

VERUS ENGINEERING

UCW Rear Wing Kit – BRZ, FR-S, and GT86

Install Manual



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1. Introduction

1.1. Overview: Detailed instructions on installing the Verus Engineering Rear Wing Kit for the BRZ, FRS, or GT86.

1.2. Difficulty: Moderate

1.3. Time Required: 1.5 – 2.5 hour

1.4. Tools Needed:

- 1.4.1. Drill
- 1.4.2. Starter Drill Bit
- 1.4.3. Center Punch
- 1.4.4. Step drill bit or various drills *needs to have 3/8”*
- 1.4.5. Hammer
- 1.4.6. 9/16” Wrench
- 1.4.7. 10mm Socket or Wrench
- 1.4.8. 12mm Socket or Wrench
- 1.4.9. Ratchet
- 1.4.10. 4mm Allen Wrench
- 1.4.11. 2mm Allen Wrench
- 1.4.12. Scissors
- 1.4.13. Painter’s Tape
- 1.4.14. Screwdriver



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1.5. UCW Rear Wing Kit Components

- 1.5.1.** UCW Rear Wing
- 1.5.2.** (2) Upright
- 1.5.3.** (2) Trunk Mount
- 1.5.4.** (2) Endplate
- 1.5.5.** Hardware Bag
 - 1.5.5.1.** (13) M6 x 1.0 BHCS (Button Head Cap Screw) x 20mm Long, Stainless
 - 1.5.5.2.** (4) M6 x 1.0 BHCS x 25mm Long, Stainless
 - 1.5.5.3.** (28) M6 x 12mm OD Standard Washer, Stainless
 - 1.5.5.4.** (12) M6 x 18mm OD Fender Washer, Stainless
 - 1.5.5.5.** (18) M6 x 1.0 Nyloc Nut, Stainless
 - 1.5.5.6.** (2) M6 x 1.0 SHCS (Socket Head Cap Screw), Stainless
 - 1.5.5.7.** (2) M6 x 1.0 Jam Nut, Stainless
 - 1.5.5.8.** (1) M6 x 1.0 Rivet Nut Install Tool
 - 1.5.5.9.** (8) M6 x 1.0 Rivet Nut
 - 1.5.5.10.** (4) Machined Aluminum Endplate Washer
 - 1.5.5.11.** (4) Buna-N O-Ring, #013
 - 1.5.5.12.** (4) M4 x 0.7 FHCS (Flat Head Cap Screw) x 12mm Long, Stainless
 - 1.5.5.13.** (6) VHB Double Sided Tape
 - 1.5.5.14.** (2) Drill Template, Paper

**2. UCW Rear Wing 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.
- 2.2.** We begin by gaining access to the trunk. You can leave the trunk on car during the install but removing the trunk is also quite easy.

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2.3. Remove the wiring harness from the vehicle as shown below.

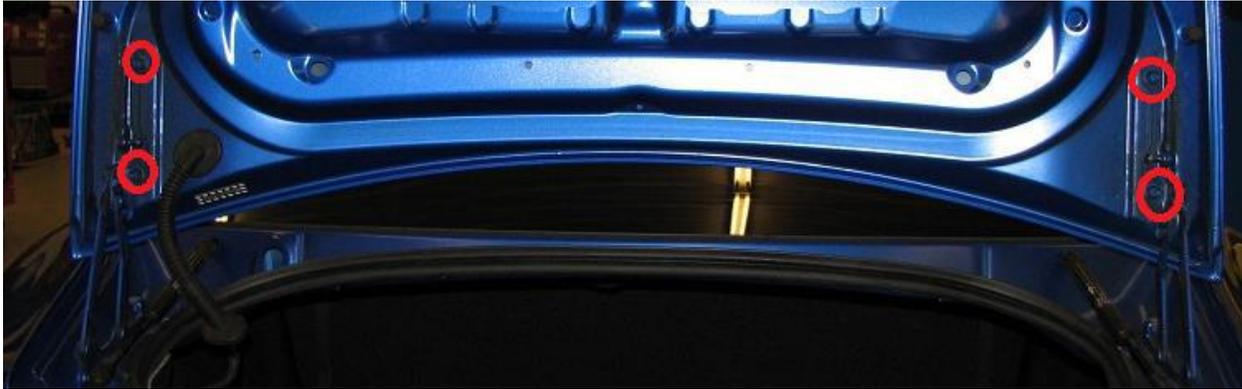


2.4. Remove the trunk shock from the trunk with a small flat head screwdriver, as shown below.



2.5. We can now remove the (4) 12mm bolts circled below. It is helpful to have a second hand.

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- 2.6. Place the trunk on something soft to ensure the trunk is not damaged. A clean sheet of carpeting may be a good option that is around the house. Place the trunk with the bottom side up initially.
- 2.7. If you have a BRZ or an OEM spoiler, your car may have these little rubber stops as shown below. If your vehicle has this, remove it from the trunk by pulling it off.



