

VERUS ENGINEERING

High-Efficiency Rear Wing Kit – ND Mazda Miata Install Manual



Author: Eric Hazen

Release Date: 2020/10/18

Approvals: E. Hazen, C. Warner

Document Revisions

Rev	Date	Author	Description
01	2020/10/18	E. Hazen	Initial release of install manual

Confidential: Property of Verus Engineering. Not for Distribution outside intended recipient list.

High-Efficiency Rear Wing Kit, ND Miata – Install Manual

CONTENTS

1. Introduction	<3>
1.1. Overview	<3>
1.2. Difficult	<3>
1.3. Time Required	<3>
1.4. Tools Needed	<3>
1.5. High-Efficiency Rear Wing Components.....	<3-4>
2. High-Efficiency Rear Wing Install	<4-10>

High-Efficiency Rear Wing Kit, ND Miata – Install Manual

1. Introduction

1.1. Overview: Detailed instructions on installing the Verus Engineering High-Efficiency Rear Wing Kit for the ND Miata.

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. Various metric allen wrenches
- 1.4.9. Scissors
- 1.4.10. Painter’s Tape
- 1.4.11. Screwdriver

**1.5. High-Efficiency Rear Wing Kit Components**

- 1.5.1. High-Efficiency Rear Wing Element, Assembled with Wing Mounts
- 1.5.2. (2) CNC Aluminum Upright

High-Efficiency Rear Wing Kit, ND Miata – Install Manual

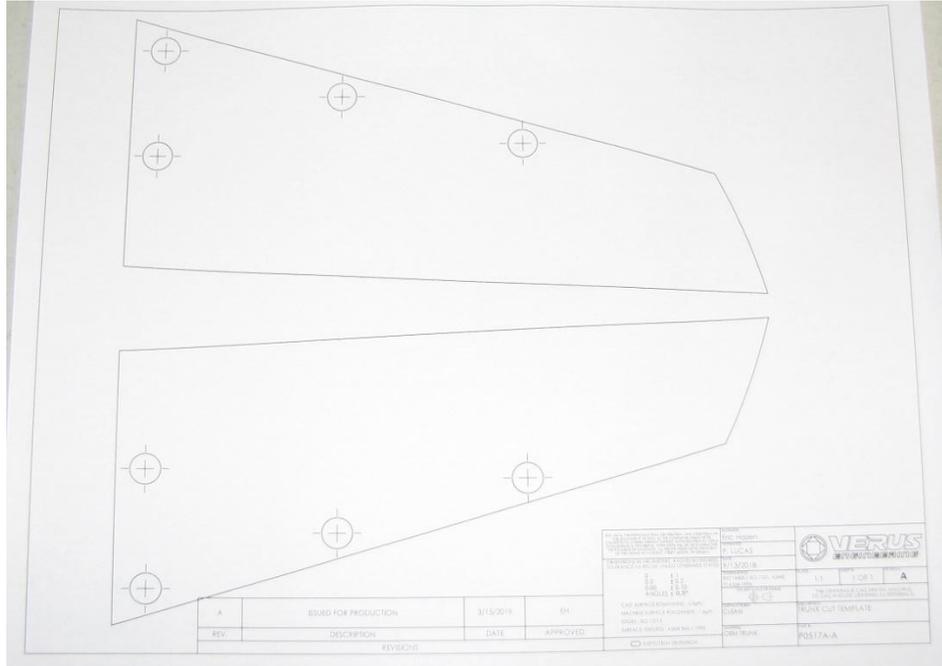
1.5.3. (2) CNC Aluminum Trunk Mount**1.5.4.** Hardware Bag

