

# VERUS ENGINEERING

## V1X Rear Wing Kit – G87 BMW M2 Install Manual



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### Document Revisions

Rev	Date	Author	Description
01	2024/02/13	Eric Hazen	Initial release of install manual

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## V1X Rear Wing Kit, G87 BMW M2– Install Manual

## 1. Introduction

**1.1. Overview:** Detailed instructions on installing the Verus Engineering V1X Rear Wing Kit for the G87 BMW M2.

**1.2. Difficulty:** Moderate

**1.3. Time Required:** 2 hours

**1.4. Tools Needed:**

- 1.4.1. Drill
- 1.4.2. 1/4" Drill Bit
- 1.4.3. Step drill bit or various drills \*needs to have 5/8"\*
- 1.4.4. Ratchet or Impact
- 1.4.5. 10mm Socket or Wrench
- 1.4.6. 11mm Socket
- 1.4.7. 12mm Wrench
- 1.4.8. 2.5mm Allen Wrench
- 1.4.9. 4mm Allen Wrench
- 1.4.10. 5mm Allen Wrench
- 1.4.11. 5/16" 12-point Socket
- 1.4.12. 5/16" 6-point Socket
- 1.4.13. Panel Popping Tool
- 1.4.14. Flathead Screwdriver
- 1.4.15. Needle Nose Pliers
- 1.4.16. Touch Up Paint
- 1.4.17. 50/50 Mix of Isopropyl Alcohol and Water
- 1.4.18. Microfiber Towel

**1.5. V1X Rear Wing Kit Components**

- 1.5.1. (1) V1X Rear Wing Assembly
- 1.5.2. (1) Left Upright
- 1.5.3. (1) Right Upright

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- 1.5.4. (1) Left Trunk Mount
- 1.5.5. (1) Right Trunk Mount
- 1.5.6. (1) V1X Gurney Flap
- 1.5.7. (2) Carbon Vented Endplate
- 1.5.8. (1) **Hardware Bag**
  - 1.5.8.1. (4) M6 x 1.0 x 20mm Long BHCS (Button Head Cap Screw), Stainless
  - 1.5.8.2. (4) M6 x1.0 Nyloc Nut, Stainless
  - 1.5.8.3. (4) Trunk Mount Washer, Machined Stainless
  - 1.5.8.4. (2) Front Trunk Mount Extension, Machined Stainless
  - 1.5.8.5. (2) Rear Trunk Mount Extension, Machined Stainless
  - 1.5.8.6. (4) M6x1.0 x 25mm Long Socket Head Cap Screw (SHCS), Stainless
  - 1.5.8.7. (4) M6 x 12mm OD Washer, Stainless
  - 1.5.8.8. (4) ¼-28 x 0.88 NAS Bolt
  - 1.5.8.9. (8) ¼" NAS Washer
  - 1.5.8.10. (4) ¼-28 NAS Jet Nut
  - 1.5.8.11. (4) Machined Aluminum Endplate Washer
  - 1.5.8.12. (4) Buna-N O-Ring, #013
  - 1.5.8.13. (4) M4 x 0.7 FHCS (Flat Head Cap Screw) x 16mm Long, Stainless
  - 1.5.8.14. (1) Left Pre-Cut VHB Double Sided Tape
  - 1.5.8.15. (1) Right Pre-Cut VHB Double Sided Tape



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**2. V1X 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.
- 2.3. First, we need to remove the trunk insulator by removing various pop clips. Use a panel popping tool or flathead screwdriver to do so. **Note: Only two of these clips are circled in the image below.**

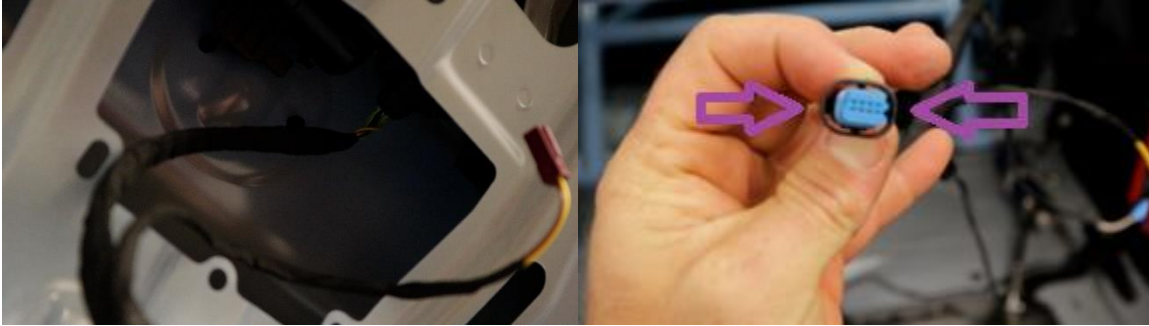


- 2.4. After the trunk insulator is removed, start removing the clips holding the wiring harness to the trunk.



