

# Flyin' Miata

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## Brake proportioning kit V 1.5

Your brake proportioning kit can be installed in a number of different ways, depending on how you want the valve located. The following instructions detail the easiest and fully reversible option.

We apologize for the very ugly car used for the model. It was stripped, and gave a more clear view of the brake lines. Hopefully yours does not look this nasty.

You are going to spill brake fluid during this installation, so it's a good idea to have a number of rags available to soak it up. It won't damage paint immediately (usually), but it doesn't do any good in the long term.

1) Install the NPT to flare adapters into the proportioning valve. You have two sets - some SAE ones that came packaged with the valve and have a small hole on the non-flare side, and the new metric ones from FM with a larger hole. Use the new ones. Be sure to use a closed-end wrench, open-end wrenches can deform the fitting. Get them snug, but don't over tighten them, it is possible to damage the brass fittings. Be aware that these are tapered fittings and will *not* bottom out like normal bolts do. Get them snug, but base their degree of tightness on the torque applied, not on how many threads are exposed.

2) Remove the brake lines leading to the stock proportioning valve. Use a 10mm wrench - a flare wrench will lower the chances of rounding off the nuts. Take care when doing this, a rounded flare nut is not your friend. Fluid will be leaking at this point. Pay attention to which line is for the front and which is the rear - the stock valve is labelled F and R.

3) Use a 10mm wrench to remove bolt securing the stock proportioning valve to its bracket.



4) Use the union to connect the two front lines together. Do not use teflon tape on the threads! Sealant is not necessary here, as the flares seal the lines.

5) Install the proportioning valve. The side labelled “in” should be attached to the lower line running to the master cylinder. The side labelled “out” goes to the line that runs across the top of the firewall. Place a wrench on the adapter while you’re tightening the stock fitting, to ensure that nothing is damaged. Again, no Teflon tape.



6) You can use the factory mounting bolt to hold the valve in place. If you want, you can bend the bracket 90° so the knob faces forward. This gives more clearance for turbos and makes it easier to reach the knob.

7) Bleed the brake system. This will be easiest if you turn the knob as far away from LESS BRAKE as it will go - ie, screw it in all the way.

Once your new valve is installed, set it to use as little rear brake as possible. That means turning the knob towards “LESS BRAKE”. Find a deserted area where you can test safely, and start dialing in more rear brake until the rears start locking earlier than the fronts. Now go back so the fronts lock first. Remember, the ideal bias will change depending on the road surface, tire selection and even the weather, so be prepared to change it if you’re right on the edge.

If you want to mount the valve in the cockpit, you can accomplish this by using lengths of brake line with flared ends available from your local auto parts store. The basic plumbing is the same, you’ll just have to run the lines differently to and from your chosen location. Be sure to support your new brake lines properly, an unsupported brake line can vibrate and crack, leading to a loss of brake pressure and then all sorts of resulting bad things.