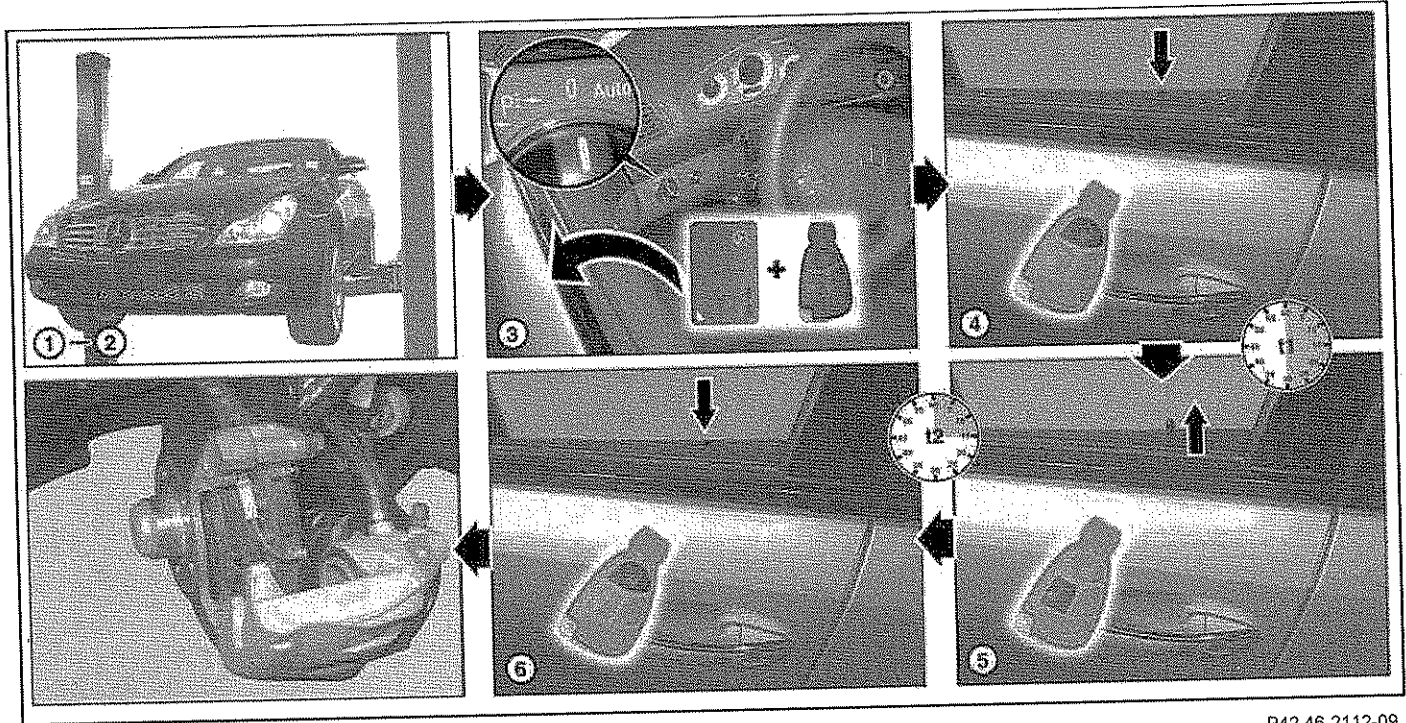


MODEL 211, 219
with Sensotronic Brake Control (SBC)

