ZN6 / ZC6 Two-Piece Splitter

Install Manual

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Document Revisions

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01	2016/09/23	E.Hazen	Initial release of install manual
02	2017/08/08	P. Lucas	Company name change from Velox to Verus

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ZC6 / ZN6 Two Piece Front Splitter – Install Manual

1. Introduction

1.1. Overview: Detailed instructions on installing the two piece front splitter with supplied support rod kit for the ZN6 ZC6 chassis.

1.2. Difficulty: Beginner to Moderate

1.3. Time Required: 2.5-4 hours

1.4. Tools Needed:

1.4.1.Splitter Install

- **1.4.1.1.** Jack and Jack Stands
- **1.4.1.2.** Screwdriver
- **1.4.1.3.** 10mm Socket
- **1.4.1.4.** 4mm Allen Wrench
- **1.4.1.5.** 5mm Allen Wrench
- **1.4.1.6.** 9/16” wrench
- **1.4.1.7.** Center Punch
- **1.4.1.8.** 1/8” or starter drill bit
- **1.4.1.9.** 1/4” drill bit
- **1.4.1.10.** Drill
- **1.4.1.11.** Spray paint/touch up paint

1.5. Splitter Components

- **1.5.1.** Two Splitter Halves
- **1.5.2.** Hardware Bag
  - **1.5.2.1.** (2) M6 x 1.0 Button Head Cap Screw (BHCS) x 16mm Long
  - **1.5.2.2.** (12) M6 x 1.0 BHCS x 30mm Long
  - **1.5.2.3.** (2) M6 Aluminum Spacers
  - **1.5.2.4.** (14) M6 x 38mm Diameter Fender Washers
  - **1.5.2.5.** (10) M6 x 1.0 Plastic Rivets
  - **1.5.2.6.** (8) 3/8” ID Rivet Nut Backing Washers
  - **1.5.2.7.** (6) M6 x 1.0 BHCS x 25mm Long
  - **1.5.2.8.** (8) M6 x 18mm Diameter Washer
  - **1.5.2.9.** (6) M6 x 1.0 Flanged Nut
  - **1.5.2.10.** (1) M6 Install Tool
  - **1.5.2.11.** (2) M6 x 1.0 Socket Head Cap Screw (SHCS) x 35mm Long Bolt

1.6. Splitter Rod Components

- **1.6.1.** (2) Splitter Rods
- **1.6.2.** (2) Billet Aluminum Clevis Mounts
- **1.6.3.** (4) Crash Beam Mounts
- **1.6.4.** (1) Support Brace
- **1.6.5.** (1) Two Piece Splitter Bracket
- **1.6.6.** Hardware Bags
  - **1.6.6.1.** (8) M6 x 18mm Diameter Washer
  - **1.6.6.2.** (12) M6 x 1.0 Flanged Nut

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1.6.6.3. (4) M6 x 12mm Diameter Washer
1.6.6.4. (6) M6 x 1.0 BHCS x 25mm Long
1.6.6.5. (8) M6 x 1.0 BHCS x 16mm Long

