

Technical Notes

Brake Shoe Arcing

By Lynn Sondenaa

What exactly does the arcing mean and what relationship does it have with the brake shoes? An arc is a part of a curve (brake shoe & lining). Arcing is a term used to describe the process of grinding or sanding the newly relined shoes to conform to the surface of the brake drum. New linings will have slight high and low areas. Also the ends of the brake linings are fitted to the brake circumference. This process will distribute pedal pressure equally over the entire surface of the brake lining. Thus you will have better braking. Brake shoes and linings need to be in full contact with the brake drums to provide the greatest force for stopping.

Figure 1 shows a brake shoe that is not arced (left side) and one that has been arced (right side). Figure 2 shows an extreme arcing of a brake lining and shoe. This photo shows where the brake shoe was damaged by the excessive arcing.

I use a 2 inch wide vertical belt sander that is connected to a vacuum system, and I wear a respirator to arc my linings. Brake shops and some clutch shops can perform this operation. For a period of time it was hard to find places to arc brakes due to the asbestos, but now that asbestos is outlawed in brake linings it is easier to find places that arc brake shoes. Remember arcing is just fitting the linings and shoes to the circumference of the brake drum.

Brake shoes that are used without arcing will have the high spots do all of the braking. This will cause higher friction temperatures and either ruin the linings or cause them to wear out faster.



Fig 1



Fig 2