

Bad Brakes?

by Lynn Bennett

You're cruising down a wonderfully curvy road on a BSAOC street ride and a reduced speed curve looms ahead. You gently roll the throttle off and the cadence of the motor doesn't change. Stuck throttle! Instant panic sets in. But your mind quickly decides that you'll use the brakes to overpower the motor and stall it. With heavy application of the brakes you realize that the brakes are not nearly powerful enough to stall the engine. You fumble for the ignition switch. Finding it you shut the motor off and the engine noise stops. Whew! This actually happened to someone I know. What did he do wrong? Firstly, in my opinion, he used an old worn out, distorted body Amal carb. Perhaps a new Amal, correctly mounted so as to not over tighten the mounting hardware, would have prevented this. Secondly, his brakes were not working to their full potential. But why did the brakes seem so ineffective?

Several have written here about solutions to poor brakes for British bikes. One solution was to use a mill or a lathe to true up the drum and to arc the linings. Most of you don't have a lathe big enough to handle an assembled wheel. I have trued the drums of disassembled wheels, making special adapters to take the hub only in my lathe. I have yet to find an easy way to arc the loose brake shoes to the diameter of the drum (called arcing them), until now. It has been said that you must true the drum with the wheel laced up as the spoke tension distorts the hub from a pure cylindrical form. If you true the wheel using different tensions on the spokes around the wheel to pull the wheel into true then you have done it wrong. A finished wheel's spokes should all have the same tension. Special torque wrenches are made to assure that the tension of each spoke is nearly the same.

I was given the secret to a solution for this problem by a fellow Motocross racer. The concept is to use sandpaper temporarily glued to the brake drum working surface to shape the brake lining material to the drum. First remove the wheel from the bike and remove the brake backing plate from the wheel. Next, using about 80 grit paper, remove all the glaze and rust from the brake drum working surface. Carefully blow out all the brake dust remembering that if you have the original linings still on your bike they probably contain asbestos, which is dangerous if breathed. Next cut strips of about 80 or 100 grit sand paper the width of the drum. They should be cut so that multiple ones will completely cover the inner circumference of the drum without overlapping any where. Next, using rubber contact cement (Gasket Cinch, or household rubber cement), glue the strip(s) of sandpaper onto the drums inner working surface, sand paper grit surface facing the linings. Drop the backing plate into the hub and install the axle. The axle helps to center the backing plate and assure a uniform and correct arcing to the linings. A good approach is to clamp the exposed end of the axle into a vise allowing you to spin the wheel while holding the brake lever to the applied position. Gently holding the brake lever on, rotate the wheel to make the sand paper work on the brake lining. After a while disassemble the wheel and check the progress on the linings. It will be most obvious where the sand paper has done its' job. You can stop when about 90% of the linings' surface shows that it has been sanded. You may have to renew the sand paper if you find it no longer cutting aggressively or you may have to clean the sand paper grit of lining material to keep it cutting. Finally clean out the sanding gunk, remove the sand paper using lacquer thinner to remove the glue, and reinstall the wheel on the bike. The test ride will impress you. We have done this to all our bikes and any who have ridden our CZ motocrossers are amazed at how good the brakes are.

For those of you, like me, who have installed the 1968 to 1970 Triumph/BSA double leading edge brake backing plate, you should first adjust the linkage between the two actuating levers before arcing the brake shoe lining. This can be done most easily on the bike. To do the adjust first remove the link between the two actuating levers and set aside. Using wrenches or any handy tools, apply both levers fairly hard. Be careful to operate the levers in the correct direction: that is, the direction that they would move with the link installed and the lever pulled by the cable. For this series of wheels that should be clockwise. Now measure the distance between the link holes on the two arms with them fully applied. This may take a helper as with only two hands it could be tough to do. With that dimension in mind adjust the separated link length between the holes to that dimension. It is made so that that can be done easily. Reinstall the link and do the arcing as described above.

When I did my A65 Hornet the brakes became extremely good to the point that normal stops were by necessity single finger applications, mocking modern bikes. All of the bikes I have done have shown some improvement but since I had adjusted the linkage incorrectly in the past on my Hornet it showed the greatest improvement. It's time for you to get your braking power back.