

Insufficient Heating Output Due To Broken Refrigerant Line Between Refrigerant Compressor And The condenser (Hot Gas Line)

Topic number	LI83.20-P-076623
Version	5
Function group	83.20 - Heating
Date	5/5/26
Validity	EQA (H243), EQB (X243)
Reason for change	Attachments

Complaint

- Insufficient heating output in vehicle interior
- Customer describes a one-off, loud "popping" noise during the journey

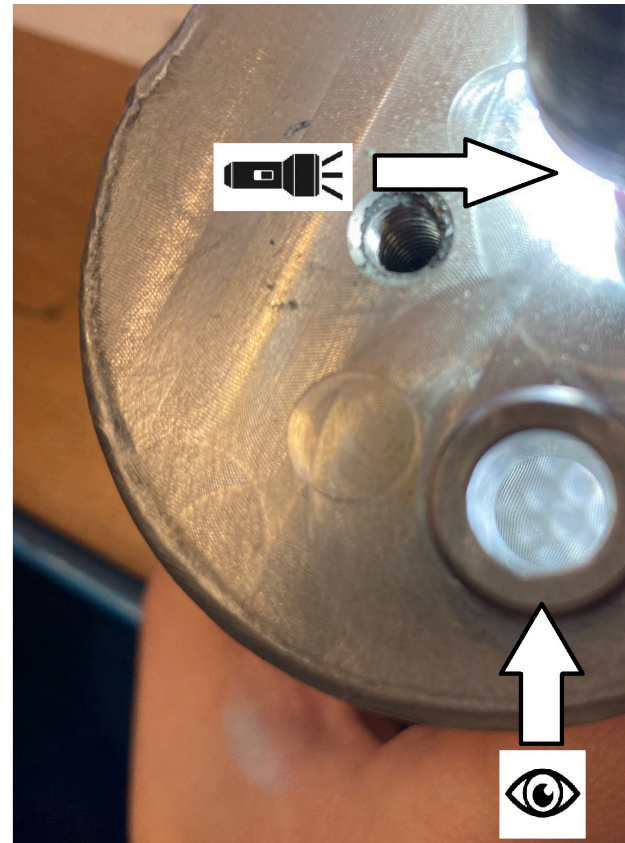
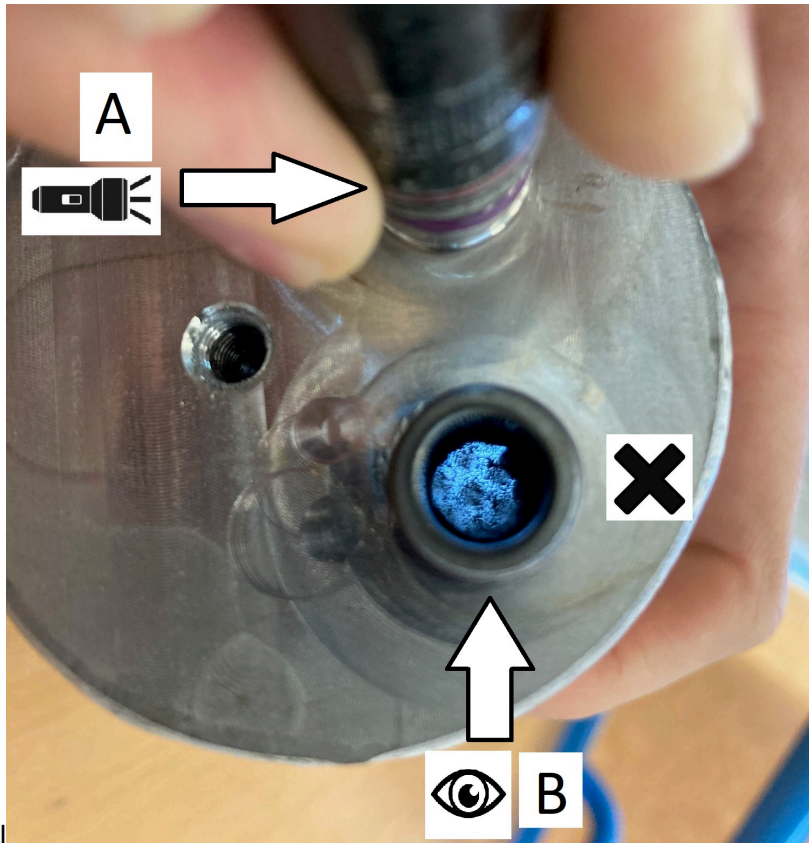
Workshop findings:

