

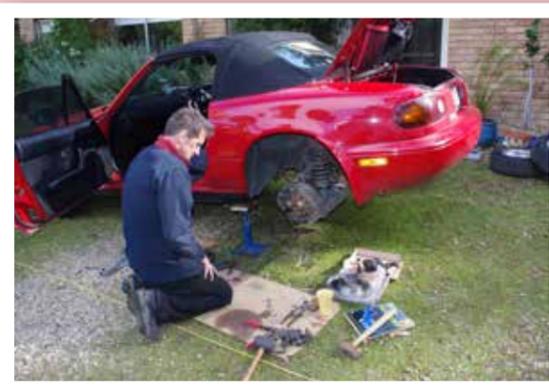
You may recall my earlier article about replacing the brake pads on an NA MX-5 (May 2013).

During that process, my partner in crime (and the lovely model in these photos), Allan Pryer and I discovered that one of the caliper sliding pins was pretty much locked in place and, despite some heroic efforts, seemed to be fixed right in there.

This being the case I looked at various options such as a new caliper (quite expensive), a second-hand caliper (none available at the time) and buying a set of second-hand NB brakes. By returning the pads I had purchased, I was able to get a second-hand set of front and rear calipers, with pads (used but in good condition), front disks (ditto) and new rear disks for quite a reasonable price.

Research on the net generally said the job is a pretty easy one, though one forum member reported brake lock-up after the upgrade. So, biting the bullet, I went ahead and ordered the brakes. They arrived and we set out to install them.

As per my last article, we used jack stands – I cannot over emphasise how important it is to use stands on a firm base. While we were not under the car I certainly didn't want the car to be unstable or to fall off of a poorly set-up jack.



Car on stands, disk off, looking at the new components ...

We began with the rear brakes. You will need to disconnect the brake line and hand brake cable and then it's a straight forward matter to unbolt the caliper bracket at its two attaching points. The caliper should lift away from the disk at this point. The disk is loose and should just lift away from the four wheel bolts.



Old caliper still in place, disk shield clearly visible. Some crimping of the shield can be seen.

We now come to the most difficult part of the upgrade.

We found that the larger NB disks don't fit inside the dust shield and this needs to be modified to allow the disk to rotate freely. We used pliers and tin snips to snip two small snips in the cover and then carefully bend the curve open so the disk isn't impeded. It does look a little ugly, but is unsighted once the wheel is back on. The front caliper pistons can be depressed using an appropriate clamp.



Disk, showing the adapted dust shield. Note the places where the shield is cut which allows it to be bent.

You can more carefully either remove the cover or trim it but the bending option seemed the best way to go about this. Once these shields are modified, it's a matter of sliding on the new disk, when sliding the NB caliper into place and bolting it to the car.

You may need to wind back the piston using the adjuster which is located under a 14mm bolt, roughly in line with the back of the piston and a 4mm Allen key.

**Note:** Do not use a vice to push back the brake caliper piston; doing so strips the thread on the adjuster and compromises the efficiency of the rear brakes.

The brake lines and hand brake cable are then reattached. Check the caliper is clear of the disk by rotating the hub. Some small adjustments might need to be made but generally this process was relatively trouble free for us.

Once fitted up the rear pads need to be adjusted by winding the adjuster until the pads drag against the disk, then back out 1/3 of a turn. Refit the 14mm bolt.

**Please note:** articles in the Tech Talk section are written by Club members and are presented for information only. The Mazda MX-5 Club of Victoria Inc. recommends that readers use this information as a guide only, undertake their own research and consult professional advice before carry out repairs and maintenance on their vehicle.

The front brakes are done in the same way. The dust shield on the front doesn't need any major modifications, we found a small section on the front end of the shield needed just a small bending with pliers, otherwise the front process seemed to be easier to do.



Front caliper and disk, the shield allow more clearance.

Once the calipers are on, you will need to attach the front brake line.



Front caliper with brake line attached

We tensioned the nuts as per the workshop manual using a tension wrench (an essential thing to have). We then topped up the brake fluid, bled the brakes to remove any bubbles from the brake lines.

I have driven my NA twice since this upgrade. The brakes feel firmer and do require a small amount more pedal pressure. I have good pedal feel and the car does stop more confidently. I am waiting for the rear pads to bed properly with the new disk. I suspect there is a little more braking improvement to come once the whole system settles down.

Overall, the upgrade has been relatively easy to do and the improvement in braking performance is immediately evident. ■

Here's a little fact for car buffs, or just to dazzle your friends ...

The four Goldberg brothers -- Lowell, Norman, Hiram, and Maximillian -- invented and developed the first automobile air conditioner. On 17 July, 1946, the temperature in Detroit was 97 degrees.

The four brothers walked into Henry Ford's office and sweet-talked his secretary into telling him that four gentlemen were there with the most exciting innovation in the auto industry since the electric starter.

Old man Ford was curious, and invited them into his office.

They refused and instead asked that he come out to their car in the car park.

They persuaded him to get into the car, which was about 130 degrees, turned on the air conditioner, and cooled the car off immediately.

The old man got very excited and invited them back to the office, where he offered them \$3 million for the patent.

The brothers said they would settle for \$2 million, but they wanted the recognition by having a label, 'The Goldberg Air Conditioner', on the dashboard of each car in which it was installed.

Now Mr Ford was more than just a little anti-Semitic, and there was no way he was going to put the Goldbergs' name on two million Fords.

They haggled back and forth for about two hours and finally agreed on \$4 million and that just their first names would be shown.

And so to this day, all Ford air conditioners show "Lo", "Norm", "Hi" and "Max" on the controls ...