- 2.8. We need to open this hole to 3/8" to install the rivet nut. If you did not have a rubber bumper in this place, you will need to drill a new hole. **Ensure you do not puncture or go through the bottom side too quickly. You can cause the skin's sheet metal to deform if the drill bit hits it.**

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- 2.9.** Once this hole is 3/8", we can install the supplied rivet nut into these holes. We recommend a bit of sealant to help reduce the chance of rust. This is shown below.



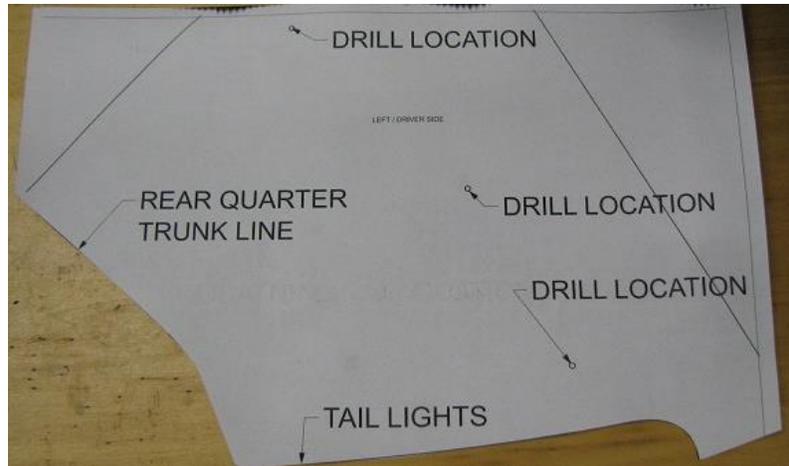
- 2.10.** Utilize the 9/16th wrench to hold the nut and a 10mm socket, tighten the rivet nut into the hole. A fully installed rivet nut is shown below. The slight excess of sealant is desired to reduce rusting.



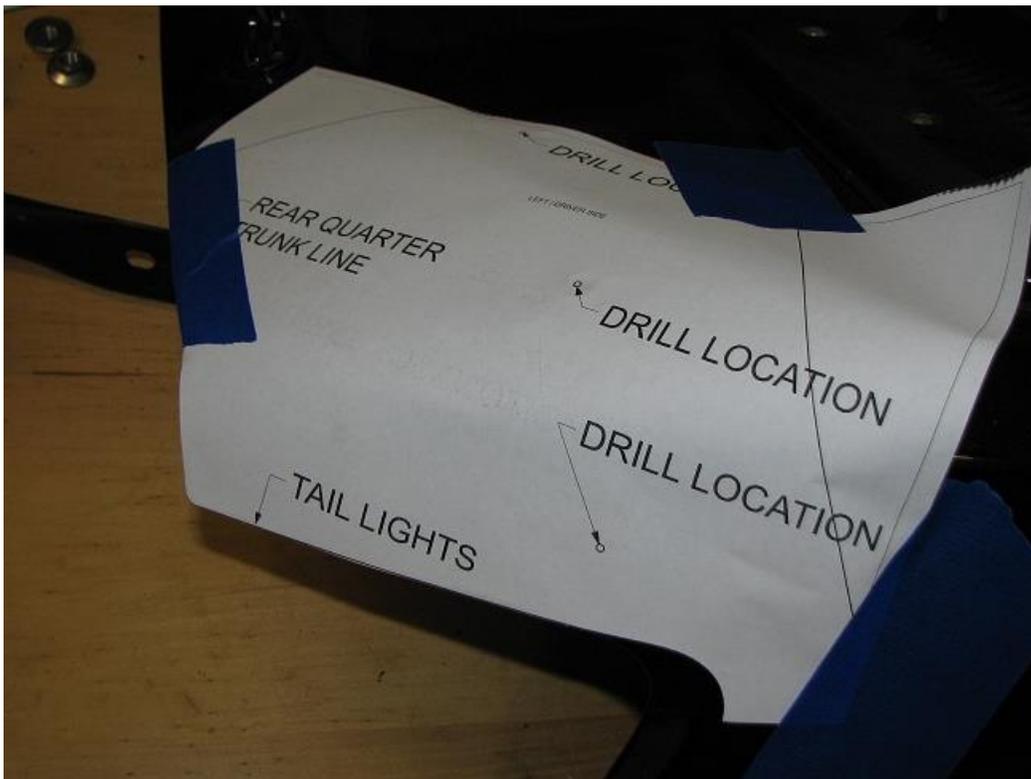
- 2.11.** We can now flip over the trunk and work on the top side.

