FS Performance Engineering

Toyota Supra A90 A91 Front Splitter (6 piece) Installation Instructions

These instructions were modified to apply to the V3 (6 piece) front splitter. This is a pretty complicated installation.

Tools Needed:

- Friend/helper
- Ratchet wrench
- 8mm socket
- 10mm socket
- 5/32” Allen head wrench
- 7/16” Open end wrench
- 10mm Open end wrench
- Torx t30 screwdriver
- Flat head screwdriver (to remove clips)
- Drill
- ¼” Drill bit
- Oil
- Strong scissors / diagonal cutters
- Phillip’s head screwdriver

Included in Splitter V3 Kit:

Aero:

(2) End Plates (left and right)
(1) Upper Center Splitter Piece
(1) Lower Center Splitter Piece
(1) Left Splitter Piece
(1) Right Splitter Piece

Hardware on next page!

Hardware:

(18) ¼” Countersunk washers
(18) ¼” Stainless steel small washers
(18) Countersunk stainless steel ¼”-20 x 0.75” bolts
(18) ¼” Stainless steel nyloc nuts
(4) 5/16” (1.25” OD) Stainless steel washers

(27) ¼” ID, 1” OD washers
(3) ¼” lock washers
(2 more) ¼” Stainless steel small washers

(2) M6-1.0 x 30mm bolts
(8) M6-1.0 x 65mm bolts
(2) M6-1.0 x 90mm bolts
(4) M6-1.0 x 110mm bolts

(4) 15mm spacers (nylon)
(4) 20mm spacers (nylon)
(12) 40mm spacers (metal, polished)
(2) 45mm spacers (metal)

(2) M6-1.0 whiznuts
(13) M6-1.0 nyloc nuts

(2) #8 1.5” long body screws
(2) 2” long black edge trim pieces

Steps:

1.) Begin by assembling your splitter! We recommend doing this on a shop blanket. The splitter is composed of a Left Side, Right Side, Upper Center & Lower Center, - the Lower Center will be assembled later for the V3 splitter.

These pieces are bolted together using stainless steel countersunk hardware. You will need to use oil on the threads when assembling the nuts/bolts here to avoid the nut welding itself to the bolt - you will regret not using oil if this is the case.

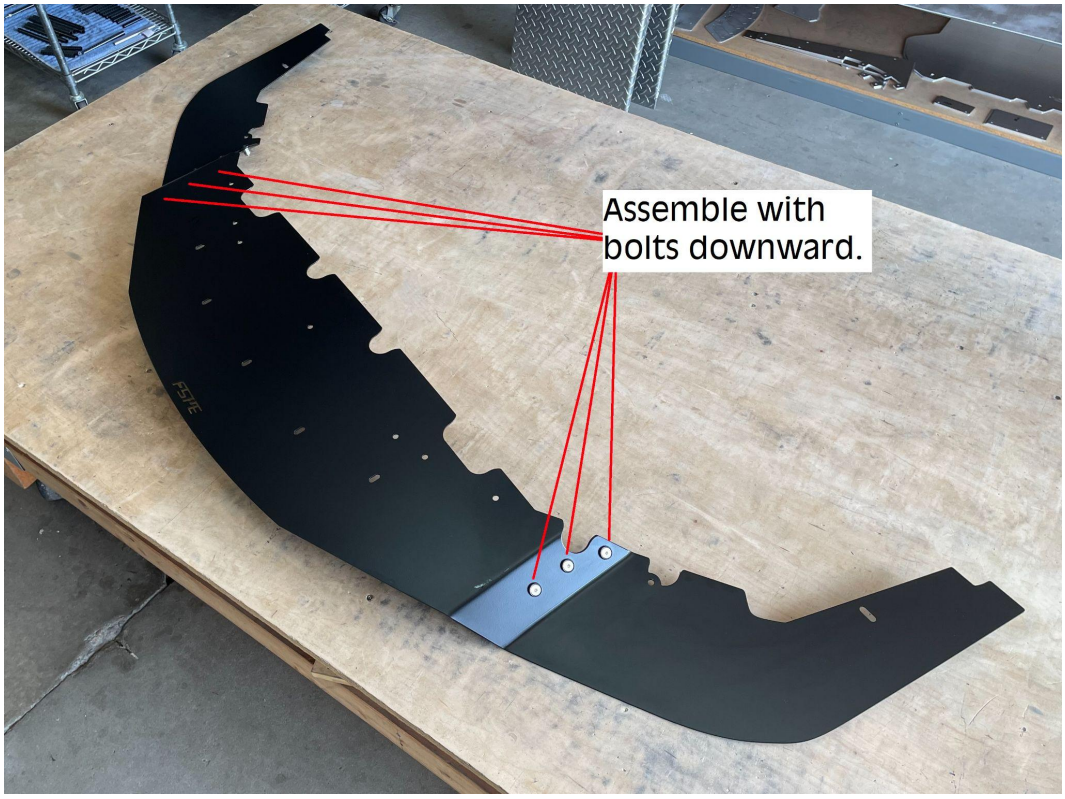
The outer portions on the Upper Center fold down to meet the folded up portions on the Left and Right pieces. Point bolts downward. Larger washers are used on the bolts nearest the front of the car. Assure the stacked pieces are perfectly overlapped. Tighten securely.