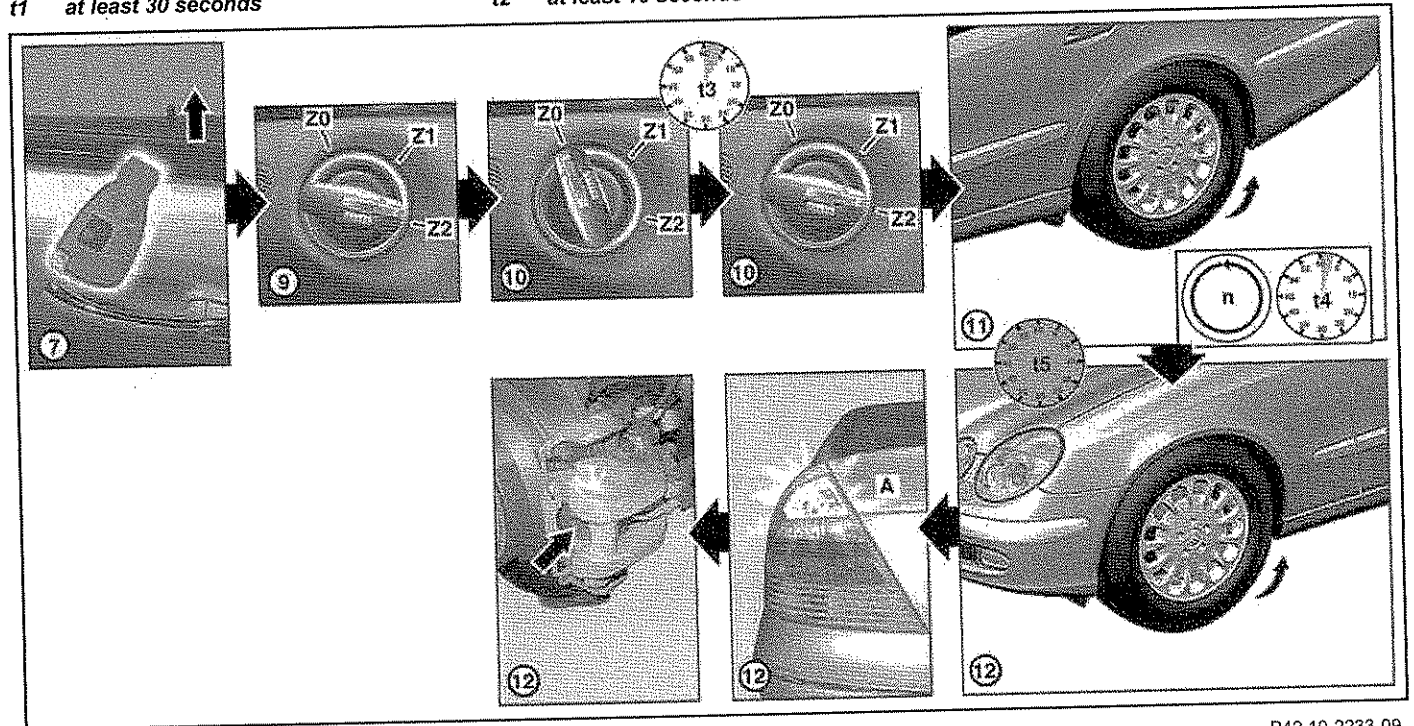
MODEL 230



P42.46-2112-09

t1 at least 30 seconds

t2 at least 15 seconds

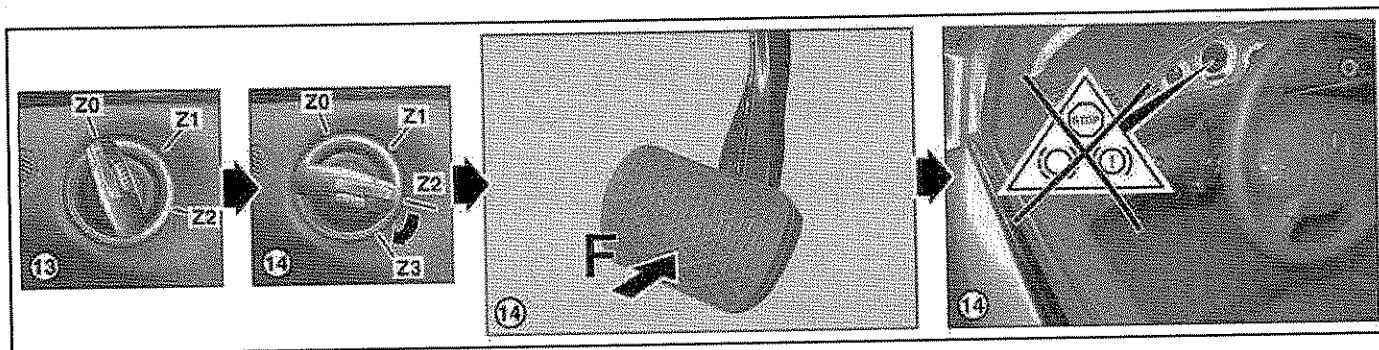


P42.10-2233-09

A Flashes 3 times
n 1 to 2 revolution(s)
t3 1 to 5 seconds

t4 at least 3 seconds
t5 max. 60 seconds
Z0 Ignition off

Z1 Power supply for consumers
Z2 Ignition ON



P42.10-2234-07

Z0 Ignition off

Z2 Ignition ON

Z3 Start engine

Z1 Power supply for consumers

	Remove/install		
Danger!	Risk of injury caused by body parts being jammed or crushed. Risk of injury to skin and eyes caused by brake fluid spraying out at high pressure when working on the SBC brake system	Prevent SBC self-test.	AS42.46-Z-0001-01B
Danger!	Risk of death caused by vehicle slipping or toppling off of the lifting platform.	Align vehicle between the columns of the lifting platform and position the four support plates at the lifting platform support points specified by the vehicle manufacturer.	AS00.00-Z-0010-01A
	Notes on repairs to brake system		AH42.00-P-0003-01A
	The SBC system must be deactivated on a mandatory basis using STAR DIAGNOSIS before working on the operating unit or hydraulic unit. Brake pad exchange and brake fluid change must not be carried out simultaneously. Before working on the SBC brake system the sequence of the SBC self-test must be prevented as this leads to the brake pistons being pushed out automatically. When working on the SBC brake system the brake pedal must not be pressed under any circumstances as this leads to the brake pistons moving out automatically. Inadvertent operation of the brake pedal must be prevented reliably by suitable measures. No persons or animals may stay in the vehicle when working on the SBC brake system		
	Before starting the work it is absolutely essential to read through the complete work description, as the work must be completed in quick succession. To carry out the work correctly a second person must be present, as within the work procedure certain signals cannot be seen by one person		
	If the work procedure is revised or the timing specifications are not maintained, the work cannot be carried out correctly		
1	Raise vehicle using lifting platform until wheels are free		
2	Open the side window on the driver's side		
3	Switch off all electrical consumers of the vehicle and remove the key from the ignition switch	Vehicles with Keyless Go code 889: Press start/stop button repeatedly until ignition is switched off.	
	Disable the SBC self-test		
4	Close vehicle doors and leave vehicle centrally locked for min. 30 seconds (t1)	Vehicles with Keyless Go code 889: remove Keyless Go cards or key from the vehicle and store outside of transmitter range (for at least 2 minutes). During this time the run-on of the SBC brake system closes	