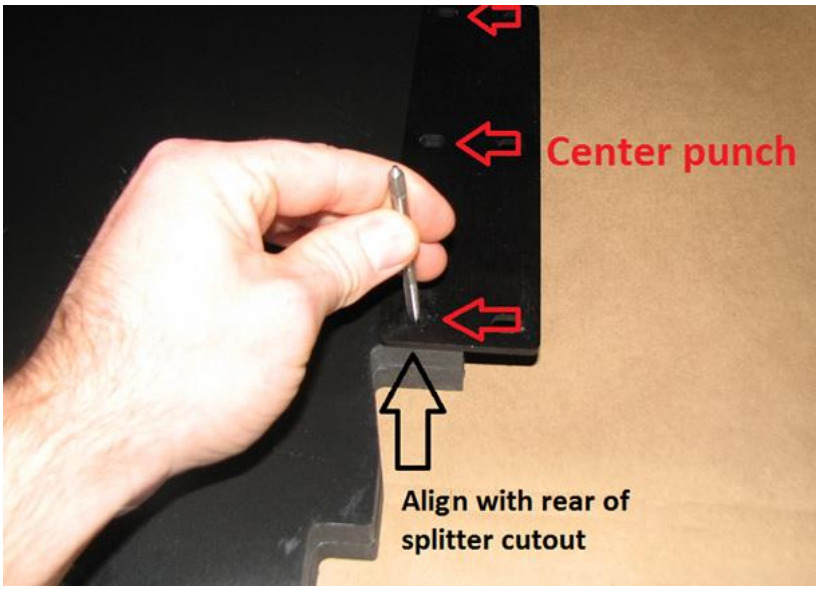
2. Front Splitter Prep

2.1. Velox 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 working on the splitter off car, to make two pieces into one.

2.3. Grab the splitter halves and the splitter support bracket.

2.4. Align the splitter support bracket as shown below and using a center punch mark (3) holes on each splitter half.



2.5. With the (6) holes center punches, drill through these holes with a 1/4” drill bit.

2.6. At this point, we need to decide which side of the splitter will face upward when installed. Whichever side you want facing upward, we will install the bracket on the same side.

2.7. As shown above, install the bracket on the top side with the nuts. On the bottom side, use the M6 x 18mm diameter washers and the M6 x 1.0 BHCS that are 25mm long.

