

## Check engine light or Adblue warning with fault codes P206B31, P203B31, or P300494 present in AdBlue (SCR) control unit (N118/5)

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Topic number	LI49.20-N-078838
Version	11
Function group	49.20 - Exhaust gas aftertreatment
Date	3/23/26
Validity	Model 907
Reason for change	Remedy Update

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### Complaint

The check engine light or AdBlue warning is activated, accompanied by one or more of the following fault codes related to the AdBlue tank:

P206B31 Malfunction of the concentration sensor for AdBlue; the signal is absent.

P203B31 Malfunction of the AdBlue fill level sensor; the signal is absent.

P300494 The quality of the AdBlue is insufficient.

### Cause

- A. The software for the AdBlue (SCR) control unit (N118/5) is outdated.
- B. The AdBlue concentration is outside ISO 22241 limits (below 31.8 percent or above 33.2 percent).
- C. Frozen or partially frozen AdBlue can cause the AdBlue level and concentration functions to report inaccurate values.
- D. The AdBlue level and concentration sensing functions in the tank are damaged.
- E. Cold soak and freeze thaw exposure can temporarily create concentration gradients in the tank and lead to sampling dependent readings until fully thawed and mixed.

### Important

Before evaluating any AdBlue concentration result, follow LI49.20-N-080376 to confirm full thaw, perform a mixing drive, and retest.

Do not use a single urea percent reading taken from frozen, partially frozen, or not fully mixed AdBlue for a repair or responsibility decision.

### Remedy

#### A. Software

1. Verify no newer software is available for the AdBlue (SCR) control unit (N118/5).

2. If a software update is available, program the control unit per XENTRY guidance.
3. Only after the system is in proper working condition, complete LI49.20-N-075995 for AdBlue warning reset.

Note:

If there is no updated software available, print the XENTRY screen indicating this and proceed to section B.

## B. AdBlue concentration

1. Confirm full thaw and mixing per LI49.20-N-080376, then verify AdBlue concentration.
  - a. Check concentration using the MB refractometer per the MB tool instructions and applicable WIS guidance.
  - b. Use freeze frame data when applicable.
2. If AdBlue concentration remains below 31.8 percent or above 33.2 percent after full thaw, mixing drive, and retest, AdBlue replacement is required.

Warranty and responsibility decisions must follow LI49.20-N-080376 warranty handling guidance and standard warranty policy.

3. If AdBlue concentration is within specification, proceed to section C.

## C. Frozen AdBlue or SCR actual values indicate frozen AdBlue

1. Check if AdBlue is frozen. If frozen, allow the vehicle to sit in a warm environment overnight and recheck.
2. With the vehicle running and XENTRY connected, display the actual AdBlue level values.
3. Drain the AdBlue tank and verify the displayed fill level reflects the change.
4. Fill the AdBlue tank slowly. Do not overfill. Verify the fill level reflects the change.

Note:

For model years 23 to 25, Fill Level Sensor 1 functions as the empty sensor and accurately measures only the bottom portion of the tank. Once the level is above the measurement range, the displayed value may fluctuate. This is normal.

5. Reset the AdBlue tank fill level via XENTRY. Print the XENTRY pages showing that the fill up completed successfully.
6. Only after the system is in proper working condition, complete LI49.20-N-075995 for AdBlue warning reset and print the XENTRY pages confirming the reset completed successfully.

Note:

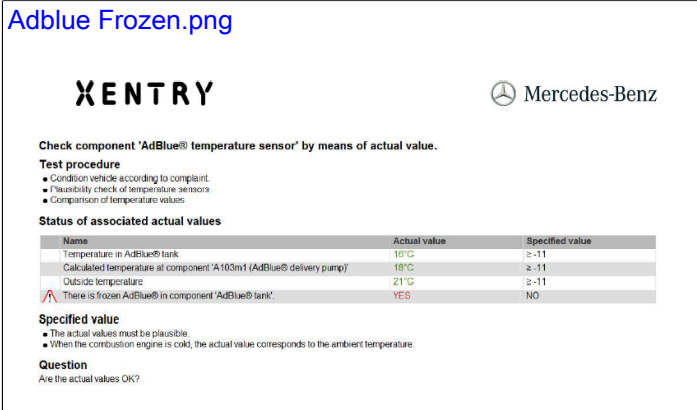
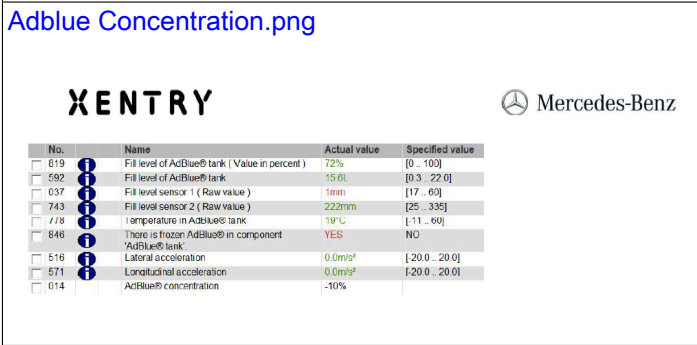
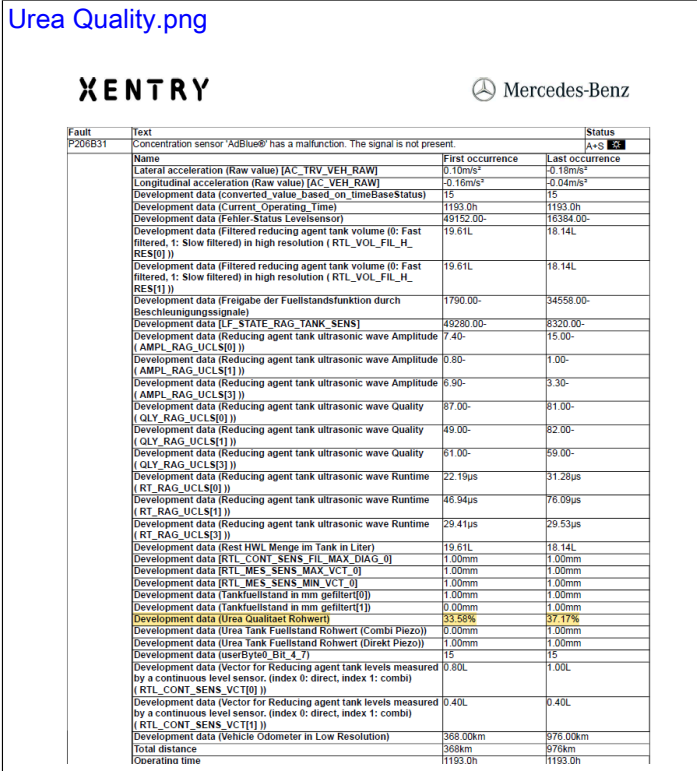
If XENTRY still indicates frozen AdBlue or the concentration remains inaccurate after drain and refill and the thaw, mix, retest requirements were completed, proceed to section D.