5	Unlock vehicle for at least 15 seconds (t2).	<p>i The brake pedal must not be pressed any more from now on.</p> <p>i An SBC self-test may run during this time.</p>	
6	Lock vehicle	<p>i In order to prevent people getting in.</p> <p>i If the engine hood is unlocked when the vehicle is locked, the alarm system is triggered.</p>	
i	<p>15 seconds after locking the following operations can be carried out in the wheel brake area:</p> <ul style="list-style-type: none"> ● Replace front and rear brake pads, ● Detach/attach front and rear brake disks, ● Remove/install parking brake shoes <p>Once the operations are completed the application routine must be activated</p>	<p>i The vehicle must not be unlocked under any circumstances when working on the brake system.</p> <p>i By unlocking, the brake application routine is started and the brake pads are applied.</p>	
Activate application routine of brake pads			
i	The hydraulic unit temperature must be a maximum of 80 °C		
7	Unlock vehicle		
8	Switch on ignition (Z2)	<p>i Through the open side window.</p> <p>i Vehicles with Keyless-Go code 889: Do not activate any Keyless Go functions for the following work.</p>	
9	Switch off ignition (Z0), wait 1 to 5 seconds (t3) and switch ignition on again (Z2)	<p>i Do not start engine!</p> <p>i The ignition remains switched on for the further steps.</p>	
10	Rotate rear left wheel swiftly and evenly in the running direction	i Turn the wheel for at least 3 seconds (t4) (1 to 2 revolutions/s (n)) and then stop the wheel.	
11	Rotate the front left wheel swiftly and evenly in the running direction	<p>i The left front wheel must be rotated no more than 60 seconds (t5) after the left rear wheel.</p> <p>Rotate the wheel (1 to 2 revolution(s) (n)) until it is stalled automatically.</p> <p>Flashing on and off 3 times (A) confirms successful activation:</p> <p>The application routine is started.</p> <p>The front and rear brake pads are applied several times.</p> <p>After approx. 50 seconds the application routine is completed.</p>	
12	Lower vehicle and switch off ignition (Z0)		
13	<p>Start the engine and depress the brake pedal 5 to 10 times</p> <p>AD Connect STAR DIAGNOSIS and read out fault memory</p>	<p>i If a fault message is displayed in the multifunction display: ↓</p> <p>Repeat activation of application routine. If the error message continues to be shown in the multifunction display after repeating the application routine several times: ↓</p> <p>Apply the brake pads using STAR DIAGNOSIS, read out and erase diagnostic trouble code memory.</p> <p>STAR DIAGNOSIS diagnosis system</p>	<p>AD00.00-P-2000-04A</p> <p>*WH58.30-Z-1048-13A</p>

Commercially available tools

Number	Designation	
WH58.30-Z-1048-13A	STAR DIAGNOSIS diagnosis system, Compact Passenger Car	6511 1801 00

Name	Remove/check/install front axle brake pads
Document number	ar4210p1600tx
Document title	Remove/check/install front axle brake pads

	Remove/install		
Danger!	Risk of injury caused by body parts being jammed or crushed. Risk of injury to skin and eyes caused by brake fluid spraying out at high pressure when working on the SBC brake system	Deactivate SBC brake system using STAR DIAGNOSIS.	AS42.46-Z-0001-01A
Danger!	Risk of poisoning caused by swallowing brake fluid. Risk of injury caused by brake fluid coming into contact with skin and eyes.	Only pour brake fluid into suitable and appropriately marked containers. Wear protective clothing and eye protection when handling brake fluid.	AS42.50-Z-0001-01A
Danger!	Risk of injury to skin and eyes caused by handling hot or glowing objects.	Wear safety gloves, protective clothing and safety glasses, if necessary.	AS00.00-Z-0002-01A
	Notes on repairs to brake system		AH42.00-P-0003-01A
	Brake fluid notes		AH42.50-P-0001-01A
	Notes on self-locking nuts and bolts		AH00.00-N-0001-01A
1	Unscrew the cap on the brake fluid expansion reservoir and suction off some brake fluid	In order to prevent the expansion reservoir overflowing when pressing back the brake pistons. 	*BA42.50-P-1001-01D
2	Deactivate SBC brake system using STAR DIAGNOSIS.	Vehicles with Sensotronic Brake Control (SBC) The following steps should be run through in STAR DIAGNOSIS: Select menu item "SBC-Sensotronic Brake Control"/"Deactivate 'SBC' system". Then process all the individual steps from top to bottom.	
AP	Remove the front wheels Remove/install wheels, rotate if necessary		AP40.10-P-4050TX
4	Separate brake pad contact sensor connector (S10/1x1, S10/2x1)		
5	Detach brake pad contact sensor connector (S10/1x1, S10/2x1) from fixed brake caliper (31a)	With 6- and 8-piston fixed brake caliper 	*BA42.10-P-1003-10B
6	Drive out retaining pins (41) using punch and remove retaining springs (31d)	Installation: Knock retaining pins (41) all the way in. Pay attention to correct seat of retaining springs (31d).	
7	Remove bolt (30) and detach retaining spring support (33)	With 6-piston fixed brake caliper 	*BA42.10-P-1004-10B
8	Pull brake pads (43) out of fixed caliper (31a)	On 4-piston fixed brake caliper: In order to avoid damage, insert a wedge between the lever (034) and fixed brake caliper (31a) when pressing out the brake pads (43). Brake pads (43) are to be disposed of as special waste. The local authorities can provide information regarding whether disposal is also permitted as industrial waste similar to domestic waste. Installation: Only sets of brake pads (43) approved by Mercedes-Benz may be installed. Install front axle brake pads (43) with panel (43a) dry. The marking (arrow) on the plate (43a) or brake pad (43) must point in the direction of rotation of the wheel. 	*123589133300 *601589076300
9	Pull brake pad contact sensor (S10/1, S10/2) out of the pad backing plate of the brake pads (43) Notes on installing brake pad wear sensor contact sensors	Installation: Replace defective contact sensors (S10/1, S10/2).	AH42.10-P-0003-01A
	Checking		
10	Check brake lining thickness and brake disks	Only replace brake pads (43) and brake	