2.8. Once tightened, we are ready to begin the install of the splitter on car.

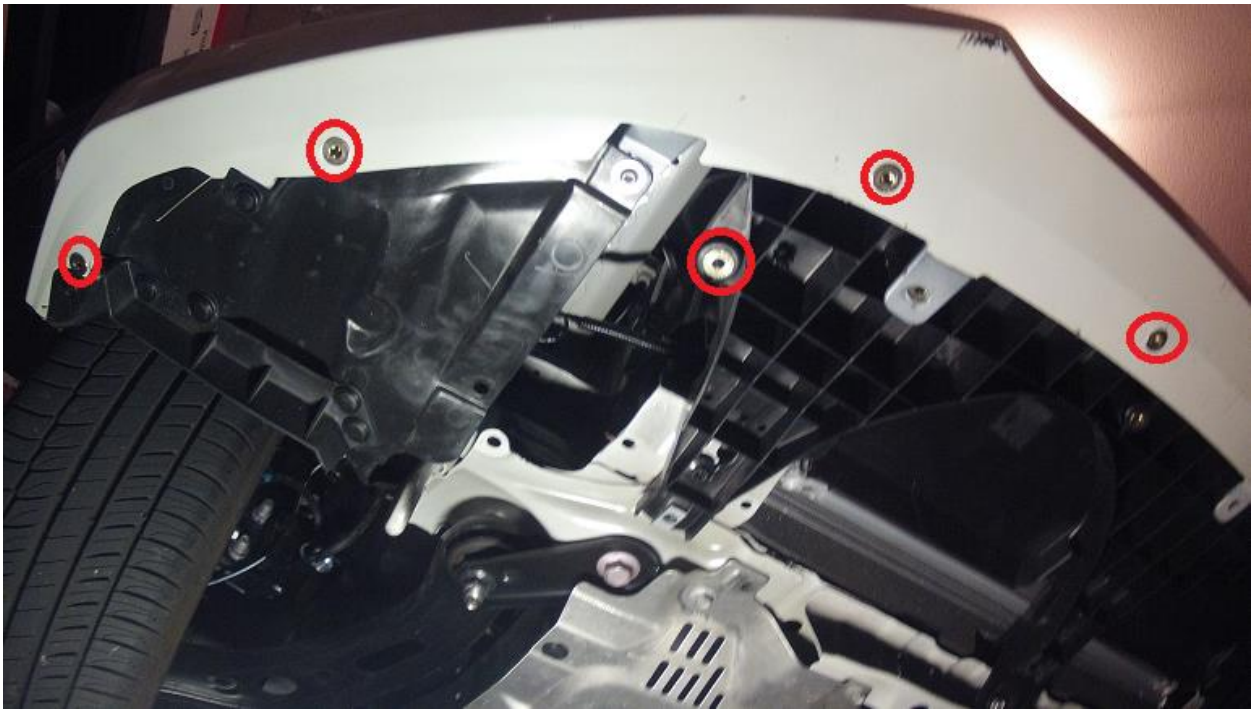
3. Splitter Install

3.1. We begin by jacking the car up. You'll want to choke the rear wheels and use the e-brake.

3.2. Place a jack stand on either side of the car, you can use the frame rails or the pinch welds.

3.3. With the front of the car off the ground, we'll want to start by removing the underbody plastic piece. This piece is quite large and has multiple plastic push rivets and a few bolts holding it on. There will be six push pins (shown in red), and three 10mm bolts to remove (shown in yellow).

3.4. We now install the rivet nuts into the car's underbody. View the below photo to ensure the correct holes are used. ***No holes should need to be drilled!*** The photo below is only the passenger side of the car but the driver's side is a mirror image.

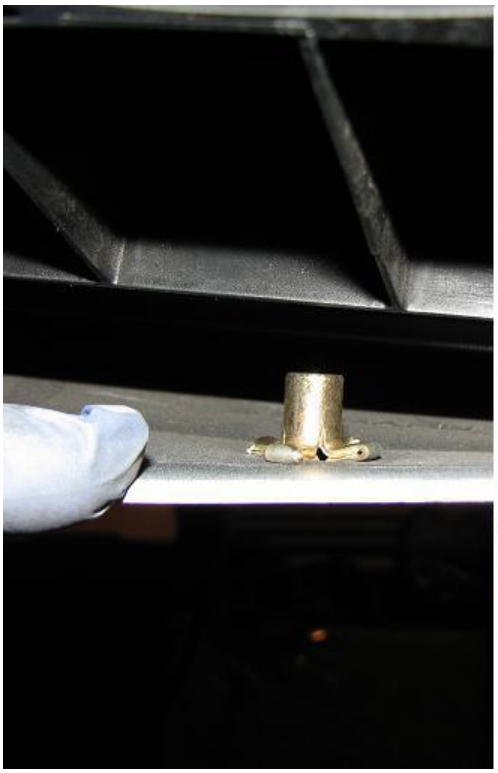


3.5. To properly install the rivet nut, you'll want to thread the rivet nut onto the tool as shown below.

3.6. Place the rivet nut into the hole. If you'd like to use the rivet nut backing washer, you'll need access to the top side of the material you are riveting onto. Note, the backing washer is not necessary but will decrease the chance that the rivet gets pulled through the bumper.

3.7. Using the 9/16” wrench and the 5mm allen wrench, hold the nut steady and tighten the allen bolt. You’ll have some initial resistance, than the rivet nut will begin to pull tighter on the material.

3.8. Below are pictures of a properly installed rivet nut. We did not use the backing washers here though feel free to if you would like, they are supplied with each kit.



3.9. If you own a BRZ, you'll need to remove the bumper to install the support rod kit. Skip to step 4. If you own an FRS, you can remove the grille without a large issue and can continue on with the steps below.

3.10. Install the two M6x1.0 x 16mm BHCS with two washers on the wheel liner plastic (left and right side).

3.11. Install the splitter with the M6x1.0 x 30mm BHCS with large washers on each of the rivet-nuts. Utilize the aluminum spacer and the 30mm long BHCS on the two most rearward holes. We suggest to leave all bolts loose until they are all in and then tighten from the inside out. We also suggest you have the splitter held up by 4 or more bolts before letting the splitter free hang.

