

VERUS ENGINEERING

Toyota GR86 Rear Diffuser

Install Manual



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01	2022/08/05	T. Lang	Initial release of install manual.

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1. Introduction

1.1. Overview: Detailed instructions on installing the Verus Engineering functional rear diffuser on the Toyota GR86

1.2. Difficulty: Beginner

1.3. Time Required: 1-1.5 hours

1.4. Tools Needed:

- 1.4.1. Jack and Jack Stands (or a lift)
- 1.4.2. 12mm Socket
- 1.4.3. 10mm Wrench
- 1.4.4. Ratchet
- 1.4.5. Center Punch
- 1.4.6. 4mm Allen wrench or socket
- 1.4.7. 3/8" Drill Bit
- 1.4.8. Flat head screwdriver
- 1.4.9. 9/16" wrench
- 1.4.10. 5mm Allen wrench or socket
- 1.4.11. Level

**1.5. Rear Diffuser Components:**

- 1.5.1. Rear Diffuser
- 1.5.2. (2) Front Brackets
- 1.5.3. (3) Rear Brackets
- 1.5.4. (2) Outside Brackets

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1.5.5. (1) Hardware Bag

- 1.5.5.1.** (15) M6x1.0 Button Head Cap Screw (BHCS) x 16mm Long, SS
- 1.5.5.2.** (24) M6 Fender Washers, SS
- 1.5.5.3.** (15) M6x1.0 Serrated Flanged Nuts, SS
- 1.5.5.4.** (2) M6x1.0 BHCS x 45mm Long, SS
- 1.5.5.5.** (9) M6x1.0 BHCS x 20mm Long, SS
- 1.5.5.6.** (4) M6x1.0 BHCS x 40mm Long, SS
- 1.5.5.7.** (9) M6x1.0 Plastic Rivet Nut
- 1.5.5.8.** (1) Rivet Nut Installer
- 1.5.5.9.** (1) Cut Template
- 1.5.5.10.** (3) M6 5mm Long Nylon Spacer
- 1.5.5.11.** (7) M6 10mm Long Nylon Spacer
- 1.5.5.12.** (7) M6 15mm Long Nylon Spacer

**2. Rear Diffuser Install**

- 2.1.** Verus-Engineering is not responsible for damage to you or your vehicle by following this manual and/or installing Verus-Engineering products on your vehicle.
- 2.2.** We begin by jacking the car up on a level surface. Use of wheel chocks is suggested to keep the front wheels from rolling. Using a lift is also a possibility.
- 2.3.** With the car up in the air, we can have a good look at what we're working with! Circled are the bracket locations, and designations.

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2.4. First, we will start with the front brackets mounted to the sway bar mount.

2.5. Unbolt the lower bolt fully using a 12mm socket. Loosen the top bolt by a couple turns.

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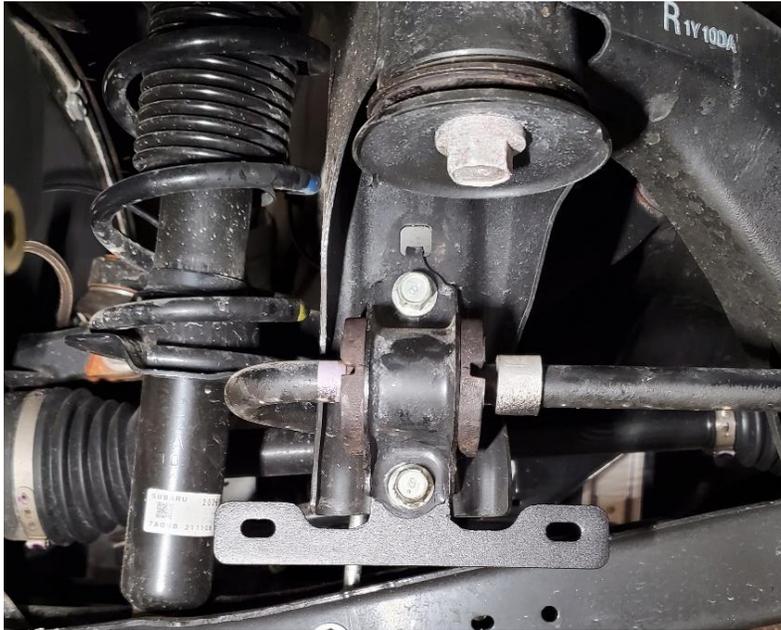