- Refrigerant line between refrigerant compressor and condenser is cracked
- If listed line is cracked, please conduct the following tests

1. Are the fault codes B19A200 or P053400 current or stored in air conditioner control unit N10*1?

N10*1 - Signalerfass- und Ansteuermodul - Automatische Klimaregelung (SAM) -f-			
Typ	Teilenummer	Lieferant	Version
Hardware	247 901 81 01	Continental	17/41 003
Software	247 902 20 12	Continental	20/44 000
Diagnosekennung		001022	Steuergerätevariante
			HVAC177_R_20
Fehler	Text		Status
P053400	Der Kältemittelstand ist zu gering. _		S
	Name	Erstes Auftreten	Letztes Auftreten
	Häufigkeitszähler	---	1.00
	Gesamtwegstrecke	11936.00km	11936.00km
	Anzahl der Zündungszyklen seit dem letzten Auftreten des Fehlers	---	9.00
B19A200	Der elektrische Kältemittelkompressor hat Übertemperatur. _		S
	Name	Erstes Auftreten	Letztes Auftreten
	Häufigkeitszähler	---	2.00
	Gesamtwegstrecke	11936.00km	11936.00km
	Anzahl der Zündungszyklen seit dem letzten Auftreten des Fehlers	---	3.00

2. Check dryer cartridge at condenser for particles: Remove dryer cartridge, illuminate inlet of dryer cartridge using flashlight (A), and examine filter screen through outlet of dryer cartridge (B) -> see comparison picture bad/good



Further possible signs for this fault profile are:

- Refrigerant level clearly too low (target: 670 g): In this case, please first of all check where a leak is present in the system
- Loud noises from compressor: If loud noises are coming from the compressor, this finding must be validated with the two tests specified above (check the dryer cartridges or the specified fault codes). Loud noises alone are no reason to replace the compressor, since these can be very subjectively perceived in individual cases.

Attachments	
File	Description
checking_filter_of_dryer_cartidge pictogramm.jpg	
Fault codes in the climate control unit.jpg	

P053400 The refrigerant level is too low. CURRENT and STORED F		
Supplemental information on time of occurrence		
Name	First occurrence	Last occurrence
Frequency counter	---	1.00
Main odometer reading	25152.00km	25152.00km
Number of ignition cycles since the last occurrence of the fault	---	0.00
B19A200 The electric refrigerant compressor has overtemperature. STORED I		
Supplemental information on time of occurrence		
Name	First occurrence	Last occurrence
Frequency counter	---	2.00
Main odometer reading	25024.00km	25152.00km
Number of ignition cycles since the last occurrence of the fault	---	29.00

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Bezeichnung	Teilenummer	Sachnummer	Aus VPDident
OTA	241 25100001	10220000000000000000	10000
Leuchte	1774603001	14225001816	1774603000
Sicherheitsgurt vorn links	2438601000	2438601000	10640
Sicherheitsgurt vorn rechts	2438602000	2438602000	10641
Sicherheitsgurt hinten links	2478603002	2478603002	10642
Sicherheitsgurt hinten rechts	2478604002	2478604002	10644
Gurtchloss vorne links	2478605005	2478605005	10608
Gurtchloss vorne rechts	2478606005	2478606005	10609
Parkman-Kamera hinten	0009050262	0009050262	10727

Fehlercode im Klimasteuergerät.jpg

N10*1 - Signalerfass- und Ansteuermodul - Automatische Klimaregelung (SAM) -f-			
Typ	Teilenummer	Lieferant	Version
Hardware	247 901 81 01	Continental	17/41 003
Software	247 902 20 12	Continental	20/44 000
Diagnosekennung	001022	Steuergerätevariante	HVAC177_R_20
Fehler	Text	Erstes Auftreten	Letztes Auftreten
P053400	Der Kältemittelstand ist zu gering. S	---	---
	Name	Erstes Auftreten	Letztes Auftreten
	Häufigkeitszähler	---	1.00
	Gesamtwegstrecke	11936.00km	11936.00km
	Anzahl der Zündungszyklen seit dem letzten Auftreten des Fehlers	---	9.00
B19A200	Der elektrische Kältemittelkompressor hat Übertemperature. S	---	---
	Name	Erstes Auftreten	Letztes Auftreten
	Häufigkeitszähler	---	2.00
	Gesamtwegstrecke	11936.00km	11936.00km
	Anzahl der Zündungszyklen seit dem letzten Auftreten des Fehlers	---	3.00

Cause

The refrigerant line between the A/C compressor and capacitor may be damaged due to a high refrigerant temperature.