- 2.5. Next, we need to remove the rearmost connectors. Below is a photo of the location of the connectors and what the connector looks like removed. **Note: We used a set of needle nose pliers to press in the sides of the connector to remove it. If you have stronger fingers you will not need the needle nose pliers.**

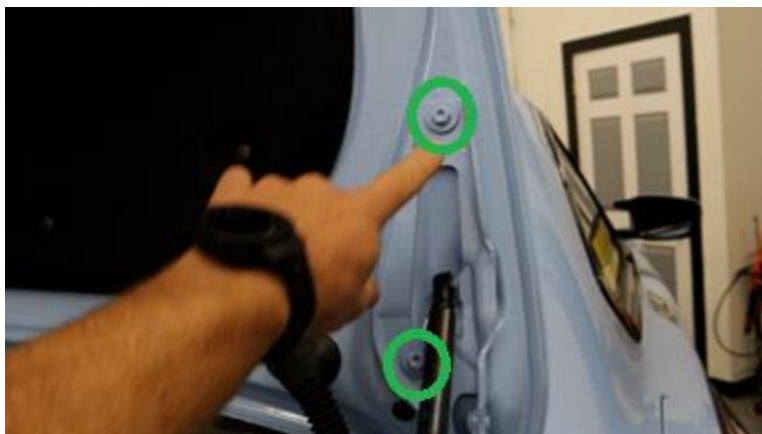
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- 2.6. Now you can fully remove the wiring harness from the trunk by slowly pulling the harness through the rubber plug on the front/bottom side of the trunk.



- 2.7. Locate and remove the 11mm bolts near the trunk struts and fully remove the trunk from the car. **Note: Having a second set of hands to remove the trunk is extremely helpful and recommended.**

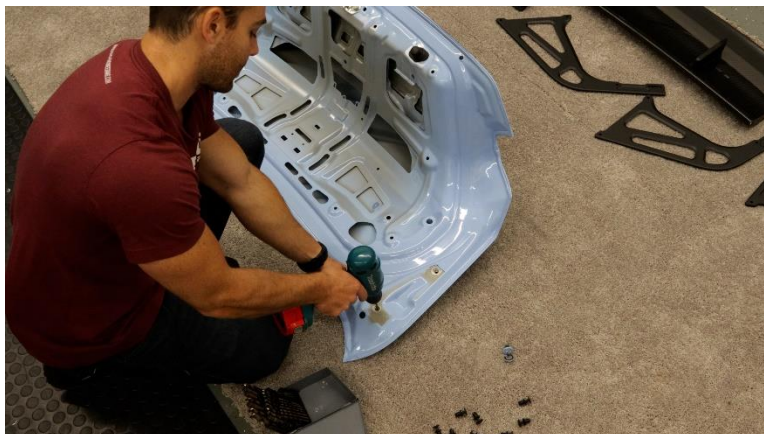


- 2.8. Set the trunk on a soft surface to ensure the trunk surface does not get scratched.

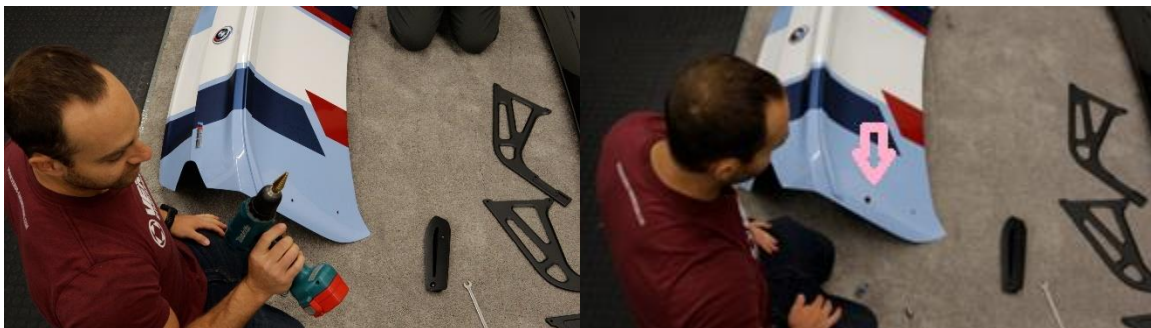
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- 2.9. Grab a drill and 1/4" drill bit. Using the threaded mounting holes as a guide, drill through the top skin of trunk as shown below for both holes. Do so for both sides. **Note: Do your best to drill in the centermost part and make sure not to touch the threads with the drill bit. You could use a small punch for helping start the drill bit easier if you would like.**



- 2.10. Flip the trunk over and grab your step bit. Open the holes on the top of the trunk to 5/8". **Note: The pink arrow indicates one of the holes that is fully opened up.**



