Juddering/shuddering at the front axle brakes

Topic number	LI42.10-P-066910
Version	1
Function group	42.10 Service brake
Date	08-16-2017
Validity	Model series 213 without AMG
Reason for change	

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.

In contrast 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 the wheel threaded connection being tightened incorrectly

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

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

3 Ensure that the wheel suspension and steering parts are in operational condition.

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 the 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 the wheel bolts crosswise with a torque wrench 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 vehicle-specific prescribed 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

Parts

Attachments	
File	Description
AP42.10-P-4256EW.pdf	Assess condition of brake disks.
AH42.10-P-9406-12LF.pdf	Notes on handling, transport and storage of composite brake disks
AR40.10-P-1100-02A.pdf	Clean/check/corrosion protect wheel bolting components

Operation numbers/damage codes

Op. no.	Operation text	Time	Damage code	Note

40-1590	REMOVE/INSTALL WHEELS (2)		42101 H4	
42-2706	REMOVE/INSTALL BRAKE PADS OF FRONT AXLE, REPLACE IF NECESSARY (WHEELS REMOVED)		42101 H4	
42-2731	REMOVE/INSTALL BRAKE DISKS OF FRONT AXLE; REPLACE IF NECESSARY (BRAKE PADS REMOVED)		42101 H4	