As required
....	⇒ Refrigerant 1234yf – Air-conditioning system	As required
Vehicles with refrigerant R134a		
00004330579	⇒ Refrigerant compressor oil R134a – Air-conditioning system	As required
....	⇒ Refrigerant R134a – Air-conditioning system	As required

Required tools

- Tools:
- 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, 20-100 Nm (15-74 ftlb.), e.g., **VAS 5820 - Torque wrench, 20-100 Nm (15-74 ftlb.)**
 - Air conditioning service unit for R1234yf, e.g., **VAS 581 001A - air-conditioning service unit R1234yf** or air conditioning service unit for R134a, e.g., **VAS 6746A - air-conditioning service station R134a**
 - **VAS 6122 - Engine plug set**
 - **P90999 - PIWIS Tester 4**
 - Battery charger with a current rating of **at least 90 A**, e.g., **VAS 5908 - battery charger 90 A**

Checking refrigerant compressor oil loss

- Work Procedure:
- 1 Remove front underbody cover.
⇒ *Workshop Manual '519219 Removing and installing cover for front underbody cover'*
 - 2 Remove front left wheel housing liner.
For procedure, see: ⇒ *Workshop Manual '505619 Removing and installing wheel housing liner front'*
 - 3 Check and evaluate refrigerant compressor oil loss on the flange of the refrigerant line for the compressor - evaporator and refrigerant line for the compressor - condenser on the air-conditioning compressor. ⇒ *Oil loss on air-conditioning compressor*



Oil loss on air-conditioning compressor

	Assessment	Action
(✓)	<p>No refrigerant compressor oil loss can be detected on flange ⇒ <i>Oil loss on air-conditioning compressor -1-</i> or air-conditioning compressor ⇒ <i>Oil loss on air-conditioning compressor -2-</i>.</p>	<p>Locate the complaint elsewhere. End of test. Continue with: ⇒ <i>Technical Information '505619 Follow-up actions'</i></p>
(x)	<p>Refrigerant compressor oil loss can be detected on flange ⇒ <i>Oil loss on air-conditioning compressor -1-</i> or air-conditioning compressor ⇒ <i>Oil loss on air-conditioning compressor -2-</i>. ⇒ <i>Flange refrigerant line leak</i></p> <div data-bbox="446 1518 902 1885" style="text-align: center;"> </div> <p style="text-align: center;"><i>Flange refrigerant line leak</i></p>	<p>Replace the O-ring of the affected refrigerant line. Continue with: ⇒ <i>Technical Information '505619 Replacing O-ring refrigerant line on air-conditioning compressor'</i></p>

Replacing O-ring refrigerant line on air-conditioning compressor

- Work Procedure: 1 Replace the O-ring of the affected refrigerant line on the air-conditioning compressor.
 For procedure, see:
 ⇒ *Workshop Manual '874319 Removing and installing refrigerant line between compressor and condenser'*
 ⇒ *Workshop Manual '874519 Removing and installing compressor/evaporator line (section from air-conditioning compressor to internal heat exchanger)'*

Follow-up actions

- Work Procedure: 1 Install the front left wheel housing liner.
 For procedure, see: ⇒ *Workshop Manual '505619 Removing and installing wheel housing liner front'*
- 2 Install front underbody panelling.
 ⇒ *Workshop Manual '519219 Removing and installing cover for front underbody cover'*

Working position and PCSS encryption (Panamera)

Labor position:

APOS	Labor operation	I No.
87450100	Checking refrigerant compressor oil loss	
87454910	Replacing O-ring refrigerant line on air-conditioning compressor	

PCSS encryption:

Location (FES5)	87340	Air-conditioning compressor
Damage type (SA4)	5000	Leaks

Working position and PCSS encryption (Cayenne)

Labor position:

APOS	Labor operation	I No.
87450100	Checking refrigerant compressor oil loss	
87454900	Replacing O-ring refrigerant line on air-conditioning compressor	

PCSS encryption:

Location (FES5)	87340	Air-conditioning compressor
Damage type (SA4)	5000	Leaks

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