AP	Inspect condition of brake disks		AP42.10-P-4258TX
11	Check fixed brake caliper (31a) for leaktightness and dust boots of brake pistons for damage and correct seating	If necessary: ↓ Install new fixed brake caliper (31a).	AR42.10-P-0070TX
12	Turn back brake piston in pairs using pusher tool	Secure the remaining pairs of brake pistons (31a) beforehand using wedges to prevent them from falling out. If the brake pads (43) of several brake calipers are removed, their brake pistons must also be secured to prevent them from falling out. Do not fit pusher tool on the brake disk but push back the opposite brake pistons simultaneously. If the brake piston is difficult to move: ↓ Install new fixed brake caliper (31a). 	AR42.10-P-0070TX *000589524300 *601589076300
	Clean		
13	If necessary, clean the perforation of brake disks		AR42.10-P-2260-011
14	Install in the reverse order		
15.1	Activate SBC brake system using STAR DIAGNOSIS	Vehicles with Sensotronic Brake Control (SBC) The following steps should be run through in STAR DIAGNOSIS: Select the menu item "SBC-Sensotronic Brake Control"/"Initial startup after repair"/"Remove/install brake pads". Then process all the individual steps from top to bottom.	
Danger!	Risk of accident when commissioning the vehicle due to a lack of braking effect when the service brake is operated for the first time after repair work	Before starting engine, actuate brake pedal several times until the pressure is built up and maintained in the brake system.	AS42.50-Z-0002-01A
15.2	Operate the brake pedal several times until the brake pads (43) contact the brake disks	Vehicles with Adaptive Brake (ABR) Firm resistance should be noticeable at the brake pedal.	
16	Inspect fluid level in expansion reservoir, adjust to correct level if necessary Brake system - inspect fluid level		AP42.10-P-4210TX

Front axle brake caliper



Number	Designation	Model	Model
		219.372/376/377	219.322/354/356 / 357/375
BA42.10-P-1003-10B	Bolt, brake pad contact sensor to brake caliper	Nm 8	8
BA42.10-P-1004-10B	Bolt, anti-rattle spring support to brake caliper	Nm 30	-

