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Installation Instructions

BX1175 F88 Boxmount Front Brake Kit
89-05 Mazda MX-5 Miata

Braking systems should only be serviced by experienced and skilled persons possessing the correct tools for the task. Improperly serviced, installed or maintained brake systems are dangerous. Do not take this responsibility lightly. Race equipment, including brakes should be inspected regularly for material fatigue, excess wear and damage from use.

- It is recommended to have a Mazda FSM (Factory Service Manual) on hand before beginning any service on your Miata. Really.
- If you decide to bleed the rear brakes, you may need a second bottle of fluid. Do not mix brands of brake fluid.
- We prefer isopropyl alcohol for cleaning dust and fingerprints off of the brake system as it leaves no residue. Use only in well ventilated area free from any flame or source of ignition.
- Do not get grease or brake fluid on the brake pads. Doing so can permanently ruin their function
- OEM backing plates can either be cut to clear rotor or removed entirely
- Check torque on every fastener, connection, plug and thing you touched before lowering car to ground. Twice.
- TEST the brake pedal after completing installation of the kit, BEFORE lowering car to ground.

You will regret not reading the stuff on this page :)

Included parts

2x	AFCO 6630051/61 F88 calipers, gray anodized, 2x32mm / 2x 36mm staggered piston
2x	Boxmount caliper brackets, 7075 T-6 forged billet alloy
4x	Boxmount braces, steel
16x	5/16-18 x .75 bolt
4x	M10 x 1.25 x 45mm JIS flange head bolt
4x	7/16-20 x 1.75 SHCS
2x	Banjo fitting
4x	M10 copper washers (for banjo bolts)
2x	-3AN adapter fittings
2x	Brake hose, stainless braided, vinyl coated
2x	Friction ring, 11x1.10" , 8x7.00 BCD
2x	Rotor hat, hub-centric, 6061 T-6 forged billet alloy
1x	Red Loctite 271, 5ml
2x	⅛ NPT Plugs with sealant
2x	Banjo Adapters

Installation instructions

Assembling two piece rotor system

1a) Apply small dab of red loctite to thread of each bolt **Fig 1**. Assemble while thread locking compound is still liquid

Fig 1

1b) Attach rotors to alloy hat with 5/16-18 bolts as shown in **Fig 2**.

1c) Torque in this cross pattern sequence to 25 ft-lbs / 34Nm **Fig 3**

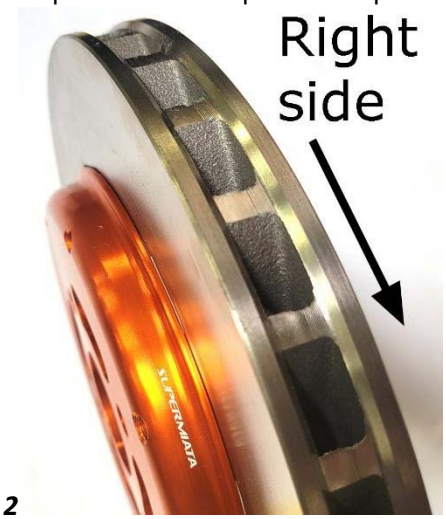

Fig 2

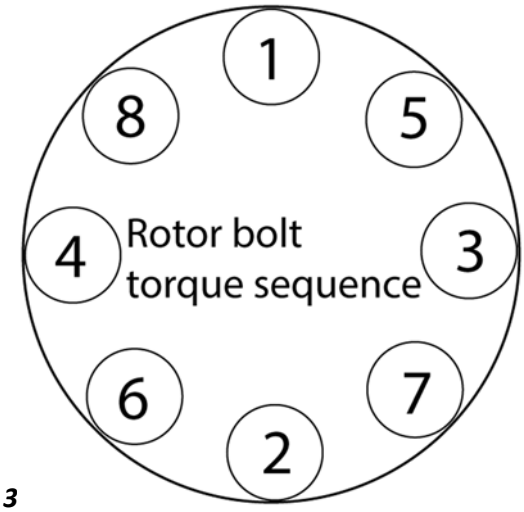

Fig 3

Installing brake system

1. Apply parking brake
2. Place front of car on two jack stands to allow removal of both front wheels
3. Leave cap on master cylinder
4. Place oil catch pan on ground under control arm

5. Loosen and remove caliper bracket bolts
6. Lift caliper off spindle and remove place on control arm
7. Remove rotor
8. Check that mating surface on spindle caliper tabs and threads are clean
9. Install bracket with braces as shown in F**ig 4** but do not install caliper yet**.** Orient raised portion of silver brace as shown. SUPERMIATA on orange bracket faces outward. Raised portion of bracket faces caliper. Snug fasteners but do not torque yet

