

Rear Diffuser V1 & V3 Install Instructions

Tools Needed

1. Jack
2. Jack stands
3. A ratchet/Impact Wrench
4. Sockets sizes 15-18mm

Torque Specs

1. Ladder Brace Torque Spec: 41-59 lb/fts
2. Vertical Bracket Torque Spec: 30-40 lb/fts

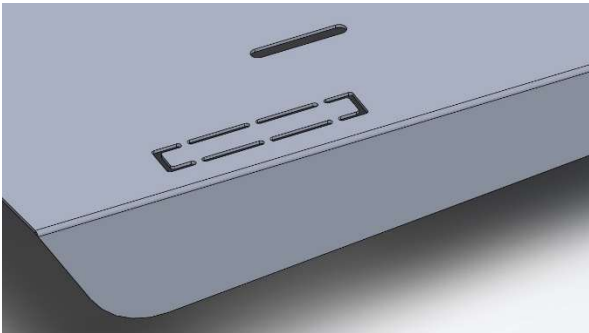
- 1) Jack up the rear of the vehicle. Please make sure the car is supported by jack stands and not solely a hydraulic jack as you will be working under the car.
- 2) This step is only for 93-05 Miatas. Loosen and take off the two bolts circled that hold the ladder brace to the rear of the subframe. Keep the bolts as you will be reusing them.



- 3) Undo the two nuts that will hold the rear vertical brackets. The nuts will be around the area where the OEM tow hook would be. Undo the lower nut that is closer to the middle of the car. Keep the nuts handy as you will be reusing them. NB owners (99-05) will not find the stud and nut combo on the vehicle. You will have to pass a bolt through the empty hole.



4) Secure the vertical brackets. Place the vertical bracket on the stud and reinstall the nut that was previously taken off. The bracket allows for adjustability for your car and preferences. For an NA (90-97) the 4th hole from the top works well as it gives the diffuser a 7-degree angle which is good for downforce using this diffuser design. The bracket must also be pointing straight down and not at an angle.



NB Chassis, V1 Diffuser Only

5) The V1 diffuser has two rectangles partially cut out to clear the OEM TOW HOOKS. The remainder of the material must be cut off to remove the rectangular plate completely. Only V1 diffusers have this cutout slot. V3 does not. Test fit the diffuser before cutting this out. Depending on your set up you may not need to cut it out.



90 - 91 Only

6) Since 90 - 91 does not have the ladder brace, the 90 - 91 kit has a bracket to hold the front of the diffuser to the subframe. On the rear of the subframe will be two drilled out holes that are not threaded. Pass through the given bolts as shown and secure the bracket with the single hole pointing down. 90 - 91 NA's with a newer subframe swapped in do not need the brackets.

Mounting the diffuser

- 7) Slide the diffuser in between the ladder brace and the bottom of the subframe. Start threading the bolts taken out in **Step 2** to hold the diffuser in place but keep it loose so that the diffuser can still be moved around to adjust. The right-hand side of the vehicle (passenger side if the vehicle is left hand drive) might have a metal clip on the brace preventing you from mounting the right side of the diffuser. Bend it out of the way or remove it.



- 8) Bolt the diffuser to the vertical bracket. Use the supplied M8 bolts and nuts to secure the rear of the diffuser to the vertical bracket. Make sure to use a washer on both sides of the diffuser as well as the lock nut.



Tip: Start by fastening the diffuser on the right side of the vehicle as there is less space to move around due to the routing of the exhaust on most vehicles.

If the vertical bracket's mounting location doesn't line up with the mounting holes in the diffuser, it is likely that the vertical brackets are not pointing straight down. Loosen the vertical bracket nut to allow for adjustment so that the rear of the diffuser can be mounted.

Step #9: 90-91 Only

- 9) The front of the diffuser will be secured to the bracket installed above in **Step 6**. Use the supplied bolts and loosely secure the diffuser in place so that it can still be moved around.
- 10) Make some final adjustments as all the bolts should still be loose. Make sure the diffuser is sitting center of the vehicle and not hitting anything such as your exhaust. Once the diffuser is sitting perfectly, go ahead and tighten all the bolts. The vertical bracket bolts should be tightened to 30 – 40 lb/fts. The ladder brace bolts should be tightened to 41-59 lb/fts as per the factory service manual. Lastly the bolts that hold the diffuser to the brackets should be tightened to be snug. They don't have to be super tight.
- 11) Drive the car. Listen for any odd sounds such as the exhaust hitting the diffuser. One way to combat this is to get stiffer exhaust hangers. A DIY solution would be to raise the exhaust just slightly. Wrap a hose clamp around the exhaust hanger as this will make the hanger smaller and will raise the exhaust. Raise the exhaust enough just to clear the diffuser because if raised too high the exhaust could contact something else.



- 12) Now your diffuser is all mounted up. Enjoy the new look and all the downforce you now have. If there are any questions or concerns, please reach out to us:
<https://www.rtheorymotorsports.com/contact>.