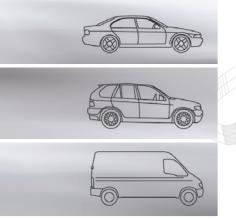
BRAKE PADS





TROUBLE TRACER – BRAKE PADS



APPEARANCE Friction material is contaminated with either oil, grease or brake fluid

CAUSE Spillage during maintenance, or fluid that has leaked from the caliper

EFFECT • The vehicle pulls to one side during braking Reduction in braking performance

REMEDY • Identify and repair cause of contamination • Replace the brake pad set



APPEARANCE The brake pad friction material is glazed **CAUSE** • High intermittent pad temperature over short time periods • Overly harsh braking during the bedding-in period **EFFECT** Temporary reductions in brake performance **REMEDY** • If light glazing is evident, no action is required

- If heavy glazing is evident, replace brake pad set
- Check the disc condition



APPEARANCE Rust between the friction material and back plate

CAUSE A brake pad sticking in the caliper bracket when braking flexes the back plate, cracking the friction material. Corrosion worsens this, separating the friction material and back plate

EFFECT • Noise and soft pedal feel • Once material has separated, brakes will not work

- **REMEDY** Replace brake pad set
 - Clean and maintain caliper to ensure the pad fits freely into the caliper during installation

TAPERED PADS	

CAUSE	• The caliper is distorted and the caliper slides
	are sticking
	· Excessive caliner clearance

- **EFFECT** Premature pad wear and noise while braking
- **REMEDY** Replace pad set and maintain & service caliper **Note:** Some vehicles use pads that are tapered by design. Refer to vehicle application to determine if they are outside normal degree of taper



APPEARANCE Damaged pads

UNEVEN

WEAR -

WEAR LIP

brake pad

- **CAUSE** These "handed" pads are not identical to each other within the set, and need to be fitted to either the inner or outer side of the caliper · When fitted incorrectly, the pads will be damaged
- **EFFECT** Damaged pads
- Reduced brake performance

per the inserted diagram



APPEARANCE Small cracks in the centre of the pad

- CAUSE The cracks indicate that the caliper is sticking. The piston bends the back plate causing the back plate to flex, cracking the friction material
- **EFFECT** Noise while braking
 - Uneven pad wear
 - Vehicle pulling to one side during braking • Overheating on 1 side of the vehicle
- **REMEDY** Maintain and service the caliper • Replace the brake pad set



APPEARANCE Uneven wear pattern on the pad

CAUSE Brake pad is sticking within the caliper causing the
brake pad to stay in contact with the disc with
associated excessive pad temperature

- **EFFECT** Pad surface may glaze reducing brake performance
- **REMEDY** Investigate cause of caliper sticking
 - Maintain the caliper Replace the brake pad set

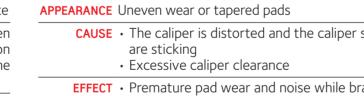


	proper brake mai
EFFECT	• The vehicle pul

- Damage to the disc
- **REMEDY** Check the disc for damage
 - damage



Excessive caliper clearance • Uneven braking pressure







- **APPEARANCE** Uneven wear on the pad surface CAUSE An irregularly worn brake disc or "wear lip" on the disc will cause this pattern of wear on the
 - **EFFECT** Squeal and Judder Premature pad wear
 - **REMEDY** Replace brake discs and pads

- **REMEDY** Replace pad set to manufacturers instructions as

- **APPEARANCE** The friction material is completely worn out CAUSE There has been no regular check of pad wear or intenance
 - Ills to one side during braking
 - High squeal and other brake noise
 - Replace pad set and the disc if it has suffered



APPEARANCE Damaged back plate

<u> </u>
CAUSE Incorrect assembly, or excessive force used during fitting
FFFECT . Braking efficiency

- EFFECT Braking efficiency Irregular pad wear
- Noise & judder
- **REMEDY** Replace the brake pad set



DE-

APPEARANCE One or more brake pads within an axle set is excessively worn

- **CAUSE** The caliper quide pins or piston is sticking **EFFECT** • The brake pulls to one side
- Uneven & overly rapid pad wear
- **REMEDY** Maintain all caliper slides and pistons • Replace pads and check replace discs if necessary



APPEARANCE Uneven wear pattern on the pad

- **CAUSE** Incomplete contact between brake pad and disc • Disc scoring due to dust or excessive wear
 - New pads fitted to a worn disc may also cause this
- **EFFECT** Squeal and judder
- Braking efficiency
- **REMEDY** Replace both brake pads and brake discs



APPEARANCE Metal pick-up (or ingrained metal) on the friction surface

CAUSE During normal braking small particles of the disc surface break off. Typically these are burnt off by the intense heat as dust. During extremely wet conditions these are guenched, cooled fast to solid material, and adhere to the brake pad surface

EFFECT This generally has no detrimental effect on braking performance, however in extreme cases, it can cause disc damage or brake squeal

REMEDY In extreme cases, replace discs and pads



APPEARANCE Partially charred or burnt friction material (will show whitish outer edges)

- CAUSE Prolonged excessive pad temperature due to intensive use or dragging of the brake pad on the disc
- **EFFECT** Reduction in initial brake efficiency Excessive material deterioration and abnormal
 - Material becomes brittle, chips and cracks
- **REMEDY** Investigate cause for overheating of brake pad If damage is not excessive, pads will be effective
 - under normal use • If the damage is extensive replace brake pad set





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