

Flyin' Miata

FM Stage 1 big brake kit, rear only 14-16205

This covers installation of the rear brakes only. Installation of the front brakes is covered by the instructions included with the Wilwood kit. Be sure to keep the hardware for the two kits separate.

NOTE: 01+ Sport brake-equipped cars and all 03+ cars will only need to replace the pads, rotors and lines. These cars already have larger rotors, so they don't need the brackets. Skip steps 5 - 7 if this applies to you.

1. Remove the wheel (we'll assume the car is already in the air).
2. Remove the bolt covering the adjuster screw (indicated in the picture). Unscrew the adjustment screw until you have plenty of clearance between the pads and/or it won't go any farther. Don't force it.
3. Remove the stock caliper bracket (leaving the caliper itself on the bracket), then set it out of the way. Can't get the caliper to slide off of the rotor? Have you released the parking brake?
4. Remove the rotor, using an M8 X 1.25 bolt in the threaded hole in the rotor hat if necessary.
5. You'll need to trim the heatshield, so roughly line up the FM bracket on the upright. Mark what needs to be cut off, and trim it off using aviation shears or the like. You may have to test this fitment a couple of times until it's right. Also, be certain that it will clear the stock caliper bracket, as it sticks out a little farther. You can see the rough shape in the pictures on the next page. The lip on the heatshield will need to be trimmed to create proper clearance for the rotor as well.
6. Take the FM bracket for the appropriate side - they're labeled "L" and "R" (from the driver's perspective) - and test fit it on the upright. The FM bracket goes on the outside of the upright, not the inside (the pictures were taken from the inside). Be sure that the holes line up. If not, the casting on your upright is larger than most. File down any high spots, and test fit again. Repeat this until the holes line up. Most cars won't need this, but due to casting inconsistencies, some might.
7. Bolt the appropriate FM caliper bracket onto the stock upright (pictures on the next page). The FM bracket will only fit onto the FM caliper in one orientation, but making sure you have the orientation matched to the picture will make your life easier. Be certain that both holes in the stock bracket are aligned with both holes in the FM bracket before you thread in either of the bolts, as they probably won't line up if you thread in one bolt and rotate it towards the other mounting point. Use the included bolts to hold the bracket to the upright. Use red Loctite on the bolt running into the threaded hole, but not the nut-bolt combo, and torque the bolts to 36 ft-lbs.
8. Slide the new rotor on. You can use lug nuts to hold it onto the hub, if your lug nuts are deep enough and you're so inclined.





9. Slide the stock bracket over the rotor and bolt it onto the upright. Use the stock hardware here. Tighten both of these to 36 ft-lbs, using Loctite.
10. Slide the caliper back onto the stock caliper bracket. Once the pads are installed and the caliper is fully seated, screw the adjustment screw (from step 2) in until the pads touch the rotor, then back it off 1/3 of a turn. Be sure the rotor isn't sitting at an angle for this. The parking brake cable fitment will be tight, but it will fit. You can loosen the parking cable bracket a bit to allow for better alignment if need be.
11. Remove the stock brake line from both the caliper and the hard line on the chassis. Make sure you have something to catch the fluid. Install the new brake line, paying attention to give the brake line as much clearance as possible.
12. Check wheel clearance, even if you "know" they'll fit. Carefully spin the wheels at all four corners, being sure there's no interference anywhere. Check the brake line and wheel weights.
13. Repeat this process for the other side, then bleed the brakes. Remount the wheels and put the car back on the ground. Be sure to properly torque the wheels once the car is down! That's it, you're done - with the installation.

Break-in

1. When you go out for your test drive, be forewarned that they will be very high effort at first. Try to use the brakes very lightly for the first 50 miles or so until the cad plating wears off the friction surfaces. NOTE: With the cad plated rotors, you may have horrible sounds for the first 10-50 miles, as the plating on the wear surfaces wears off. This is normal.
2. After you have broken in the rotors for 50 miles, do six - ten moderate stops from 30 - 35 mph to warm up the rotors, then do at least two to three fairly hard stops from 50-55 mph. Be sure that you do not let the car come to a complete stop while applying the brakes. If you do, the pads can stick to the rotor and warp it. Do this until the brakes actually fade somewhat, then drive back, letting the brakes cool off, and park the car WITH THE HANDBRAKE OFF, for an hour or so. Now you really are done!

Wear

You shouldn't have any unusual wear with the brake pads or rotors. However, both of these will depend on the type of pads you use (the included pads aren't especially hard on rotors). Rotors will wear out eventually, though. The obvious indication is that when the slots go away, it's time for new rotors. Technically speaking, the front rotors should be replaced when they're less than 19mm thick and the rears should be replaced when they're less than 8 mm thick.