- 2.6. Install the bracket between the sway bar mount, and the sub-frame. Use the lower bolt. You may fully tighten these bolts at this time. Make sure the bracket is level with the ground. Torque the bolts 22 ft-lbs. **NOTE:** BRZ's will still mount the bracket in the same manner. The bracket will just be in a different spot due to the difference in the OEM sway bar mount. Both are pictured below.



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2.7. Next, remove the reverse lamp cover / fascia. Remove the three push clips, and pull the cover rearward.



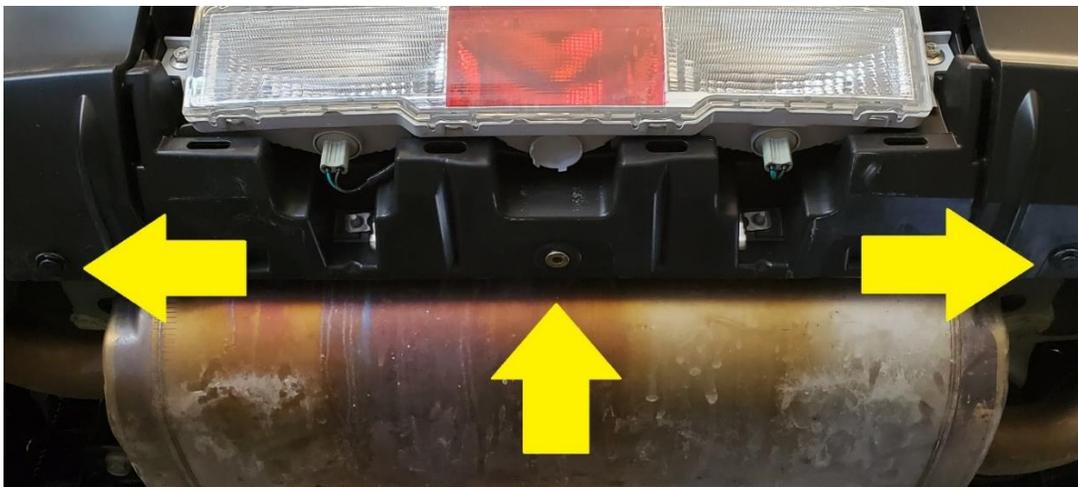
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2.8. Remove the two push clips on either side of where the reverse light cover was.