- 1.5.4.1.** (8) M5 x 0.8 BHCS (Button Head Cap Screw) x 22mm Long, Stainless
- 1.5.4.2.** (4) M5 x 0.8 SHCS (Socket Head Cap Screw) x 14mm Long, Stainless
- 1.5.4.3.** (10) M5 Flat Washer, Stainless
- 1.5.4.4.** (5) M5 x 0.8 Nyloc Nut, Stainless
- 1.5.4.5.** (9) M6 x 1.0 BHCS x 8mm Long, Stainless
- 1.5.4.6.** (9) M6 x 12mm OD Flat Washer, Stainless
- 1.5.4.7.** (9) M6 x 18mm OD Fender Washer, Stainless
- 1.5.4.8.** (1) M6 x 1.0 Rivet Nut Install Tool
- 1.5.4.9.** (2) M6 x 1.0 Rivet Nut
- 1.5.4.10.** (2) M6 x 1.0 LPSHCS (Low Profile Socket Head Cap Screw) x 30mm, Steel
- 1.5.4.11.** (2) M6 x 1.0 Jam Nut
- 1.5.4.12.** (2) Drill Template, Paper

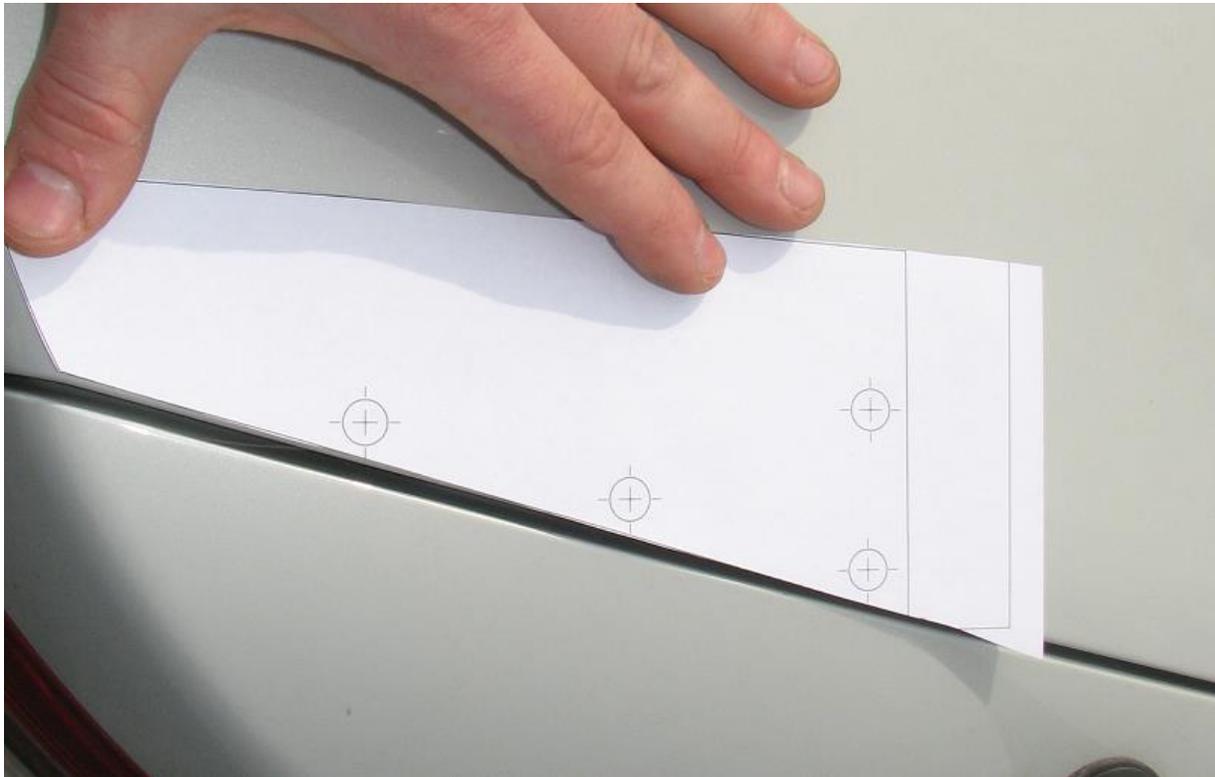
**2. High-Efficiency Rear Wing Install**

- 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, your choice.
- 2.3.** To begin the install, we cut out the supplied template.