Tools necessary:

- 5/32” Allen Head Wrench
- 7/16” Open End Wrench
- Oil for the threads

Hardware necessary: (**PICTURE SHOWS 6 BOLTS, BUT ASSEMBLE ALL 8)**

(8) Countersunk stainless steel ¼”-20 x 0.75” bolts
(8) Countersunk washers
(4) ¼” Stainless steel small washers
(4) 5/16” (1.25” OD) Stainless steel washers - PLACE THESE ON THE MOST FORWARD BOLTS
(8) ¼” Stainless steel nyloc nuts
(DON’T FORGET TO APPLY OIL ON THE THREADS WHEN TIGHTENING!)

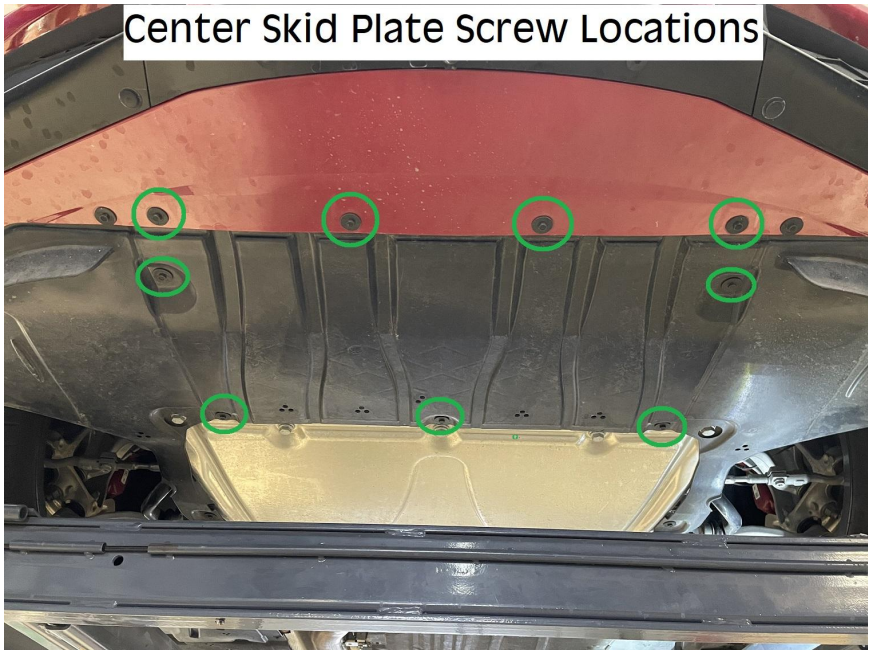


2.) Raise your car and place it on jackstands. Please take care when doing so and place the jack stands in appropriate places; or use a car lift. Professional installation is not necessary but always recommended.

3.) Remove the Supra's OEM center plastic skid plate. It is held with NINE bolts. There are FOUR along the front, TWO at the center, & THREE near the back.

Tools necessary:

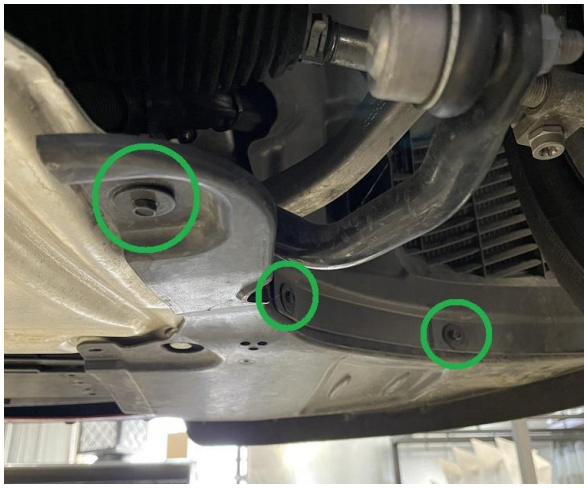
- 8mm Socket
- Ratchet Wrench



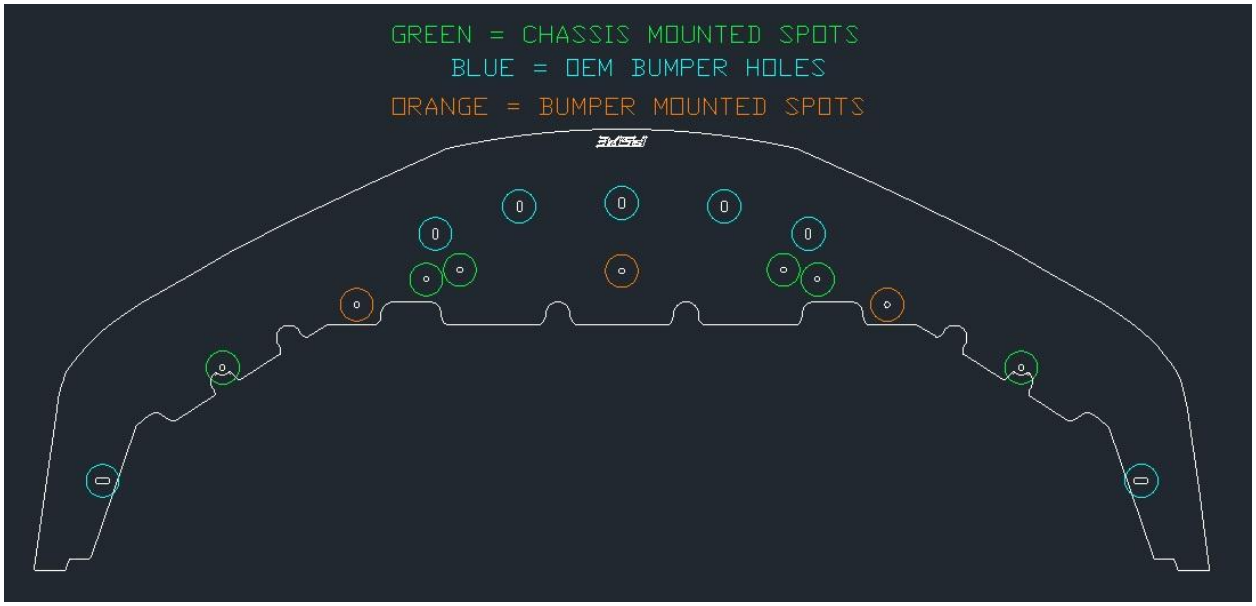
4.) Remove the Supra's OEM outer skid plate pieces (left and right). It is held with SEVEN bolts on each side. There are FOUR on the bumper underside, TWO in front of the wheel well, & ONE toward the back on each side (for a total of 14 bolts).

Tools necessary:

- 8mm Socket
- Ratchet Wrench



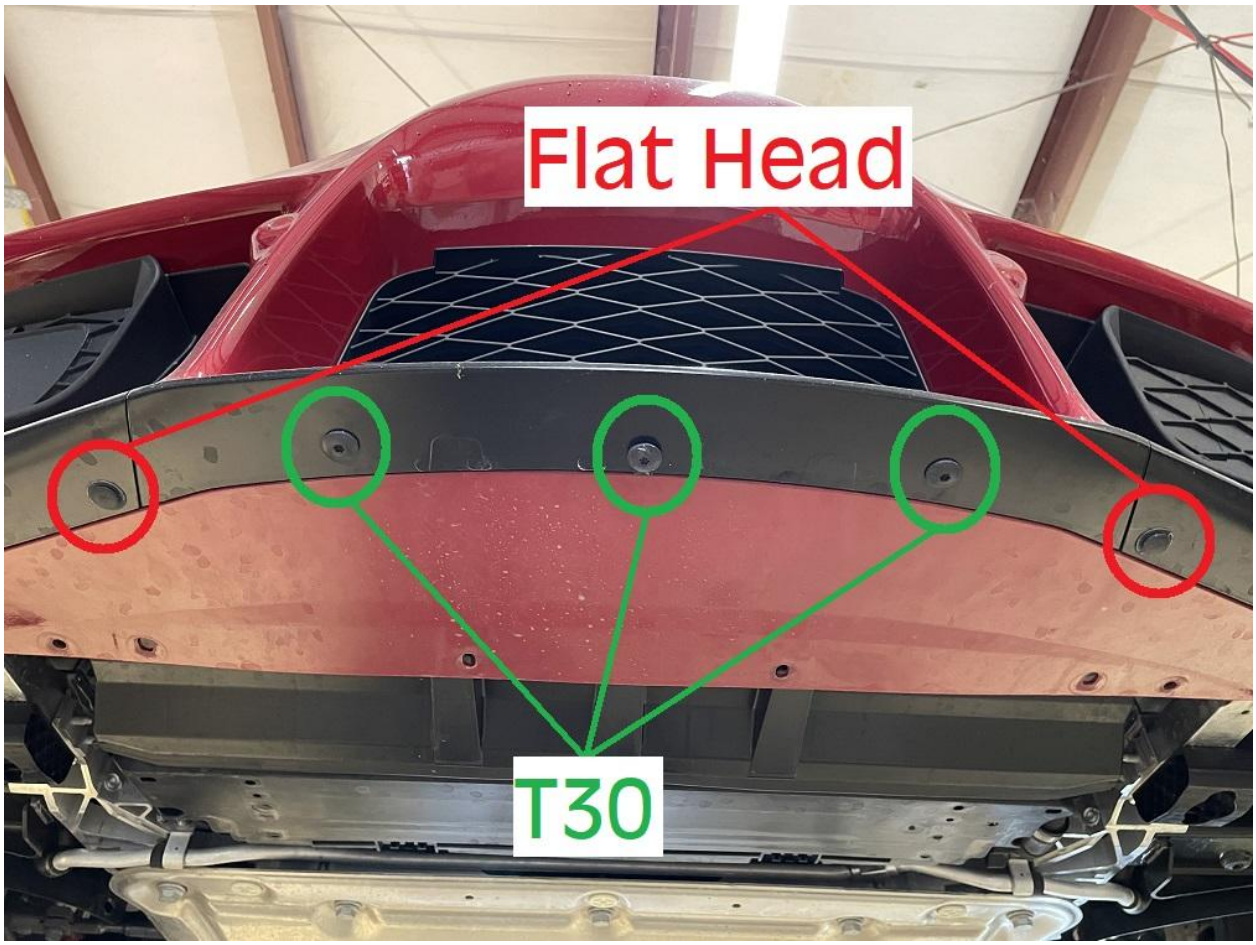
5.) Before installing the splitter take a look at this computer generated drawing. There are several holes in the splitter. Here is how they are mounted to the car.
(7) holes correspond to the Supra's pre-existing OEM holes (blue)
(3) holes need to be drilled only into the bumper (orange)
(6) holes need to be made in the bumper AND chassis (green)
Use this as a guide to refer to during installation.



