

## **Installation Instructions**

### **BX11 Brake Ducts 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.**

- Do not allow grease, oily fingerprints or brake fluid to contaminate the brake pads or rotors.
- 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.

#### Included parts

- 1x Brake duct BX11, right
- 1x Brake duct BX11, left
- 2x 45° 1/8 NPT fitting
- 2x 90° 1/8 NPT adapter
- 2x 1/8 NPT plugs

#### **Caliper Preparation**

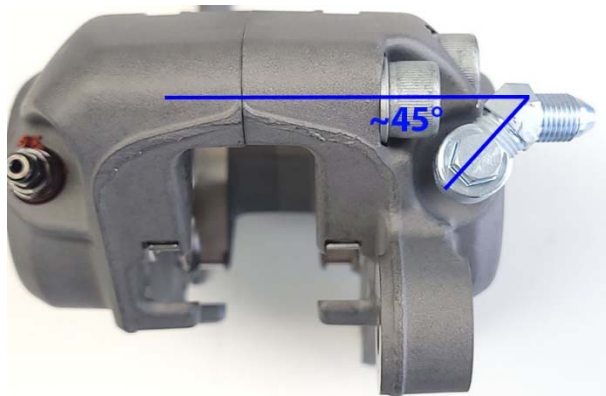
(skip steps 1-5 if your calipers have the proprietary silver brake hose adapters pre-installed)

1. Insert supplied 1/8 NPT plug in current brake hose inlet



2. Remove lower, inner black bleeder nipple using 11/32" or 9mm socket. The one closest to spindle and caliper lug and at bottom of caliper. The adapter position will be at opposite end of caliper on other side of car.

3. Install 90° adapter into port where bleeder nipple was removed using 8mm wrench or socket. Rotate adapter until it the port is at about 45° to caliper centerline as shown. It doesn't need to be exactly 45°, just needs to point the port towards the inside of the car.



4. Insert the 45° fitting using 11mm wrench into the port of the adapter you just installed. Rotate until the fitting is pointed 5-15° upward, as shown in photo



5. Place duct on caliper/spindle as shown





6. Torque all four caliper mounting bolts to 45 ft-lb / 61 Nm
7. Install and orient brake hose so it clears wheel at full lock both directions
8. Bleed front brakes and test brake function before driving car
9. With car still on jack stands, steer wheels full left and full right to check for interference of ducts and hoses. You can put a slight twist into the brake hoses to get them to stay where you want them.  
*Note: Oversize wheels/tires may reduce steering lock. Verify brake hose routing with as much steering lock as the car is capable of.*
10. Perform road test at low speeds. After road test, place car on two jackstands again, set parking brake and remove front wheels. Perform final visual inspection of system for fastener torque, brake hoses, ducts.

#### **Post install notes**

If you manage to spin your car on track, check the ducts and hoses before next session.

#### **A few notes on getting the best performance out of your brake ducts**

Recommended shopping list from [Aircraft Spruce](#) for connecting your ducts to the nose of the car. This assumes a flat plastic style air dam.

- 05-29812 : 3" duct hose x 7'. You will need about 3.5' per side
- 10350-12 : 2x 3" Duct flanges
- QS200-52H : 4x Clamps to secure hose to flanges

Reduce bends in hose to absolute minimum. Every time the hose changes direction even a few degrees, the air flow is reduced. The greater the bend, the greater the flow reduction. Source air from high pressure area in front of car. Airflow entering duct flange does not need to be direction car is travelling, it just needs to be a spot where air pressure is building up. That will force air into the hose. Good hose will stay on the duct without anything securing it. Zip ties are lower profile than hose clamps and less likely to interfere with wheel or brake hoses. Pay attention to screw location on hose clamp as it needs to clear wheel.

Youtube video about our brake ducts <https://youtu.be/tmL4I7heVIA>

**More info about [NA/NB Miata brake systems](#)**

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