Padding Up

Swapping to a larger brake pad - as on the front end of this Holden VL turbo...

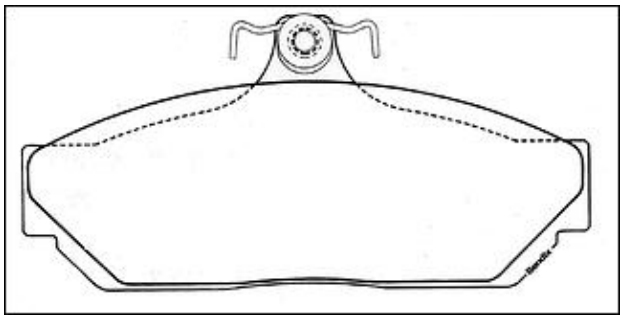
By Michael Knowling

Most people seem content with the braking improvement that comes with a set of hi-po aftermarket pads. Certainly, when you've just finished fitting a beefy exhaust and intake system to your streeter, these simple bolt-ons (slot-ins?) give you the sort of braking boost that's ideal. But there **is** another cost-effective avenue that you might care to explore when it comes to upgrading your pads...

For some lucky vehicles - such as the Holden VL turbo - there may be another brake pad available with a reasonably similar backing plate to the original - but with a whole heap more swept area. And if - like the VL - your disc looks like it can accommodate these bigger pads (like, they won't be pressed up against the centre hub or hung way out over the outer edge of the disc), you're lookin' good for a significant braking improvement. In the above pic, you can see indicated the disc area that our VL's new set of pads will be biting further into.

So - hang on a minute - what exactly is the benefit of the bigger pads, you ask? Well - as we were told by one brake industry engineer - "the larger friction area gives you improved braking efficiency (power), plus more stable temperatures and improved durability."

Sounds good, eh?



Now the first step in determining if your brake pads have an interchangeable cousin (after a few small backing plate mods have been performed, of course) is to toddle down to your local parts outlet and have a look through their brake pad catalogue. All you do is flick through the diagrams to see if there's a big-sweep pad with an able-to-be-adapted backing plate. Note that there are limitations to how much you should modify the new backing plate, though. Only small alterations should be made to the new backing plate and you should **never** have to cut into the friction material zone.

As a specific example, here's our VL turbo's used stock front Bendix pad (part number DB1085) compared to a Holden HX Kingswood pad (part number DB1023). Both are of the Bendix Standard variety. A worthwhile increase in pad area is evident, and only small modification is required on the mounting tab at each end to fit the Kingie pad to the VL turbo.

Here's how our guinea pig VL turbo's pad conversion took place...

First of all, the car needs to be securely supported on chassis stands and have its front wheels removed. The next job is to remove the discs. On the VL, this meant removing both front caliper assemblies (suspending them so that there's no tension on the brake hoses), centre dust cover, thrust washer, split-pin, retaining nut and the outer wheel bearing. The discs then slide straight off the stub axle - ready to make their journey down to the local machine shop. A light machining is necessary to provide a smooth swept track for the bigger pad - you don't want it running over the rusty ol' cast iron hub, do ya?!

Following a request that our machining extend to near the verge of the hub, here's how the VL's discs come back - a perfect match for our big new pad. After making sure there's no small metal particles left inside the hubs, we now proceed to re-grease the inner and outer wheel bearings with hi-temp grease. All lubed up, simply slide the discs back over the stub axles and re-fit all the other little bits that we've previously pulled off. Note that - in the VL's case - there's only a slight pre-load to be applied to the wheel bearings.

And now we get to the big new pads...

Remove the upper and lower caliper retaining bolts, flip the caliper open (again, supporting its weight) and pull out the old stocky pads. Yuck-O, chuck these things in da bin!

Now - unfortunately - our beefy new pads won't just slide in without modification. What we have to do is cut away a small block of their mounting tabs so that the body of the pad sits further in towards the centre of the disc. You can see here the difference in the DB1023 and stock DB1085 pad mounting tabs. A little bit of cut-it, fit-it and see may be required to achieve the perfect mounting.

These final small hacksaw slices should then be finished off with a file, and it's a good idea to seal the exposed metal surfaces with a hi-temp paint (caliper paint is perfect).

Next, we have to release brake line connection on the front of the master cylinder and push the caliper pistons back into the bores. We can now slide our newly modified pads into position (complete with anti-rattle shims, re-bent to suit) and swing the wide-open caliper back over the top. Mmm, they're sitting nice an' cosy in there...

Just install those twin caliper mounting bolts, tighten the line on the front of the master cylinder, chuck the wheels back on and **we're done**!

On the Road Again (just can't wait to get on the highway)

Keen to see just what kind of braking improvement these bigger pads give (after bedding in), we hit the street in the VL turbo with our AC-22 performance meter both before and after installation...

Before...

With consistent braking times a little difficult to achieve (due to rapidly increasing pad and tyre temperatures) we could comfortably stop the car from 100 km/h in around 5.2 seconds. This could be achieved with good repeatability and without locking tyres - it wasn't just a one-off best. A maximum G-force reading of 0.87 was also achieved (at around 10 km/h!) during the decel. Note that a spongy pedal was rapidly building up after four full-blooded stops.

and After...

With much more consistent deceleration times (perhaps due to more stable pad temps), the VL turbo can now slow from 100 to standstill in 4.9 seconds. Again, maximum braking Gs is recorded at approximately 10 kays - though this value is now 0.94 (up 8 per cent!). Improved stopping power is also reflected in increased body weight transfer under hard braking. But, boy, these new pads stink...

With the bigger Standard range pads costing around $45, our VL turbo has received a braking improvement that's impossible to beat on a brake-for-buck basis. Of course - for the purpose of comparison - we elected to refit the same material Bendix Standard-grade pads, but you could just as easily go for the higher-spec Metal King Plus or Ultimates if you like. Either of these should yield an improvement on top of that illustrated here - and really mash your face against the windscreen!

Oh, and give us a 'mail if you discover any other specific cars that will happily accept an improved donor pad. We'll be happy to include a listing of those cars right here.

www.autospeed.com