

Flyin' Miata

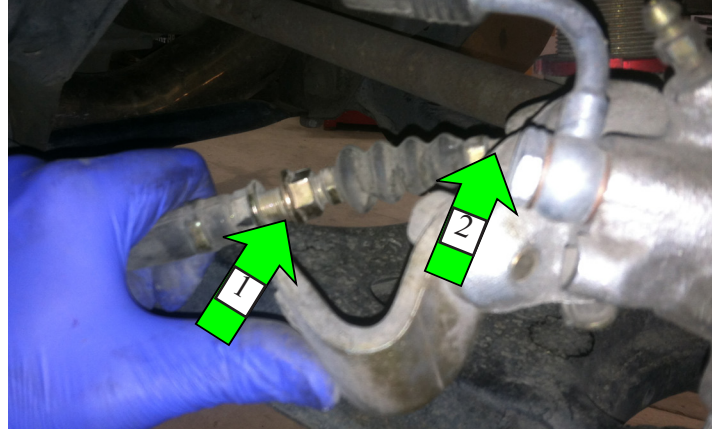
NANB four piston rear brake upgrade 14-166X0

Congrats on purchasing the only four-piston rear brake setup with a parking brake! The installation should be pretty straightforward, but these instructions will give you a step-by-step process to follow.

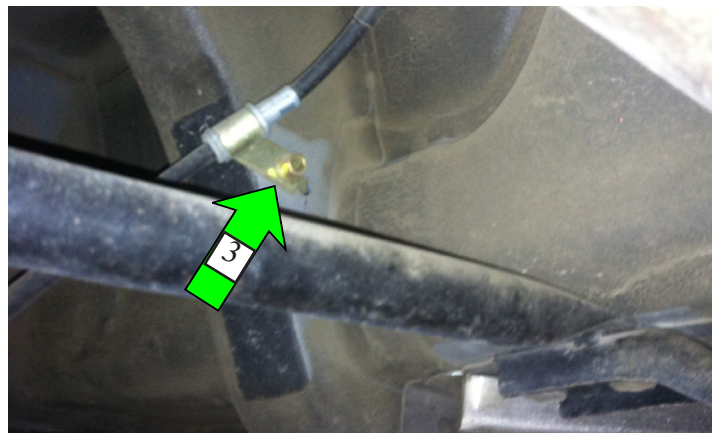
Be careful not to damage the coating on the supplied brake caliper brackets. The anodizing helps to avoid corrosion, which is especially important for cars driven in harsh environments.

1. Start by getting the car in the air and remove at least the rear wheels. Be sure the car is properly supported - never get underneath a car that's supported by only a jack. Be sure to release the parking brake once you have the wheels off.

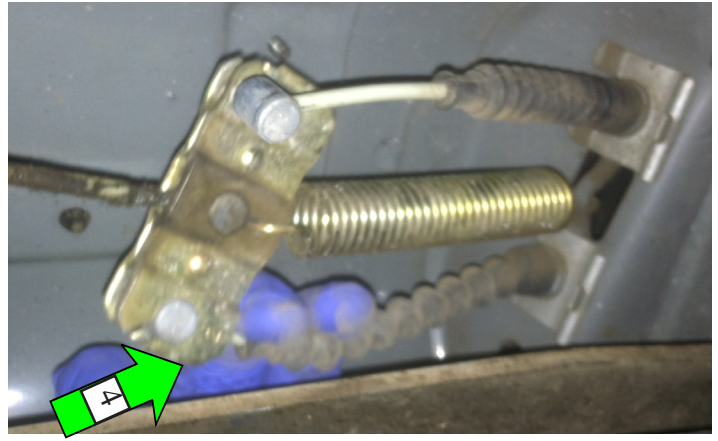
2. First, remove the parking brake cable from the stock caliper. Loosen the nuts (1), slide the cable sideways, then remove the end of the cable from the caliper (2).



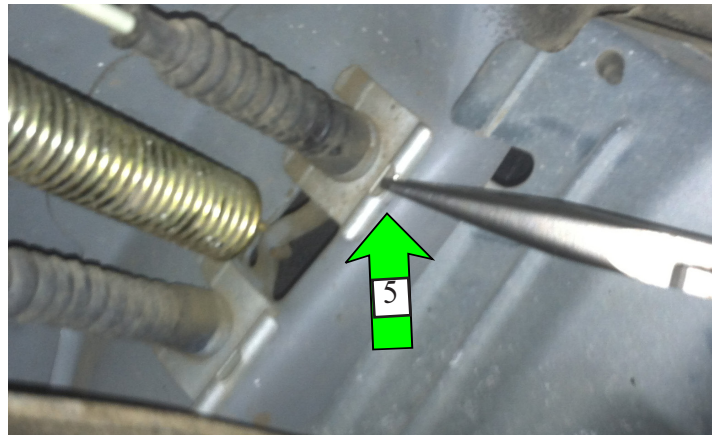
3. Follow the cables away from the caliper, and unbolt them both from the chassis (3). Shown is the driver's side, the passenger side is the same, although there could be more parts in the way. Save these bolts, they'll be reused.