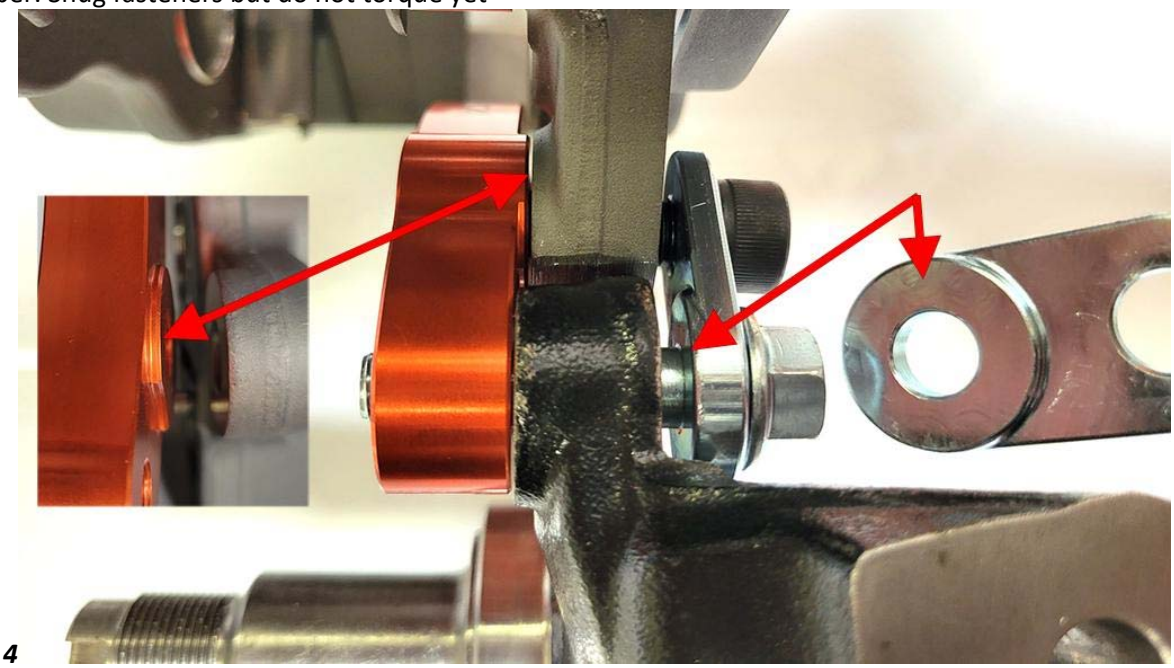

Fig 4

10. Install rotor. Use lug nut to hold rotor in place while installing caliper.

Note: Two piece rotors are left and right hand F**ig 2**

Note: Rotor must be clean and free of any oil, grease or dirt that could contaminate the brake pads.

11. Install caliper without pads as shown in **Fig 6** Calipers are pre-clearanced to fit OEM Miata spindle lugs. Smaller pistons on lower side of caliper, leading edge.

