



TIPS AND TRICKS

Braking: issues & root causes

Diagnosis process for braking circuits

Observation: braking distance increase / soft pedal / without pedal

Step 1: checking fluid condition

Check	Fluid boiling point
Cause	Loss of brake fluid properties
Reference Value	See table 2

Table 2: fluid characteristics

Brake fluid	Boiling point as new	Minimum boiling point
DOT 3	205°C	140°C
DOT 4	230°C	155°C
DOT 4+	260°C	180°C
DOT 5	260°C	180°C
DOT 5.1	270°C	190°C

Step 2: checking disc condition

Check	Tolerance of surface wear
Cause	Disc excessive wear
Picture	

Step 4: checking fluid leakage


Check	Calliper pistons, wheel cylinder, master cylinder/hoses
Cause	Fluid leak / Loss of efficiency
Picture	

Step 3: checking pads condition


Check	Pads thickness
Cause	Pads worn out
Picture	




Observation: squeak, noise

Step 1: Checking point	
Check	Rusty marks in disc
Cause	Humidity
Picture	

Observation: squeak, noise, discontinuing braking


Step 1: checking points			
Check	Pads cracks, lack of compound	Caliper pistons	Pads wear, disc marks
Cause	Pads delamination, breakage	Unevenly pressed on pads from brake pistons	Unparallel contact between pads and disc cause vibration Inferior braking pads fitted
Picture			

Observation: vibration (judder)


Step 1: checking points		
Check	Pads marks	Pads & disc marks
Cause	Chamfer on the edge of pads	<ul style="list-style-type: none"> • Uneven contact between pads & disc • Improper pre-treatment to pads, results bad contact to disc
Picture		

Problem: squeak/noise without braking

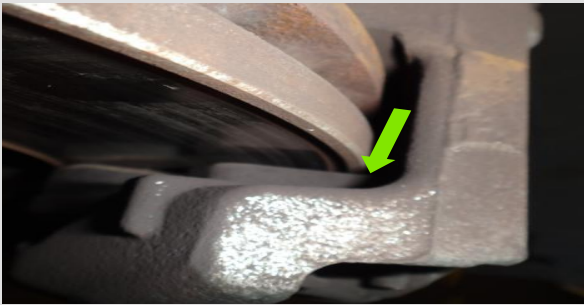

Step 1: check point

Check	Pads & disc marks
Cause	Inadequate break-in procedures/run-out
Picture	


Step 2: check point

Check	Disc wear
Cause	Excessive wear out of tolerance
Picture	

Step 3: checking points

Check	Chamfer of pads rubbing with disc	Compatibility of between pads/disc
Cause	Absence/inadequate chamfer on brake pads	
Picture		

Step 4: check point

Check	Caliper displacement blocked
Cause	Bad release of the brake pads
Picture	

Step 5: check point

Check	Caliper displacement
Cause	Excessive piston displacement
Picture	



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Problem: banging during braking

Step 1: check point	
Check	<ul style="list-style-type: none"> • Pads and caliper
Cause	<ul style="list-style-type: none"> • Bad position or bad caliper • Damaged hardware kit/caliper clips
Picture	

Problem: squeak or noise

Step 1: check point		
Check	Pads quality	Pads/disc surface
Cause	High metal content in brake pads	Stone next to the rotor or pads
Picture		

Problem: metallic sound after braking

Step 1: check point		
Check	Pads quality/caliper piston	Pads wear
Cause	Overheating	Excessive pad wear
Picture		



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