4. Pull the cable towards the balance bar (4) as much as possible, then angle the balance bar and orient the cable so that it slips out of the slot in the balance bar.



5. Pry off the clip (5), then remove the cable from the car. Repeat steps 2-5 for the cable on the other side. If you have the comp / track kit, secure the balance bar or remove the rest of the parking brake assembly, as it will no longer be used. If you have the street kit, leave it in place as it will be reused.



6. Unbolt the stock caliper from the upright (6) and remove it. Take the original brake line off as well. Repeat for the other side. There's no need to remove the caliper from the caliper bracket, as you do when you replace the pads. If you're replacing the rotors, now's the time. Use an M8 x 1.25 bolt to pull the rotor off if need be. Slip the new rotors on before proceeding.



7. Get one of the brackets and install it onto the upright. The brackets are symmetrical, so it doesn't matter which one you grab, but make sure you can read "Flyin' Miata" when you're looking towards the inside of the rotor (as shown). Use red Loctite and tighten these bolts to 33 lb-ft. Use the hex head bolts (36-10442) and 10mm washers (36-30140). Do the same for the other side. You may need to trim the dust shield for caliper and rotor clearance.



8. Be sure the rotors are clean of any oil, then install them. Slotted rotors do have a left and right, install them appropriately. They should be labeled, but if not, install them as shown in the picture - this is the right (passenger) side of the car. The calipers shouldn't be in place yet.



9. Install the new parking brake arms (pieces in the caliper box). Slip the black pin through the hole in the base of the arm, slip the silver "hooks" around it, then use the small button head bolts to help them in place. Be sure the hook piece is on the outside and the slot piece is on the inside. Use the included 5/64" Allen wrench, put red Loctite on the bolts and get the bolts snug but don't over-tighten them - it's easy to strip the bolt heads.

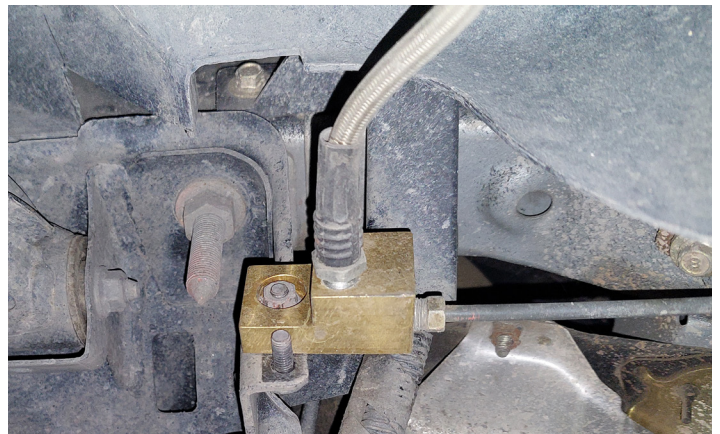


10. Next are the calipers. They're symmetrical (like the brackets, not the rotors), just be sure that you can read "Wilwood" when you're looking at the outside of the rotor. Use red Loctite here also, and torque them to the same value (33 lb-ft). Use the button head screws (36-10785). Slip the pads in, appropriately using the clips, once the calipers have been bolted down.

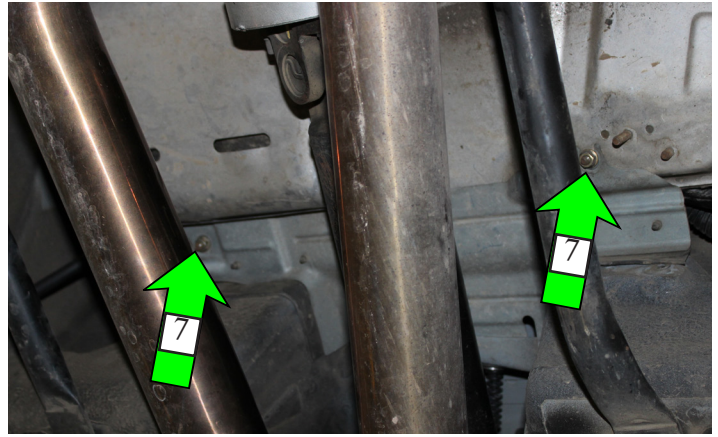


11. The braided brake lines are next. Installation is the opposite of the removal of the stock lines, just be sure all of the parts are very clean - you don't want any dirt in your hydraulic system. Get all of the fittings snug, but don't go crazy. For the fittings going into the calipers themselves, be sure to use thread sealant, then get them hand-tight plus 1.5-3 turns. for the brake lines, hand-tight plus a 1/4 turn.