Remedy

If the tests listed have been carried out and the results correspond to the described fault profile, please carry out the following steps:

If the tests listed have been carried out and the results correspond to the described fault profile, please carry out the following steps:

1. Flushing of the refrigerant circuit as per AR83.30-P-1785EQA
2. Then replace the following parts:
 - A/C compressor (**IMPORTANT: If the A/C compressor A0008304404 or A0008307704 is installed in the vehicle, it must be replaced by part number A0008307804**)
 - If the capacitor A0998301100 is installed, then replace the complete capacitor (including dryer cartridge and PT sensor).

XENTRY Tips

- If capacitor A0998301400/1500 is installed, only new dryer cartridge (A2938350500)
- Refrigerant line between refrigerant compressor and capacitor (A2438308600)

3. To use the new refrigerant line A2438308600, the electric line for pressure sensor B161/2 must be extended using the adapter wiring harness A2435408724.

- Disconnect plug from pT sensor
- Route the adapter line A2435408724 to the newly positioned pT sensor and secure it with a cable tie to prevent chafing

4. Insert the blind plug from the adapter wiring harness onto the old sensor.



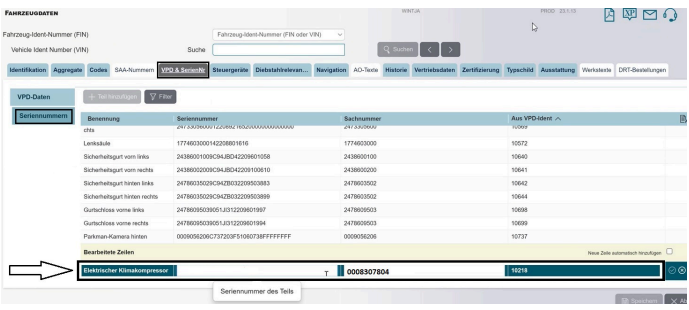
5. Check SAM (N10) for latest software. If necessary, perform software update.

6. Finally, please check whether all heating and cooling functions are working; if not, please create a TIPS case with the following

information:

- Detailed description of the customer complaint and the workshop measures carried out
- Initial quick test

- Photos of the filter screen of the dryer cartridge

Attachments	
File	Description
Redocumentaion+VeDoc.jpg 	

Disclaimer

NOTE: The information contained in this document is intended for use by trained, professional technicians with the knowledge to properly and safely perform diagnosis and repairs on Mercedes-Benz vehicles, using Mercedes-Benz approved tools and equipment. It informs service technicians about conditions that could occur in certain vehicles and provides information that could assist in proper vehicle diagnosis, service, or repair. It does not indicate that a defect is present in any vehicle referenced in this document nor does it imply warranty coverage. DO NOT assume that a symptom or condition, or a described cause of a symptom or condition, affects any particular vehicle or groups of vehicles, or that a described repair applies to any particular vehicle or groups of vehicles. There can be multiple causes resulting in the same or similar symptoms or conditions described in this document, and trained professional service technicians must use their diagnostic skills to make evaluations on a case-by-case basis. The information contained in this document does not guarantee warranty coverage nor does it extend the vehicle's warranty in any way.

Symptoms
Body > Air conditioning > Heater > Insufficient heat output
Body > Air conditioning > Air conditioning > Insufficient cooling output

Parts						
Part number	ES1	ES2	Designation	Quantity	Note	EPC
A0008307804			refrigerant compressor	1	Important: A0008307804 replaces A0008304404 and A0008307704	X
A0998301400/1500			Capacitor	1		X
A2435408724			Electrical wiring harness sensor	1	Includes line, blind plug, and cable tie	X
A2438308600			Refrigerant line between refrigerant compressor and condenser	1		X
A2938350500			Filter Dryer	1	only if capacitor A0998301400/1500 is installed	X

Control unit/fault code	
Control unit	Fault text

XENTRY Tips

N10*1 - Signal acquisition and actuation module - Automatic climate control (SAM) (HVAC177)	B19A200 - The electric refrigerant compressor has over-temperature. _ P053400 - The refrigerant level is too low. _
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Operation numbers/damage codes

Op. no.	Operation text	Time	Damage code	Note
			8307Y	