BRAKE SHUDDER – HUB FACE CLEANING

One of the more common causes for brake shudder is DTV (Disc Thickness Variation). In most cases DTV is the result of run out in the disc rotor. The rotor friction surface oscillates in and out causing the brake pad to wear the high points of the disc resulting in a thickness variation around the rotor.

As a result of DTV, the pads will grab and release under braking as the rotor thicknesschanges around the diameter. This causes a shudder or vibration in the steering wheel and front end of the vehicle. In severe cases the brake pedal will noticeably pulse up and down when pressure is applied.

DBA disc rotors are precision CNC machined to ensure minimal runout during the manufacturing process to tolerances far less than the maximum 0.05mm industry standard.

Failure to follow good industry practice of properly cleaning the hub and rotor surfaces is the most common cause for rotor run out resulting in DTV and brake shudder.

Below are some examples of a hub and disc rotor improperly cleaned. All resulted in brake shudder.

Figure 1
Hub showing built up rust and scale.

Figure 2
A cleaned hub face ready for fitting.

Figure 3a

Figure 3b

Figure 4a

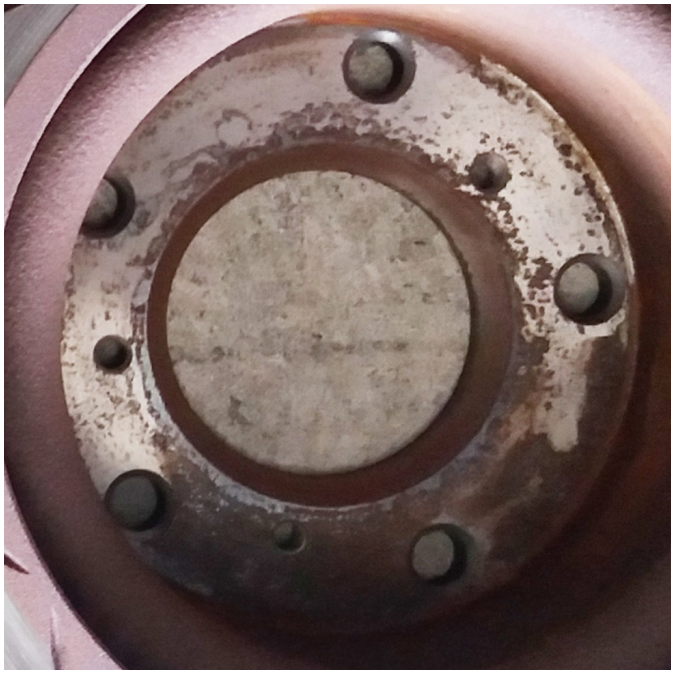

Figure 4b.

Figure 3 and **Figure 4** show examples of disc rotors that have been improperly fitted to hubs that have not been cleaned. Both show compression marks where the rust and debris had been captured between the faces.

Figure 4a clearly shows a large amount of contamination on one side which produced a greater degree of run out in the rotor assembly. The circle impressions are burrs from the jacking screws used to remove the old rotors.

Figure 5a

Figure 5b

Figure 5 is a 4000 series rotor with similar compression marks from improper fitting. As the 4000 series rotors are heat treated the material is darker in colour.

In this case the rust and debris captured between the faces is very clear and concentrated to one side of the mount face. This rotor was found to have severe brake shudder.

Figure 5c