## D. Damaged AdBlue level and concentration sensing functions

1. Replace the AdBlue tank as required by applicable MB guidance.
2. With the vehicle running and XENTRY connected, display the actual AdBlue level values.
3. Fill the AdBlue tank slowly. Do not overfill. Verify the fill level reflects the change.
4. Reset the AdBlue tank fill level via XENTRY.
5. Only after the system is in proper working condition, complete LI49.20-N-075995 for AdBlue warning reset.

**Note:**

During the L149.20-N-075995 reset, ensure the outside temperature sensor is reading above 10 degrees Fahrenheit. If not, keep the vehicle inside and repeat the reset steps.

Attachments																																																																																																													
File	Description																																																																																																												
<p><a href="#">Adblue Frozen.png</a></p>  <p><b>XENTRY</b> Mercedes-Benz</p> <p>Check component 'AdBlue® temperature sensor' by means of actual value.</p> <p><b>Test procedure</b></p> <ul style="list-style-type: none"> <li>Condition vehicle according to complaint.</li> <li>Plausibility check of temperature sensor</li> <li>Comparison of temperature values</li> </ul> <p><b>Status of associated actual values</b></p> <table border="1"> <thead> <tr> <th>Name</th> <th>Actual value</th> <th>Specified value</th> </tr> </thead> <tbody> <tr> <td>Temperature in AdBlue® tank</td> <td>16°C</td> <td>≥ -11</td> </tr> <tr> <td>Calculated temperature at component A103m1 (AdBlue® delivery pump)</td> <td>18°C</td> <td>≥ -11</td> </tr> <tr> <td>Outside temperature</td> <td>21°C</td> <td>≥ -11</td> </tr> <tr> <td>There is frozen AdBlue® in component 'AdBlue® tank'</td> <td>YES</td> <td>NO</td> </tr> </tbody> </table> <p><b>Specified value</b></p> <ul style="list-style-type: none"> <li>The actual values must be plausible</li> <li>When the combustion engine is cold, the actual value corresponds to the ambient temperature</li> </ul> <p><b>Question</b></p> <p>Are the actual values OK?</p>	Name	Actual value	Specified value	Temperature in AdBlue® tank	16°C	≥ -11	Calculated temperature at component A103m1 (AdBlue® delivery pump)	18°C	≥ -11	Outside temperature	21°C	≥ -11	There is frozen AdBlue® in component 'AdBlue® tank'	YES	NO	<p>Adblue Frozen</p>																																																																																													
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WIS-References		
Document number	Title	Note
AP49.20-D-0101TS	AdBlue(R) tank - Check/correct fluid level	
AR49.20-D-2015TS	Empty/fill AdBlue(R) tank	
AR49.20-D-2014TSF	Remove/install AdBlue(R) tank	

## 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
Power generation > Fuel system > Fuel tank > Function > Different level
Power generation > Exhaust system > AdBlue > AdBlue consumption > Too high

Parts						
Part number	ES1	ES2	Designation	Quantity	Note	EPC
A9104702401			NOX REDUCING AGENT TANK	1		X

Control unit/fault code	
Control unit	Fault text
N118/5   N141 - Selective catalytic reduction (SCR GEN4) (UDCM2)	P203B31 - The AdBlue® fill level sensor has a malfunction. The signal is not present.  P206B31 - Concentration sensor 'AdBlue®' has a malfunction. The signal is not present.
N3/40 - Motor electronics 'MRD1' for combustion engine 'OM654' (CDI) (MRD1NFZ)	P300494 - The AdBlue® quality is insufficient.

Operation numbers/damage codes				
Op. no.	Operation text	Time	Damage code	Note
470643	Check separate parts of AdBlue(R) system: ... as per fault code	0.7 H		This Operation item is used for completing LI49.20-N-075995.
499264	Check AdBlue(R) concentration (After quick test)	H		
499290	Empty/fill AdBlue(R) tank	H		
499292	Replace AdBlue(R) tank	H	4707250	

## XENTRY Tips

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540650	On-board power supply voltage Maintain (when checking/testing and troubleshooting)	H		
540990	Program, code ..... control unit (After quick test)	H		If newer software is available
541011	Perform quick test	H		