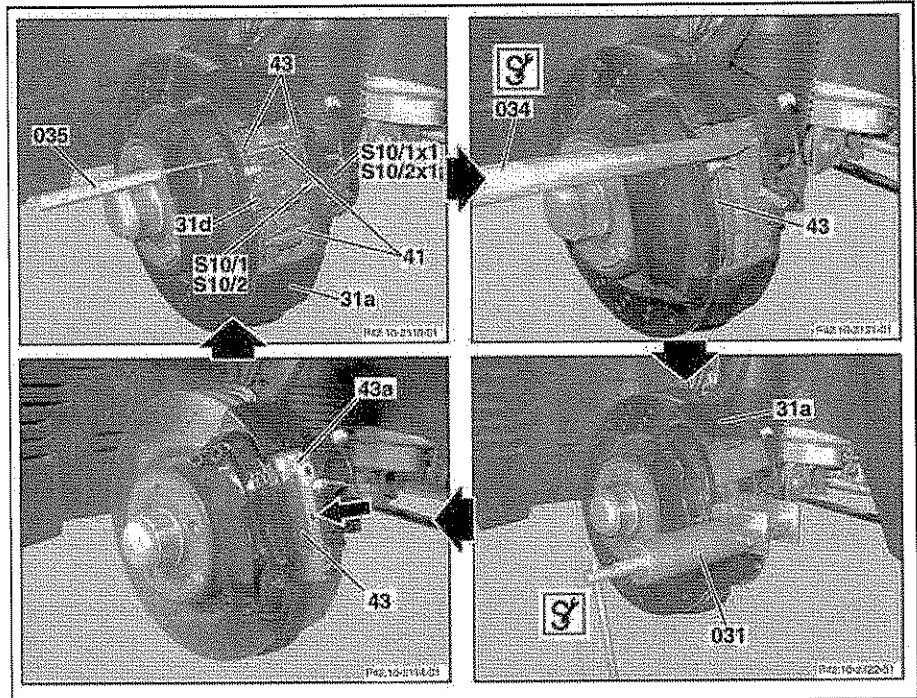
Brake system hydraulics

Number	Designation	Model
		219
BA42.50-P-1001-01D	Cap to brake fluid expansion reservoir	Nm ≈2

MODEL 219

Shown on 4-piston fixed caliper

- 031  Pusher tool
 034  Lever
 035 Drift
 31a Fixed caliper
 31d Retaining spring
 41 Retaining pin
 43 Brake pad
 43a Panel



P42.10-2124-06

S10/1 Left front brake pad contact sensor

S10/1x1 Left front brake pad contact sensor connector

S10/2 Right front brake pad contact sensor

S10/2x1 Right front brake pad contact sensor connector

Shown on 8-piston fixed caliper

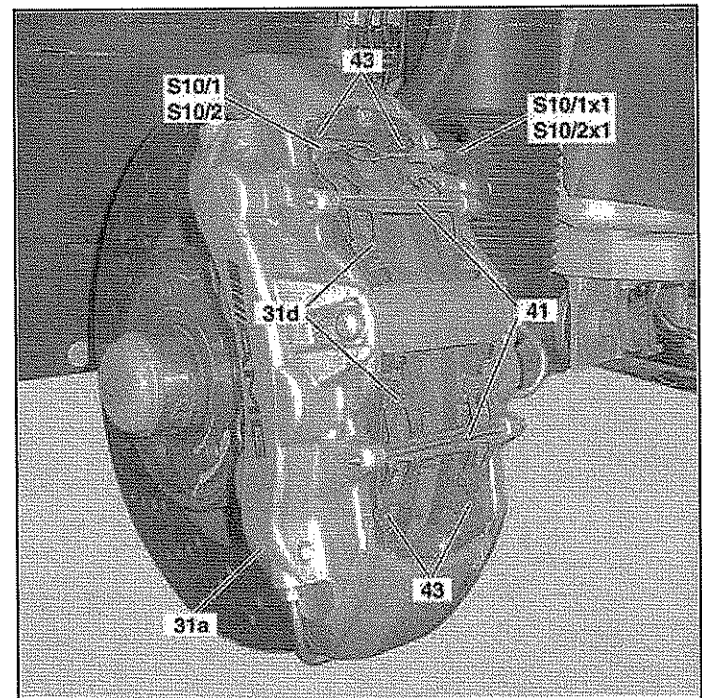
- 31a Fixed caliper
 31d Retaining spring
 41 Retaining pin
 43 Brake pad

S10/1 Left front brake pad contact sensor

S10/1x1 Left front brake pad contact sensor connector

S10/2 Right front brake pad contact sensor

S10/2x1 Right front brake pad contact sensor connector



P42.10-2154-12

Shown on 6-piston fixed caliper

- 30 Screw
 31a Fixed caliper
 31d Retaining spring
 33 Retaining spring support
 41 Retaining pin
 43 Brake pad

S10/2 Right front brake pad contact sensor

S10/2x1 Right front brake pad contact

