Error sources and testing

Workshop checklist for brake noises

	OK	Not OK	Remark
Press and release the brake pedal 3 times firmly on the lifting platform. Do the wheels turn freely afterwards?			
If the wheels do not turn freely, loosen the relevant bleed valve to determine if there is residual hydraulic pressure.			
Check wheel bearing play (it should not be noticeable).			
Check wheel suspension play (track-rod ends, control arm and axle housing bearings). Wiggling by hand or in the lifted position of the vehicle is not always meaningful.			
Do not make any steering movements on the friction ring of the brake disc!			
The inner contact surfaces of the rims must be absolutely clean and flat.			
The outer bearing surfaces of the brake discs for the rims must be absolutely clean, with no rust and grease.			
Check brake for clearance when cold and warm.			
Check the ease of the brake pad movement in the brake caliper frame (caliper shaft).			
Check the wear pattern of the worn pads (one-sided or diagonal wear of the pads).			
Remove any deposits on the friction material with emery cloth.			
The guide bolts from the caliper must slide effortlessly and evenly over the entire area (check individual bolts by hand) and when the caliper is assembled without the pads in place. If the caliper holder is distorted, they are not aligned and will tilt during operation.			
The rubber guide bushes should be replaced every 80,000 to 100,000 km on ATE fist-type caliper brakes. ATE Original guide bushes do not require greasing.			
The locating holes of the guide bushes in the caliper housing (ATE fist-type calipers) must be free of corrosion.			
For pistons with a shoulder in the ring surface, the piston position of 20° must be adhered to (ATE brake piston gauges).			

Workshop checklist for brake noises

	OK	Not OK	Remark
The ring surface of the brake piston, which presses on the brake pad, must be rust-free and flat.			
Pump out the brake piston about 2/3 of the way and lift off the dust sleeve. The piston must be absolutely free of deposits and corrosion around its entire circumference.			
With the bleeder valve open and the bleeder bottle attached, push the piston back by hand. The piston should move easily and smoothly over its entire travel (however, depending on the caliper design, this is not always possible, e.g. with electric parking brakes and combi-calipers).			
Worn brake discs may not show grooves, rust or traces of overheating.			
It is recommended to always install new brake pads together with new brake discs.			
In the case of run-in brake discs, the inner contact surfaces for the wheel hub must be free from dirt, deposits and corrosion.			
The wheel hub must be absolutely free of corrosion, dirt and grease.			
Do not grease the wheel hub; if necessary, treat only thinly with spray oil!			
Check the flatness of the wheel hub with a straight edge ruler.			
Do not grease brake pads with adhesive-backed backplates. As a rule, do not grease rubberized or textured backplates. When inserting brake pads, use Plastilube only on the surfaces that make contact with the brake anchor plate.			
Directional pads – adhere to the correct installation direction of the brake pads.			
Note the installation position of the inner and outer brake pads.			

Workshop checklist for brake noises

	OK	Not OK	Remark
Replace any sliding plates and insert them in the previously cleaned saddle support using Plastilube.			
Where possible, use an adhesive foil (e.g. ATE 13.0460-0400.2) and apply it to the previously cleaned backplate. This fixes the brake pad with the caliper fist or brake piston to dampen vibrations (comply with SI 100.057).			
Depending on the brake system, when installing the brake caliper on the brake caliper anchor plate, ensure that the installation position of the guide bolt(s) is correct (disc inlet or disc outlet) and that you adhere to the greasing specifications of the manufacturer. Incorrect greases result in the swelling of the rubber materials. No guide bolt used with ATE original guide bushes should be greased.			
Replace housing clip and brake caliper expander spring after 4 years.			
After assembly, tighten the wheels according to the vehicle manufacturer´s torque settings and specifications.			
Adhere to the vehicle manufacturer’s brake run-in specifications.			