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- 2.12. Utilizing the scissors, we can cut out the trunk template as shown below.



- 2.13. Tape the template onto the trunk as shown below. Line up the rear quarter trunk line and the tail light line with their respective locations.



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- 2.14.** Grab the correct trunk mount and ensure the holes line up correctly as well as the bracket lines up with the trunk surface before we make any holes.



- 2.15.** Using a center punch, mark the (3) holes per side for drilling.



- 2.16.** Using a starter drill bit, drill the (6) holes. An 1/8" drill bit works well for this.

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- 2.17.** There are two ways to install the trunk mount to the trunk skin; bolt and nut or with rivet nuts. The choice is yours. **If you are using rivet nuts, open these holes to 3/8". If you are using bolts and nuts, open the hole sizes to 9/32".**

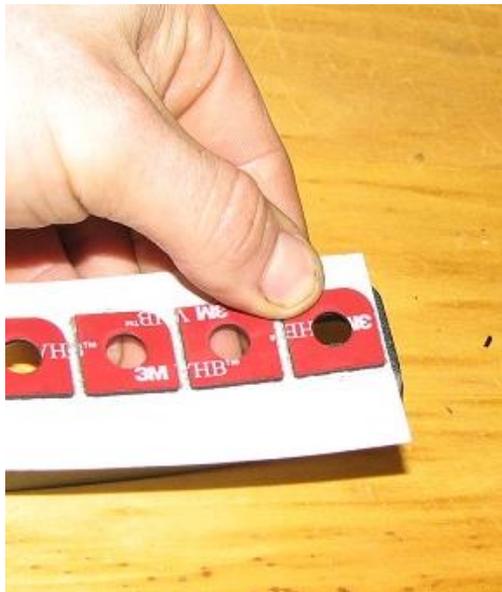


- 2.18.** Using the rivet nut install tool again, we install (6) more rivet nuts in the holes on the trunk skin.

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- 2.19.** Grabbing the double-sided tape, we install this on the trunk mount bracket to aid in weather proofing.



- 2.20.** With the double sided tape installed, remove the red backing and install the trunk mount as shown below (left hand side, note tail lamp location). We recommend utilizing the M6x20 BHCS with the M6 Fender Washers.

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- 2.21.** If you are utilizing nuts on the back side, you will need to create access holes on the bottom side of the trunk. With those holes in place, utilize a large washer and a nyloc nut on the inside of the trunk.
- 2.22.** With the trunk mounts installed, we can install the wing upright. Note that the uprights go on the *outside* of the trunk mount. Once again, we use the M6 x 20mm bolts, but with the small washers this time.



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- 2.23.** Utilize the small washers and nylocs on the inside and tighten the bolts/nuts. The nuts will use a 10mm socket and the M6 BHCS are a 4mm allen wrench.
- 2.24.** If the trunk was off car, we find it easier to install the rear wing on car.
- 2.25.** The rear wing is ready to be installed. Get the M6 x 25mm BHCS ready with a small washer. We will use all (4) units to install the rear wing, this can be done alone but it helps to have a second pair of hands.
- 2.26.** We recommend utilizing the button heads on the outside faces and the nylocs on the inside for aesthetics but this is your call ultimately. The wing mounts will go on the ***inside*** of the upright.



- 2.27.** For AOA, below is a guideline of what we have designed and tested internally. That being said, every install and car can vary from this slightly. To ensure proper AOA, you should lay a straight edge from front to rear of the wing and check ***in relation to the ground plane***.

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- 2.28.** To finish installing the rear wing, we have to install the endplates. We offer both carbon (upgrade) and sheet aluminum (standard). Both install the same. We include aluminum washers for M4 FHCS, and o-rings to reduce marring of the aluminum or carbon fiber. Install the o-ring on the washer, and install into the endplate and rear wing as shown below. Finger tight should be plenty.

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- 2.29.** The endplate top or bottom edge, should be parallel to the ground. Utilize a level.
- 2.30.** The final part of the install involves installing the upgraded trunk stop we worked on in steps 2.7 – 2.10.
- 2.31.** Begin by installing the M6 jam nuts on the 35mm Socket Head Cap Screw. Then install it into the trunk as shown below.

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- 2.32.** Then, while slowly closing the trunk, watch the SHCS and see how close it comes to touching the trunk hinge mount (shown below). You will want the SHCS to hit this piece on the hinge location when fully closed to reduce the amount of movement on the trunk at speed.

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- 2.33.** Congratulations on installing the UCW rear wing for the FRS/BRZ/GT86! For more information on performance, please visit our website and take a look at the Ventus packets available.
- 2.34.** Please send any questions, comments, concerns, or photos to Verus Engineering via e-mail; sales@verus-engineering.com.

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