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- 2.11.** Now we need to install the standoffs as shown below. The shorter standoff (P1401A-A) is used in the rear of the trunk mount and the taller standoff (P1400A-A) is used on the front of the trunk mount. Install by hand first, and then use a 12mm wrench and torque them to 6 ft-lbs. You may also use some red Loctite here if you wish. **Note: The trunk mount shown is the left-hand side (USDM driver side).**



- 2.12.** Next, we need to prep the trunk surface and trunk mount surface for the 3M VHB installation. First, we advise touching up the raw surfaces created from drilling on the trunk with some touch up paint.
- 2.13.** Next, clean both the trunk surface and the bottom side of the trunk mounts with a microfiber towel and 50/50 mix of isopropyl and water.
- 2.14.** After both surfaces are clean and dry, you may now install the pre-cut 3M VHB on the bottom side of the trunk mount. **Note: There are a left and a right piece of pre-cut 3M VHB just like the trunk mounts.**



- 2.15.** Install the trunk mount on the trunk and massage it gently into the trunk surface to ensure proper adhesion.



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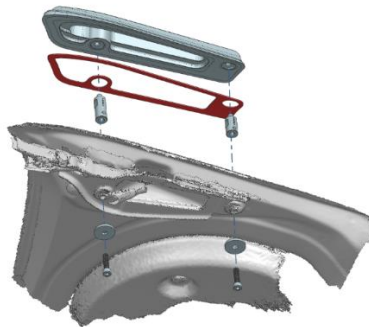
- 2.16.** Loosely install a trunk mount washer (P1489A-A) with a M6x25mm long socket head cap screw in the top OEM mounting hole for both sides as this will assist in placing the trunk back on the hinges.



- 2.17.** Place the trunk back onto the hinges using the top bolts as a guide to slide it into position.



- 2.18.** Install the remaining M6x25mm long SHCS with trunk mount washers in the bottom OEM mounting locations. Torque all four trunk bolts with a 5mm Allen wrench to 6 ft-lbs while ensuring the trunk is centered as well as possible. Below is a photo for referencing how everything goes together. At this point, you may reinstall the wiring harness and trunk insulator.



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- 2.19.** You may now close the trunk. Grab the M6x20mm long button head cap screws and M6x12mm OD washers to install the uprights to the trunk mounts. Start the bolts by hand and using a 4mm Allen wrench, then torque to 6 ft-lbs.



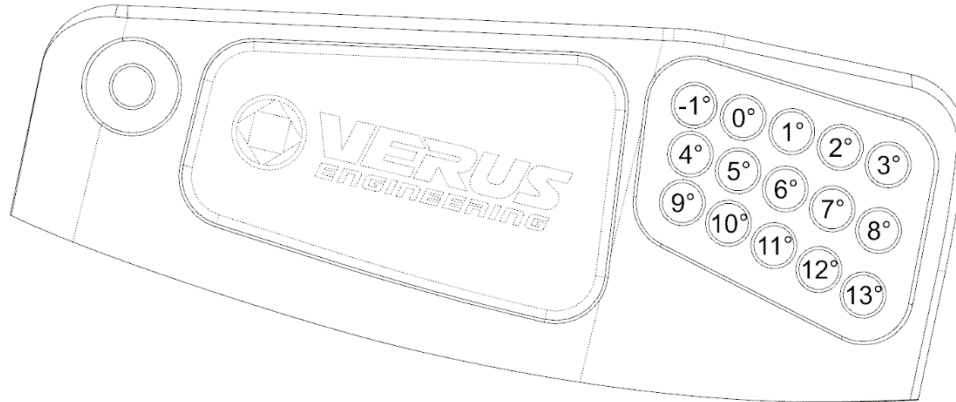
- 2.20.** Now it is time to fit the wing to the car. Using a 5/16" twelve-point socket and 5/16" six-point socket, tighten the V1X onto the vehicle at the desired AOA (Angle of Attack). Place a flat-washer between the bolt head and the nut to reduce marring.



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- 2.21.** 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 the front to the rear of the wing and check \*in relation to the ground plane\*.



- 2.22.** After your desired AOA is selected, you can now install the remaining NAS hardware. Tightening torque should be around 6 ft-lbs.
- 2.23.** The final components required to complete the installation are the end plates. We include aluminum washers for M4 FHCS and O-rings to reduce marring of the carbon fiber. Install the O-ring in the washer groove, and install into the endplate and rear wing as shown below. Finger tight only for the time being.



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- 2.24.** The endplate top and bottom edge, should be parallel to the ground. Utilize a level before fully tightening the endplates down. Using a 2.5mm Allen wrench, tighten 1/8 turn past finger tight. Not much torque is needed here.
- 2.25.** Congratulations on installing the V1X Rear Wing for the G87 BMW M2! For more information on performance, please visit our website and take a look at our informative packet.
- 2.26.** Please send any questions, comments, concerns, or photos to Verus Engineering via e-mail; [support@verus-engineering.com](mailto:support@verus-engineering.com).



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