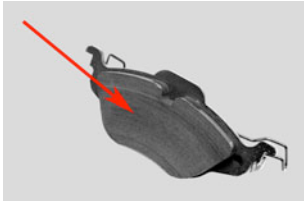


# **BRAKE PAD SERVICE GUIDE**

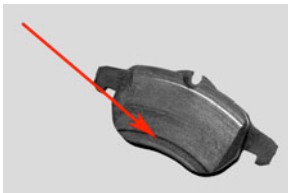
## **1. Normal Wear**



Braking surfaces are flat and smooth with light scoring visible on the surface of the friction material. Backplates must be flat and only light corrosion should be visible. All four pads will be worn to approximately the same extent and there must be no evidence of the friction material separating from the backplate. Fixtures such as backplate clips, wear indicators and shims should be undamaged and affixed securely.

No action required unless the remaining friction material is less than 3mm thick or the pads are likely to wear below 3mm before the next inspection is due. Ensure that any fitting hardware is serviceable and is re-fitted correctly.

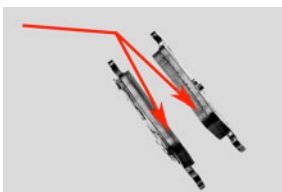
## **2. Scored Pads**



Scoring usually occurs as a result of fitting pads to excessively worn and / or scored discs. Heavy scoring on the inner and outer edges of the pad is caused by corrosion encroaching into the braking surface of the disc. Foreign bodies becoming trapped between pad and disc can also cause scoring. Scored pads are likely to cause audible brake noise.

If grooves are deeper than 0.5mm, replace discs and pads.

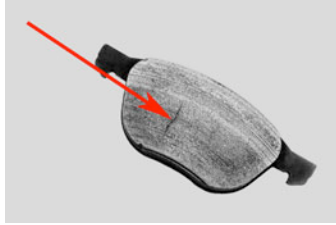
## **3. Uneven Wear**



Unevenly worn brake pads are often caused by a caliper that has seized or is badly worn. Replacing only a part set of pads, or using brake pads from different manufacturers on the same axle, may also result in uneven pad wear. Vehicle users may also report that the vehicle pulls to one side when the brakes are applied. Seized or worn calipers are likely to cause audible brake noise.

Replace pads and check calipers for wear and correct operation. Ensure pads are the correct type for the vehicle.

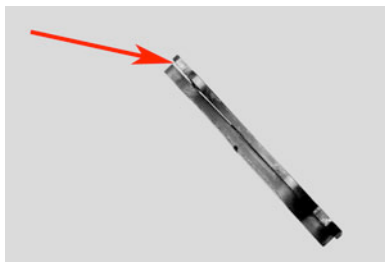
#### **4. Friction Material Cracks**



Cracks in the surface of the friction material are caused by extreme temperatures and / or excessive flexing of the brake pad in service. This may be caused by a faulty caliper or continuous heavy use of the brakes, and is more likely to occur if the disc has worn below its minimum thickness, as this increases operating temperatures.

The small cracks shown in the photograph are not an immediate cause for concern. However, because they can propagate and become serious, it is recommended that all pads with visible cracks are replaced. Check discs and calipers for wear and correct operation.

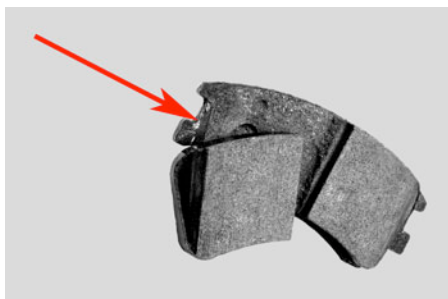
#### **5. Bent Backplates**



A bent or twisted backplate is caused by the backplate jamming in the caliper and subsequently bent by the force of the hydraulic piston as it pushes the pad into contact with the disc. The backplate may jam in the caliper if the caliper is worn, or if the contact points have not been adequately cleaned prior to the pads being fitted. Fitting the wrong pad reference, fitting the pads incorrectly, or attempting to modify the pads, can also result in jammed pads and bent backplates.

Replace pads and check the caliper for wear and correct operation. Ensure pads are the correct type for the vehicle and that any special fitting requirements for the pad set are followed. In particular, ensure handed pads are both orientated and fitted correctly.

#### **6. Broken Friction Material**



Legislative requirements and modern manufacturing techniques ensure that mechanical failure of brake pads in service is a very rare occurrence. However, poor workshop practice while fitting brake pads can result in damaged or broken friction material, such as:

Attempting to fit an incorrect set of pads to a vehicle and / or using files or grinders to modify pads in an attempt to make them fit. Striking pads with a hard object such as a

hammer or the blade of a screwdriver.

If brake pads appear not to fit, ensure that the reference is correct for the vehicle and that the calipers are both clean and serviceable. Also confirm that any special fitting requirements for the pad set have been adhered to. In particular, ensure handed pads are both orientated and fitted correctly.