

TECH ARTICLE # T018

DISC ROTOR NOISE - DBA 5000 SERIES CLICKING NOISE

With the introduction of our 5000 series 2 piece direct replacement disc rotors we have seen more and more street driven vehicles being used on the race track.

As this style of disc rotor is lighter than the original 1 piece disc it has some noticeable performance advantages, the main one being less unsprung weight.

But this style of disc rotor can also have some potential disadvantages, the main one being it tends to amplify noise and vibration due to the reduced mass. In some scenarios using a 1 piece rotor there will appear to be no noises evident, but when the disc rotor is replaced with a 2 piece style suddenly noticeable noise is evident.

In a very small number of cases where the DBA 5000 disc rotors have been fitted to Subaru WRX's a noticeable 'Clicking' noise has become evident.

Most of these vehicles are used on the race track or with some street use as well. This noise can be evident when the vehicle is cold or has been driven for a short period of time and is most noticeable when turning at low speed.

This sound is often diagnosed as either a failed CV joint or wheel bearing but after these items have been inspected or replaced the noise is still evident.

To minimize noise from the 5000 series disc rotors it is very important that the aluminium hat/bell is clamped evenly between the hub and wheel faces. If the hub face is not cleaned thoroughly this will cause the disc rotor to be mounted with run out which can cause DTV (Disc Thickness Variation) over a short period of time resulting in brake shudder.

This can also cause the hat/bell to be clamped unevenly which can allow very slight movement between the hat/bell and the wheel/hub faces. If the hub is cleaned and the wheel mounting face is not this can cause very slight movement between the wheel and the hat/bell.

This movement shows as slight galling on the face of the hat which is sometimes amplified as a 'clicking' sound.

Technical Support
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