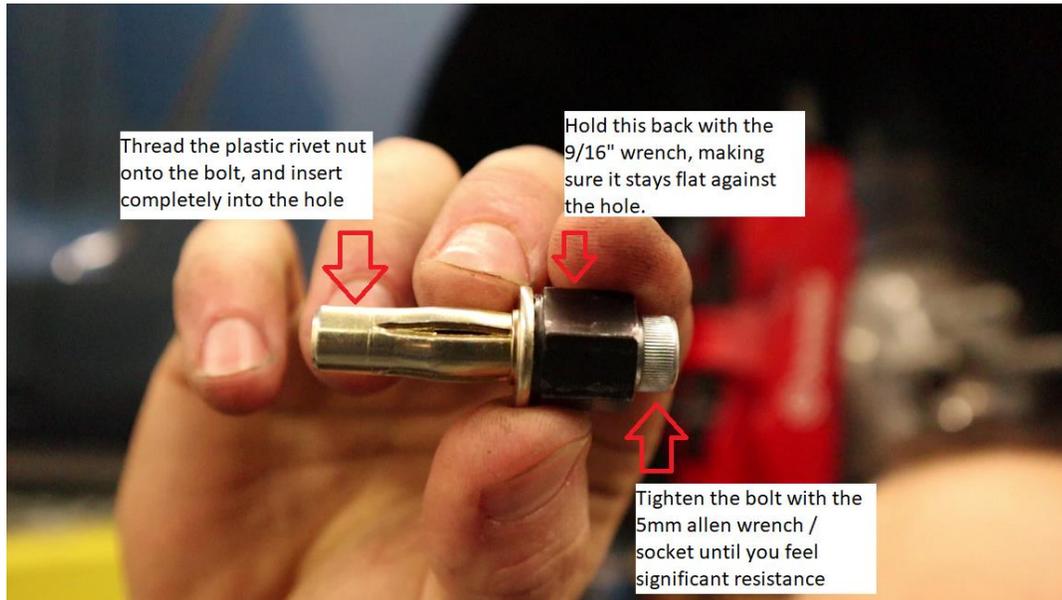


2.9. Install three plastic M6 rivet nuts into the holes shown below. Follow the diagram for instructions on how to use the rivet nut installation tool. The holes should already be a suitable size however, if needed, use the 3/8" drill bit to open them up.



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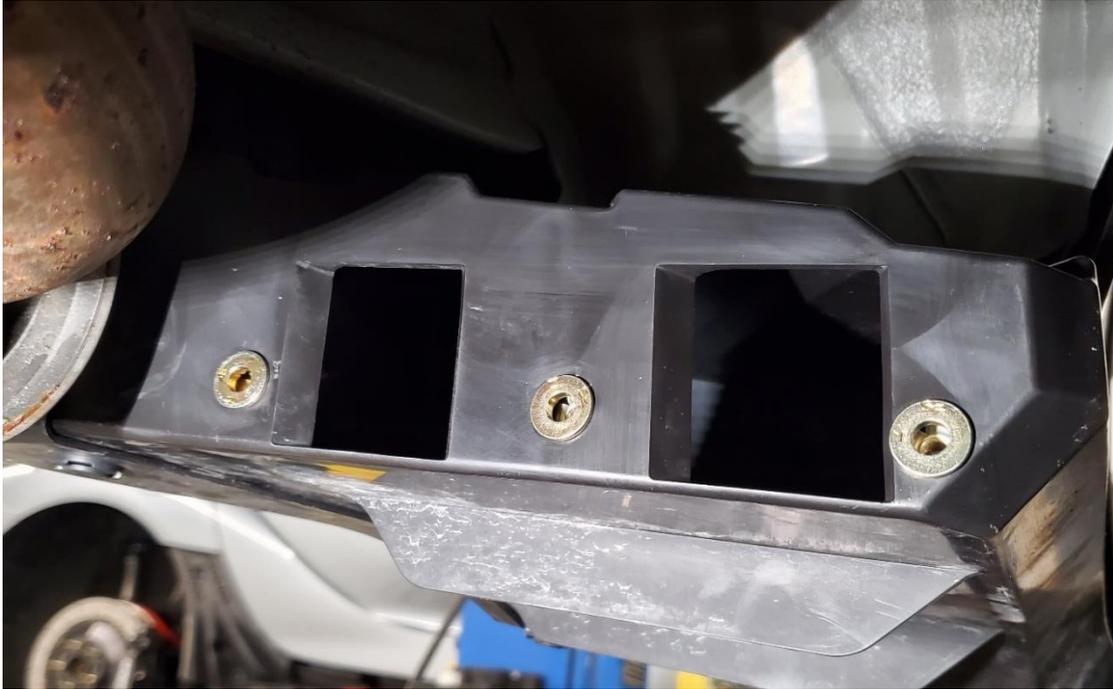
- 2.10.** Next, cut out the templates provided, and tape them to the bumper support structure as shown below.