4. Front Splitter Support Rod Installation

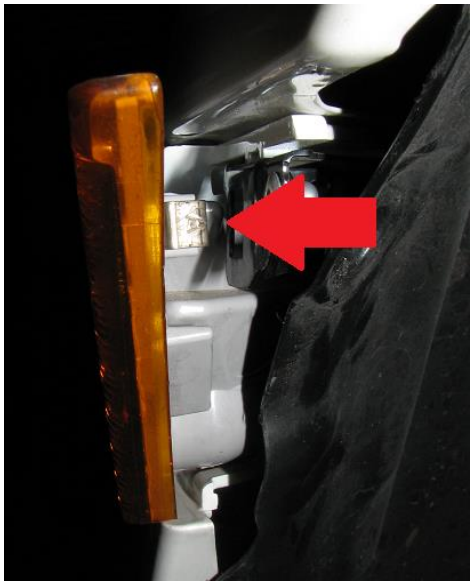
4.1. We assume you are beginning the install at step 3.8, with all the rivet nuts installed but the splitter still off the car.

4.2. We have to remove the bumper for this part of the install if you own a BRZ. **If you own an FR-S, the bumper can remain on and the grill removed and you can skip to step 4.7.**

4.3. To remove the front bumper, remove the strip of 10mm bolts and plastic push pins across the top of the front bumper under the hood.

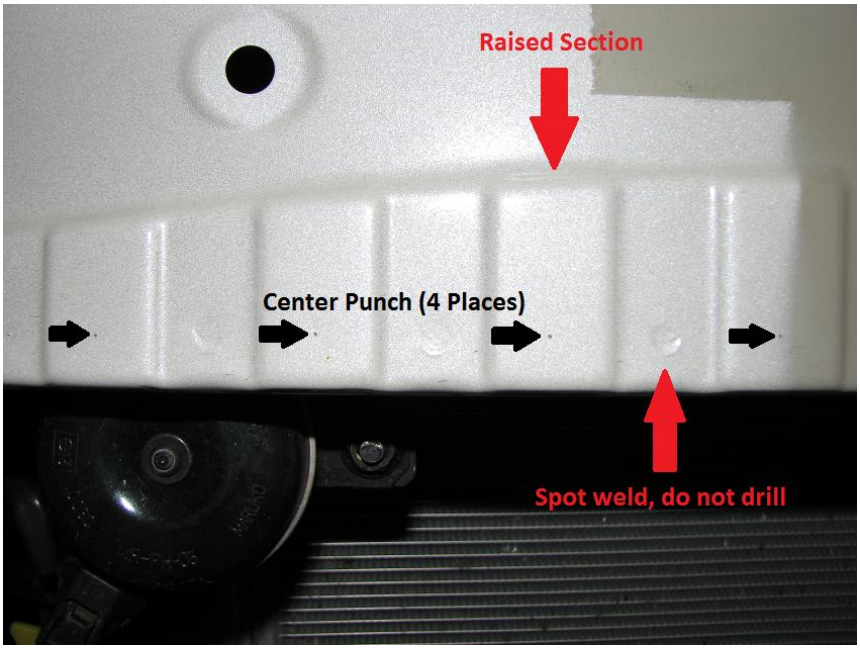
4.4. Then on each side of the car in the wheel wells, remove 4 plastic screw pins. Three are located down low (see below photo), the last one is up by the turn signal on the inside of the fender. Ignore that the splitter is installed in this photo, it was taken after the installation.

4.5. The turn signal has to be removed to expose the final plastic push pin and then the front bumper will come off. There is a metal tab that needs to be push towards the ***front*** of the car. The arrow in the picture shows this well. I used a flat head screwdriver to push this forward and then gently pried the signal away from the car.