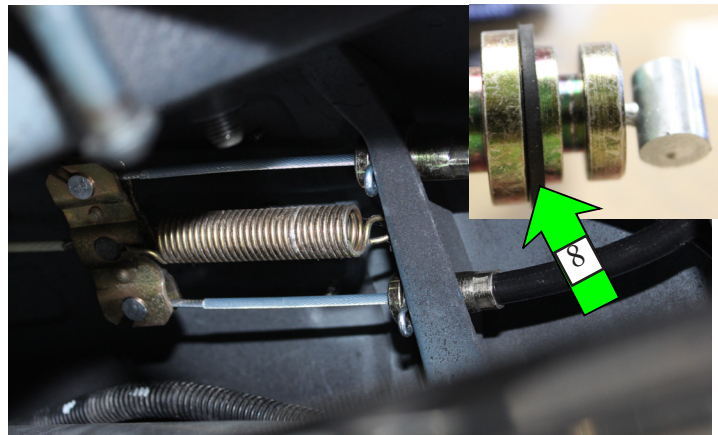
Note: Later brake line junction blocks only have one bolt hole, as shown.



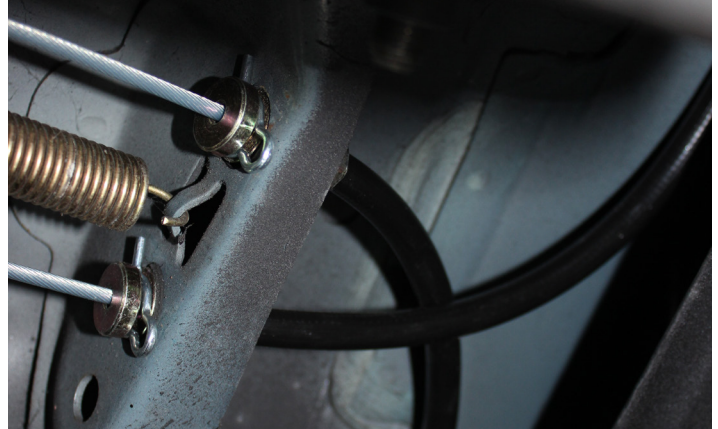
12. If your car has a heat shield blocking access to the car end of the cables, remove it. On this car (a 2002), you need to remove the two nuts (7), then slip the heat shield out. Different years may vary, but they should be similar...ish. Remove the stock parking brake cables from the car.



13. Install the new cables. Their installation is the reverse of the stock cable's removal. Start at the balance bar, connecting both cables here before moving on. Be sure the rubber grommet (inset, 8) is sandwiched between the metal housing end and the sheet metal bracket on the chassis. This grommet is typically in the groove for the clip (next step) initially.



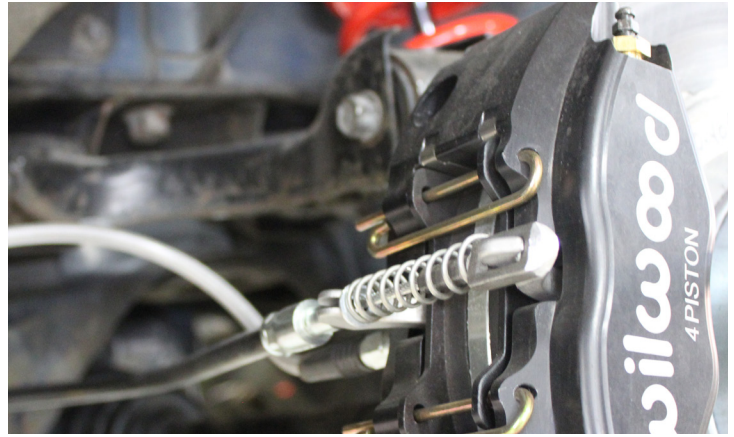
14. Cross the cables at the fuel tank, then route them cleanly to the calipers. Install the clips to hold the housing in place.



15. Use the loom clamps to secure the cables to the subframe with the M8 hardware: bolts (36-10421), washers (36-30130), and nuts (36-20120). Be sure that the cables won't be able to ever contact the wheels.



16. Hook the end of the cable on the hook-shaped outboard arm, then pull the fitting on the end of the housing into place on the inboard arm. Be sure the spring and the washer are between the two arms. Carefully install the wheel to check for clearance. If the end of the cable contacts the inside of the wheel, it can be clearanced as necessary. Don't remove so much material as to hurt its strength.



17. Adjust the cable at the lever (in the cabin) as needed (9). There should be about 3 clicks before you feel resistance, but be sure that the cable is loose at the caliper when the parking brake isn't engaged. Don't forget to replace the heat shield from step 12.



18. Bleed the brakes. Start with the left (driver's side) rear, then right rear, right front, then left front (farthest (in length of line) from the master cylinder to closest. Be sure you bleed both sides of each caliper, but you don't need to bleed using the lower bleed screws. Bleed the inside of each caliper first - the side the fluid coming from the master hits first - then bleed the outside.

19. You're ready to drive! You'll need to bed the pads per the instructions included with the pads, but pay attention to your brake bias while you're doing that - these calipers will shift the bias rearward slightly. If you have an adjustable proportioning valve, you can adjust the bias as needed. '01 - '05 Sport cars (including Mazdaspeeds) use electronics to control their brake bias, and can't use our adjustable proportioning valve. If you still have issues with squealing after bedding the pads (and letting them fully cool), try bedding them again. Also, remember that although this is a true parking brake, it's not a very strong one. The cable is strong, so put as much force (within reason) as you'd like, but be smart about where / how you park. Be sure to leave the transmission in gear, turn the wheels towards the curb, etc.