- 2.11.** Center punch the circles on the template, and drill holes using a 3/8" drill bit.
- 2.12.** Once the holes are drill on both sides, install rivet nuts into all of them. You should be installing six rivet nuts in total. Use the picture in **2.9** for installation instruction if needed.

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2.13. Install the rear brackets into the three rivet nuts installed in **2.9**. Use three 20mm BHCS, and washers. Torque to 6 ft-lbs.



2.14. Loosely install both side brackets / strakes using six 20mm BHCS, and washers. These pieces should slide up, and down to aid in setting the correct height for the final installation.

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- 2.15. Now we may begin installing the diffuser. Having a helper for this part is beneficial. Starting the eight bolts for the side brackets first is a good way to do this by yourself.
- 2.16. **FOR GR86 Owners:** On the front two brackets, the bolt heads and washers go on the front side of the diffuser with the nuts on the back side. Use the 16mm BHCS, washers, and serrated flange nuts. Do this for all (4) locations. **FOR BRZ Owners:** The same basic strategy is used with 10mm, and 15mm nylon spacers between the diffuser mounting tabs, and front bracket. Use the 40mm BHCS, washers, and serrated flange nuts.



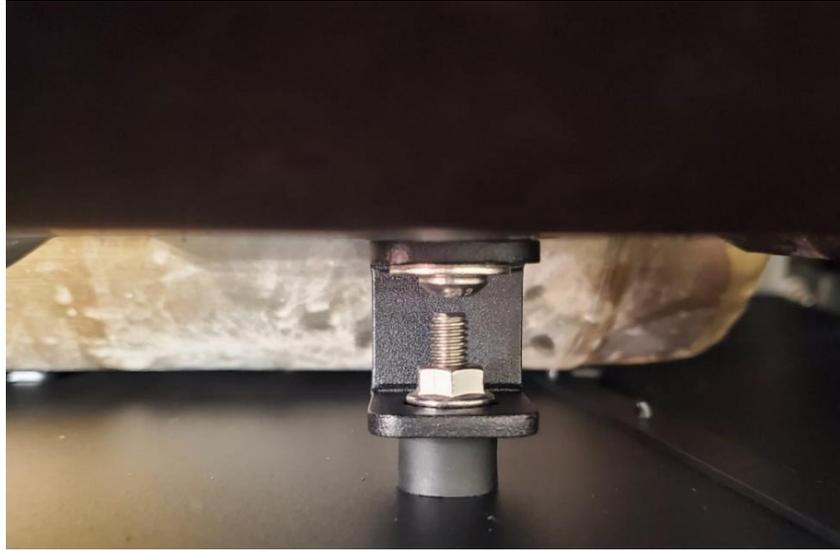
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- 2.17.** At this point, we need to figure out how far up the diffuser can sit. This is determined by the rear bumper's faux diffuser strake and the exhaust used on the car. We recommend installing the diffuser as far upward on the car as possible.
- 2.18.** When you figure out how high up the diffuser can sit, we can install the rear bracket bolts. Using washers and/or nylon spacers to achieve the correct height. On our specific install, we found a 10mm nylon spacer worked well. If no spacers are needed, you can use a 16mm long BHCS, with spacers you need to use the 45mm long BHCS.

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- 2.19.** All the bolts should be installed at this point, but loose. It is now time to tighten all the loose bolts up. The M6 BHCS should be tightened to 6 ft-lbs.
- 2.20.** With the car on the ground and no rake, the diffuser strakes should be level. If the car does have some rake, you need to match the underbody's angle with the level of the bottom of the strake. Shown below is a car with no rake.



- 2.21.** You should also ensure that the diffuser is level laterally (left to right) with a level and while tightening the bolts.
- 2.22.** After ensuring that all bolts are tightened, you are finished!

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- 2.23.** Congratulations, you have successfully installed the Verus Engineering rear diffuser! You can now benefit from an increase in rear end downforce and a reduction in vehicle drag among other benefits.
- 2.24.** Please contact Verus Engineering with any feedback, concerns, and questions via e-mail, sales@verus-engineering.com.



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