Juddering/shuddering at the front axle brakes

Topic number	LI42.10-P-067182
Version	2
Function group	42.10 Service brake
Date	10-23-2017
Validity	BR 205 without AMG
Reason for change	Operation item
Reason for block	

Complaint:

Juddering/shuddering of the brakes at the front axle can be felt when braking.

Validity for cold juddering:

Cold juddering occurs when braking normally at any speed and is identifiable by pulsation of the brake pedal or vibrations at the steering wheel.

As opposed to cold juddering, thermal juddering only occurs when braking sharply at high speeds.

This document is not valid for juddering related to heat.

Cause:

Grinding of a thickness error into the brake disk.

Possible causes:

- Different torque due to improper tightening of the wheel threaded connection

- Wheel contact surface damaged or soiled

- Imbalance at the wheel

- Wheel suspension or steering parts damaged

Remedy:

Always check the wheel assembly components:

1 Check operational condition of disk brake and brakepads (see attachment AP42.10-P-4256EW), particularly sliding elements.

2 Check the wheel for imbalance (including vertical runout if possible) and rebalance if necessary.

3 Ensure operational condition of wheel suspension and steering parts.

4 Check wheel hub contact surface for damage and cleanliness.

5 If none of the components mentioned above are visibly or measurably damaged, then carry out the following repairs:

5.1 Replace brake disks.

Note:

- Please observe "Note on processing, transporting and storing compound brake disks" (see attachment AH42.10-P-9406-12LF)!

5.2 Replace brakepads.

6. Install wheels as follows:

Note:

- An impact wrench must NOT be used for assembly!

6.1 Clean, check and protect the components from corrosion before assembly (see attachment AR40.10-P-1100-02A)

6.2 Mount wheel bolts crosswise by hand with max. 20 Nm (see picture in attachment "Wheel threaded connection tightening sequence").

6.3 First tighten wheel bolts crosswise with a torque wrench up to max. 70 Nm (see picture in attachment "Wheel threaded connection tightening sequence").

6.4 Lower vehicle until the wheels are prevented from spinning.

6.5 Tighten wheel bolts crosswise with a torque wrench to the prescribed vehicle-specific tightening torque (see picture in attachment "Wheel threaded connection tightening sequence").

6.6 Lower vehicle completely.

6.7 Retorque wheel bolts with vehicle-specific prescribed tightening torque.

Attachments	
File	Description
Anzugreihenfolge Radverschraubung.jpg	Wheel bolts are to be tightened in the 1-2-3-4-5 sequence displayed in the picture

Symptoms
Chassis/suspension / Brake system / Service brake / Function / Vibrates/shudders

Parts

Attachments	
File	Description
AR40.10-P-1100-02A.pdf	Note on checking and cleaning the wheel threaded connection
AP42.10-P-4256EW.pdf	Note on evaluating the condition of brake discs
AH42.10-P-9406-12LF.pdf	Note on processing, transporting and storing compound brake discs

Operation numbers/damage codes				
Op. no.	Operation text	Time	Damage code	Note
40-1590	REMOVE/INSTALL WHEELS (2)		42101 H4	
42-2694	REMOVE/INSTALL BRAKE PADS OF FRONT AXLE, REPLACE IF NECESSARY (WHEELS REMOVED)		42101 H4	
42-2737	REMOVE/INSTALL BRAKE DISKS OF FRONT AXLE, REPLACE IF NECESSARY (BRAKE PADS REMOVED)		42101 H4	