DISC ROTOR MACHINING - SLOTTED AND CROSS DRILLED ROTORS

The introduction of slotted and cross drilled rotors has left technicians asking the question “Can they be machined?” The answer is “Yes – but there are some important things to remember”. When machining any disc rotor it is important to make sure that all the mounting faces are clean and undamaged on both the rotors and the tooling. Always make sure that the tool tips are sharp and setup directly opposed to each other.

When machining slotted or cross drilled rotors it is extremely important to remember to always use the slowest feed rate and take the smallest cut. DO NOT take 1 cut to clean up the disc and then a fine finishing cut as you will damage both the disc rotor and your tool tips. If you need to take 5 or so fine cut passes to clean up the face of the disc then that is ok.

Once you have finished machining the disc rotor, very lightly use 240 grit emery paper to smooth off the fine grooves on the face of the disc rotor. Clean the friction faces with a suitable cleaner like liquid acetone or brake clean. Never use petroleum or silicon based cleaners as they will leave a residue on the disc rotor that will impede brake performance.

Remember
Always check rotor thickness & replace if on or under minimum thickness after machining.

The disc rotor to the right shows a typical result of a slotted disc rotor that has been machined using blunt tool tips and too heavier cut. The rotor has ridges on the opposite side to the slot and also shows the signs of the tool tip bouncing out of the slot leaving a shadow ridge on the disc face as well. The result is machined in DTV (Disc Thickness Variation) so when these rotors were refitted to the vehicle it still had brake shudder. Looking closely at the disc mounting face it is evident that the original cause of the problem was that the hub face had not been cleaned before the discs were fitted, causing built in runout, resulting in premature DTV. As the machinist has failed to clean the mounting face prior to machining these discs he has also now machined runout into the disc.

The disc rotor to the right shows a typical disc rotor finish after being machined correctly. Note also that the mounting face has been cleaned thoroughly.

Technical Support
Disc Brakes Australia