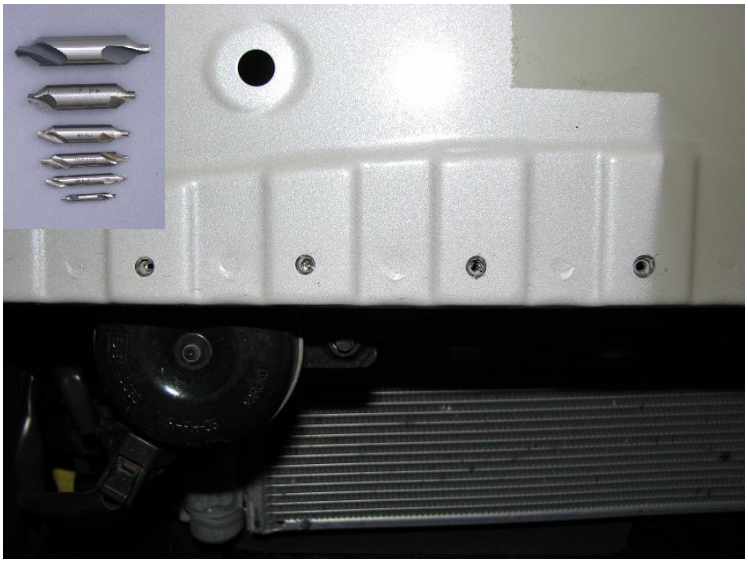


4.6. The final push pin is circled here! Remove this and gently pry around the front bumper to remove it completely.

4.7. Up next is drilling the front crash beam. You will notice that there are raised portions of the crash beam and then portions with spot welds on it. You will want to drill the raised portions as drilling through a spot weld can get bad quickly. The splitter supports were designed around an **18.50" spread**, which leaves ***6 raised*** sections between the brackets. Center punch the next 4 raised portions, using the brackets to ensure that you can bolt them on the crash beam in the location necessary for a proper install with the grill.



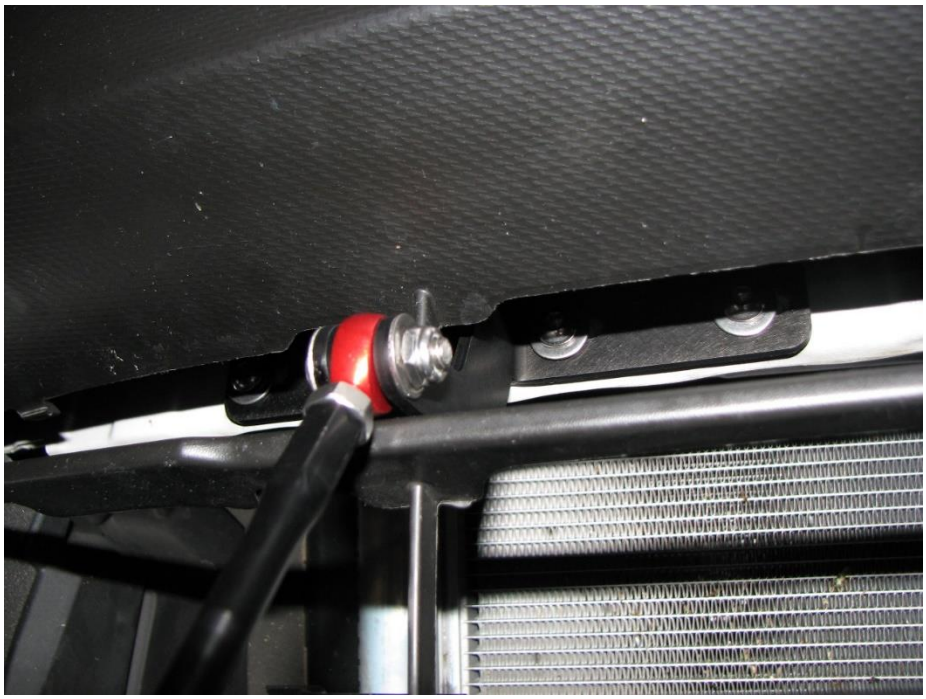
4.8. It is recommended to use a starter drill bit next (top left of picture) as these can greatly help cutting through sheet metal and ensuring that the drill is going through the material straight.