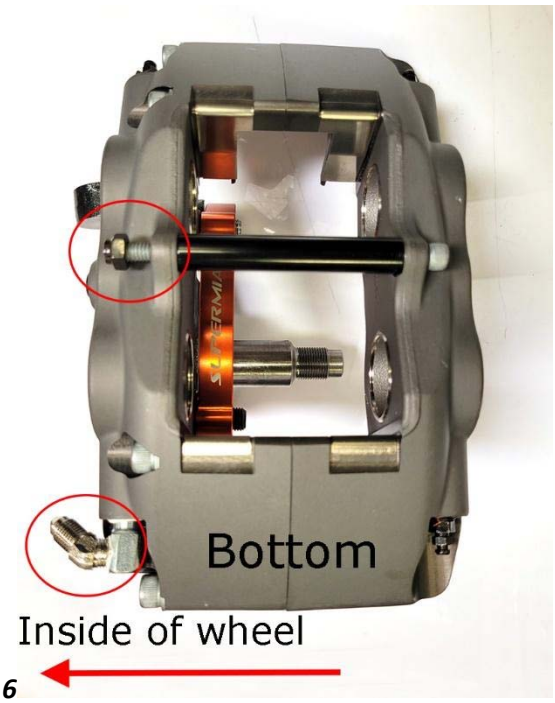

Fig 6

12. Install pads as shown in **Fig 7**

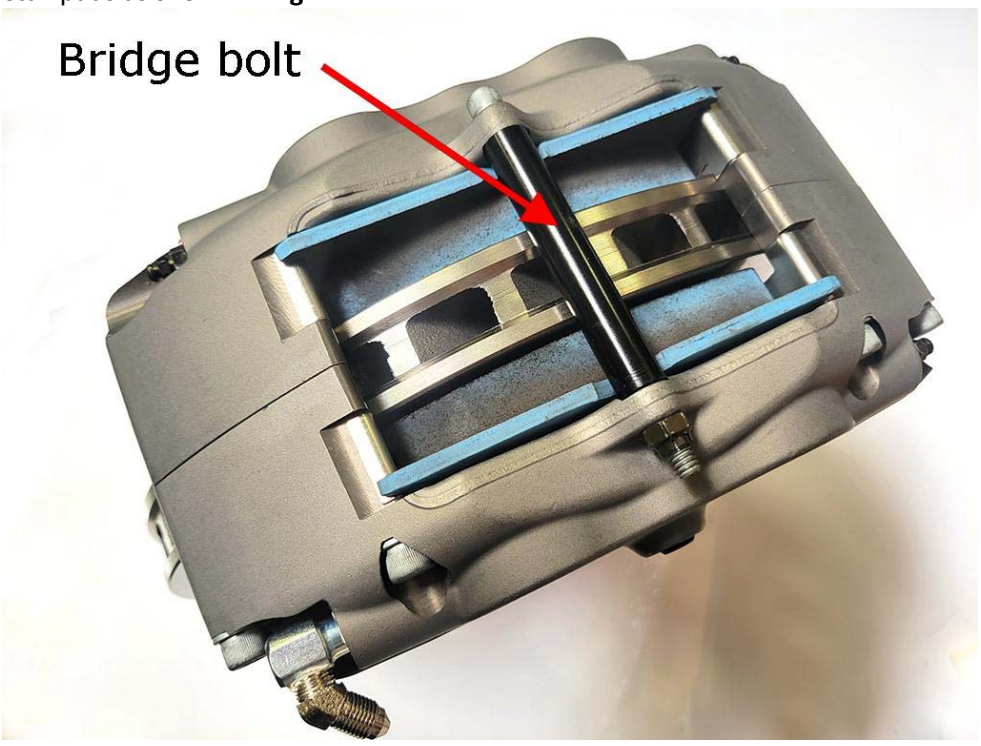

Fig 7

13. Snug bridge bolt nut until black tube does not spin freely. Nut on bridge bolt must face inside of wheel.

Fig 8

Fig 9

Note: Brake pads must be clean and free of any oil, grease or dirt that could contaminate them.

14. Torque all four caliper mounting bolts to 45 ft-lb / 61 Nm
15. Attach brake hose to hard line fitting on frame rail
16. Install brake fitting on caliper as shown in fig 8-9

17. Attach brake hose to caliper. Swing hub assembly through full right and left steering lock to ensure brake line does not snag, bind or contact anything. Now mount wheel and repeat the swings while checking for contact, binding of the brake hose. Adjust hose by rotating fitting if needed.
18. Repeat installation and test procedure for other front wheel
19. Refill master cylinder and begin bleeding front brakes. Bleed wheel furthest from master cylinder first, working your way back to the wheel nearest the master cylinder.
20. Check both ends of both brake hoses for leaks
21. After both brake hoses are securely fitted, pads installed and everything torqued on both front wheels, test hydraulic system by pressing brake pedal with approximately 100lbs of force and holding for 5-10s. Pedal should not sink during this test. Check both ends of brake hoses for leaks.
22. Check caliper function. Wheels should spin freely with brakes off. Have assistant apply moderate brake force (15-40 lbs) or place a weight on brake pedal to activate. With wheels in air wheels, they should not be able to be rotated by hand with moderate force applied to brake pedal. Verify the wheels spin freely again when brake pedal is released.
23. Torque wheel lug nuts
24. Lower car to ground with parking brake applied on level ground. Start engine. Release parking brake and check brake pedal feel. It should be firm and not sink with constant hard pressure of at least 2 minutes.
Note: Running engine in enclosed spaces releases unhealthy fumes that may be trapped and concentrated.
25. Put car in gear and move car a foot or two slowly in one direction and apply brakes. Reverse direction and perform test again.
Note: Be aware of your surroundings. Initial brake test with moving vehicle should be performed where unsatisfactory brake function would not cause a collision of any kind. Be prepared to apply the parking brake in case of unsatisfactory brake function.
26. Repeat previous test forward and reverse with wheels steered full left and full right
Note: Oversize wheels/tires may reduce steering lock. Verify brake hose routing with as much steering lock as the car is capable of.
27. Raise car onto two jack stands again. Inspect for leaks. Inspect for signs that brake hoses are interfering.
28. Perform road test at low speeds. After road test, place car on two jackstands (last time), set parking brake and remove front wheels to perform final visual inspection of system for fastener torque and leaks.

Congratulations, you now have the best Miata brakes in the world!

More info about NA/NB Miata brake systems
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A few notes on getting the best performance out of your brake system

- Brake fluid is a key component in managing thermal loads. Look for a high dry boiling point in your brake fluid choice. Completely flush 1x year for street/auto-x cars. 2x year for track cars.

- Bleed brakes starting with longest brake line to shortest. That's usually LR, RR, RF, LF on a LHD car

- OEM front hubs flex enough to allow rotor to caliper misalignment. This causes knockback where the rotor pushes the pads back into the caliper during hard cornering. This causes the pedal to drop suddenly. Kerbs and dropping a wheel off the track edge can also cause knockback. This is not a problem caused by the brakes, but caused by weak hubs. Aftermarket hubs with thicker flanges will usually eliminate knockback.

- Our 3" duct kit will usually double pad life. If you fade your brakes, get uneven pad wear or just wear them out too quickly, inadequate airflow is usually the cause. 2" ducts do nothing, don't waste your time. 2.5" ducts are a little better but still don't flow much. 3" is the minimum hose diameter you should consider. Duct hoses must have as few bends and kinks as possible. Every bend reduces air flow. Route the hose behind the shock and into the gap between the Boxmount and spindle. Not that the Boxmount rotor hat is closed. This forces all that cool air to exit through the rotor vanes.