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FM Big Brake Kit Installation Instructions

Front Brakes

1) Believe it or not, the first step is to get the car off the ground and remove the wheels. Be sure to crack the lug nuts loose on all four wheels before lifting the car. As always, be sure that the car is properly supported - this means jack stands, not just a floor jack.

2) Once the wheels are off, remove the brake line where it connects to the hard line (not at the caliper). Be sure that you have some type of container to catch the brake fluid that pours out.

3) Remove the two bolts that hold the caliper bracket to the upright, then pull the caliper and bracket (as an assembly with the brake pads and line) off of the car and set it aside.

4) Pull the rotor off. This may require threading an M8 X 1.25 bolt into the threaded hole on the hat.

5) Slide the new rotor onto the hub. It probably won't sit on the studs square, so you can either "deal with it" or thread a couple of the lug nuts onto opposing studs (assuming they're long enough) to hold the rotor on. Either way will work, but tightening down the rotor will make it easier to mount the caliper.

6) Bolt the purple front brake bracket to the Wilwood caliper. The bolts going through the caliper are the shorter bolts, the longer bolts are used to bolt the bracket to the upright. Be sure to get the orientation as shown in the picture. Use blue Loctite and tighten these bolts to 36 ft-lbs.



7) Slip the calipers over the rotors and bolt the brackets onto the uprights, again tightening them down to 36 ft-lbs. Use Loctite at this junction as well. You may have to trim the heatshield slightly, so pay attention to any interference there. The front brackets and calipers are symmetrical, so just put whichever one you grab first onto the side that you're currently working on.

8) Slide the pads into the rotors, after taking the pin out of the caliper. Push the pistons back into their respective bores, if necessary. Once the pads are in place, bend the ends of the pins over to keep it from sliding out.

9) Connect the new brake line to both the caliper and the existing hard line, being careful to not twist the fitting on the hard line. The fitting in the caliper is an NPT (national pipe taper (thread)), so it's not going to bottom out. Get it nice and snug, but don't strip it.

10) Once the wheel has been mounted, make sure that the brake line has plenty of clearance, regardless of what direction the wheel is pointed. Sweep the wheel back and forth just to be certain. You really don't want to have a brake line wear through!

11) Repeat this process for the other wheel, and you're done - almost. The brakes still need to be bled. Since the kit comes with new rear lines, you'll need to wait until those lines have been replaced.

Rear Brakes

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 - 8 if this applies to you.

1) Remove the wheel (we'll assume the car is already in the air), then remove the brake line from both the caliper and the hard line on the chassis. Again, make sure you have something to catch the fluid.

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? Yeah, I've done that too.
- 4) Remove the rotor, again using an M8 X 1.25 bolt 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 below.
- 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) Slide the new rotor on. Use lug nuts to hold it onto the hub, if your lug nuts are deep enough and you're so inclined.
- 8) Bolt the appropriate FM caliper bracket onto the stock upright. 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 Loctite and torque the bolts to 46 - 66 ft-lbs.
- 9) Slide the stock bracket/FM bracket assembly over the rotor and bolt it onto the upright. Slip the flat head screw into the countersunk hole and spin the nut on, but don't tighten it down. Rotate the whole assembly down so that the lower hole lines up. Tighten both of these to 36 ft-lbs, using Loctite on the bolt running into the threaded hole, but not the nut-bolt combo.
- 10) Slide the caliper back onto the stock caliper bracket. Once the pads are installed and the caliper is full seated, screw the adjustment screw (from step 2) in until the pads touch the rotor, then back it off 1/3 of a turn.
- 11) Install the new brake line, paying attention to give the brake line as much clearance as possible. Check the clearance again once the wheel is on. Spin the wheel to make sure you don't have weights that will hit the line.
- 12) 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 will 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.