High-Efficiency Rear Wing Kit, ND Miata – Install Manual



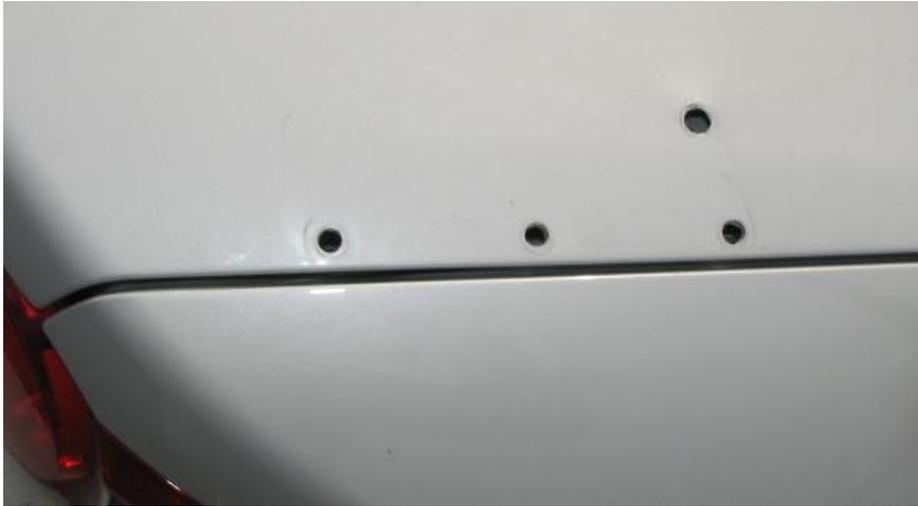
2.4. With the templates cut out, we can locate it properly on the trunk as shown below. Use painter's tape to keep it in place on the trunk.



Confidential: Property of Verus Engineering. Not for Distribution outside intended recipient list.

High-Efficiency Rear Wing Kit, ND Miata – Install Manual

- 2.5. Using a center punch, punch the center of the (4) holes per side of the trunk.
- 2.6. Use a starter drill, 1/8" works, drill each of the holes. The inner hole needs to go through (2) pieces of metal.
- 2.7. Using a stepper drill bit or 1/4" drill bit, open up all the holes to 1/4" as shown below.



- 2.8. From the bottom side, we need to open up the inner holes to fit the button head and washer through. This hole is shown below.



- 2.9. We can install the trunk mounts at this point. The trunk mounts utilize the M6 hardware and install as shown below. Note, the photos show a non-powdercoated unit as this was the very first prototype.

High-Efficiency Rear Wing Kit, ND Miata – Install Manual



- 2.10.** With the trunk mount installed, we can install the uprights. Use the M5 socket head cap screws as shown below.



- 2.11.** Once the uprights are installed, we can install the rear wing with the supplied M5 BHCS, washers, and nyloc nuts.

High-Efficiency Rear Wing Kit, ND Miata – Install Manual



2.12. The rear wing is now installed on the trunk and we only have one more part of the install, which is the trunk load transferring rivet nuts and bolts.

2.13. Remove the below bumpers, which are circled in red.



2.14. Open up the holes to 3/8" using the step drill bit.

2.15. Install the supplied rivet nuts into these holes using the supplied rivet nut install tool.

2.16. Grab the 9/16th wrench to hold the nut and a 5mm allen wrench, tighten the rivet nut into the hole. A fully installed rivet nut is shown below.

High-Efficiency Rear Wing Kit, ND Miata – Install Manual



- 2.17.** Install the M6 jam nuts on the 35mm Socket Head Cap Screw. Then install it into the trunk as shown below.



- 2.18.** While slowly closing the trunk, watch the SHCS and see how close it comes to touching the trunk. You will want the SHCS to hit this part of the trunk when fully closed to reduce the amount of movement on the trunk at speed.
- 2.19.** Congratulations on installing the High-Efficiency Rear Wing for the ND Miata! For more information on performance, please visit our website and take a look at the Ventus packets available.
- 2.20.** Please send any questions, comments, concerns, or photos to Verus Engineering via e-mail; sales@verus-engineering.com.

High-Efficiency Rear Wing Kit, ND Miata – Install Manual



Confidential: Property of Verus Engineering. Not for Distribution outside intended recipient list.