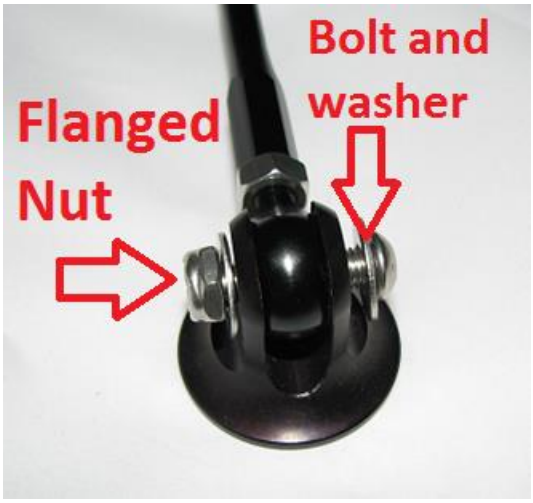
4.9. Using the 1/4" drill bit, drill through both parts of the sheet metal. Vacuum out all of the metal shavings you can. It is recommended to spray the holes with spray paint (at the very least) and underbody rust resistant if you have some. This ensures that the crash beam will not rust for years to come.

4.10. Ensure that the brackets will fit and that they can slide together till there is a 10mm gap between the two mounting holes for the splitter tie rods. Do this by using the (8) M6 x 1.0 x 16mm long BHCS, (8) M6 x 18mm, and the (8) M6 x 1.0 flanged nuts. You do not need to tighten these down, just enough to know if the brackets will work once the bumper is put back on. Once you ensure the holes were drilled properly, remove the brackets and reinstall the bumper in reverse order

4.11. Once the bumper is back on, start by installing the crash beam mounts first. Like before, use the M6 x 1.0 x 16mm bolts, a washer on the bolt side and the nut on the back side of the crash beam. It will likely be necessary to move the horn; this can easily be done by loosening the 10mm bolt. Do ***not*** fully tighten the brackets to the support yet. Once all 4 of these brackets are loosely installed, install one side of the splitter rod on each side. Tighten this to ensure the brackets can fully clamp the rod end. Once this is done, find the final position (left or right) you want the splitter rod to rest and tighten the crash beam mounts fully. Below is both a BRZ and an FRS install (note BRZ install has our old, obsolete rod end design).



4.12. Using the 4mm allen wrench and the 10mm wrench, tighten the rod end into the clevis, a washer is used between the bolt and the clevis. Use the 25mm long bolt and the M6 flanged nut on the other side.



4.13. With the splitter fully installed, we can make the holes for the clevis to bolt to.

4.14. Place the lower aluminum plate underneath the splitter, roughly centered, and mark the center of the two slots as shown below.

4.15. Center punch this mark then drill straight through this mark with a 1/4" drill bit. This is how we will mount the bottom of the support rod to the splitter.

4.16. Using the 25mm long M6 BHCS and the large fender washer from the bottom side, bolt through the support bracket, splitter, and capture the clevis to the top side of the splitter.

4.17. Ensure that the splitter is near horizontal by using a level. The front of the splitter's level is now controlled by the support rod system. Lengthen it to lower the front of the splitter, shorten it to raise the front of the splitter. **The splitter rod is both left hand and right hand thread, keep this in mind.**

4.18. At this point, everything should be installed on the car and can be fully tightened. Ensure all bolts and nuts are tightened on the underside of the splitter and the support rods are fully tightened as well.

4.19. On the support rods themselves, hold the support rod steady and then tighten the nut on each end to keep the support rod from turning.

4.20. We have now concluded the install of both systems, admire your hard work! The splitter can see over 200 lbs of downforce at this point. ***It is not wise to stand on the splitter, it can handle this load but the aluminum bracket beneath can bend and lead to distortion.***

4.21. Please contact Verus Engineering with any questions, comments, concerns, and feedback via sales@verus-engineering.com.