6.) Remove the THREE front bumper bolts (T30) and TWO clips just under the front bumper.

<u>Tools necessary:</u>

- Torx T30 screwdriver
- Flat head screwdriver



7.) Bolt the splitter up to the bumper in the three holes just exposed after removing the Torx bolts - use the torx T30 bolts and. Do not fully tighten the bolts to allow the splitter some play back and forth. Keep in mind that our installation pictures might show steps that will later be done.

8.) Install bolts into the most outer “slots” in the splitter into the OEM holes in the bumper. Hand tighten these once you have the back edge of the splitter lined up with the front edge of the fender wells. These bolts are being temporarily installed so use the following hardware + tools:
(2) M6-1.0 x 30mm bolts (10mm socket/ratchet wrench + 10mm wrench)
(2) M6-1.0 whiznuts

9.) Drill out holes in the bumper through the remaining holes in the splitter. Keep in mind that SIX of the holes require you to drill through the bumper AND the chassis bar above the bumper. The other THREE you drill exclusively through the bumper.

Please note:

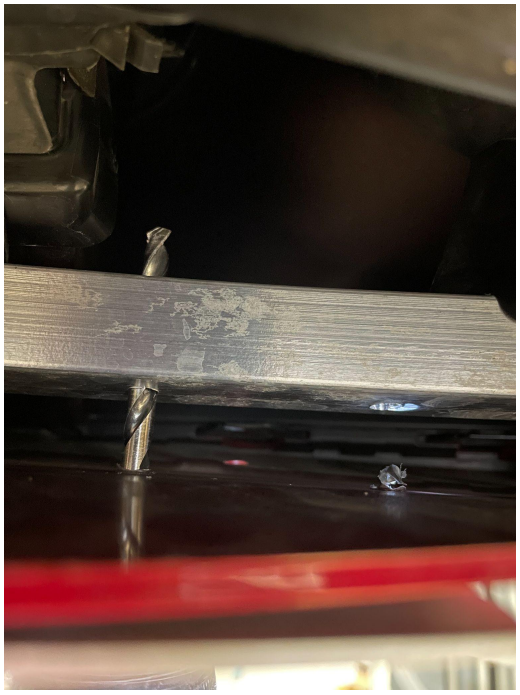
- When drilling the 2 outermost holes that are mounted to the ***bumper and chassis*** there is a gap here between the splitter and bumper. This gap will be filled with a 20mm spacer. You will be drilling through only the bottom layer of the square tubing.
- When drilling the 4 innermost holes that are mounted to the ***bumper and chassis*** you will be drilling through the top and bottom layer of the square tubing.
- See step 5. We are drilling the orange and green holes. Also see the following pics.

Tools necessary:

- Drill
- ¼” drill bit

Example bumper/inner 4 chassis holes:






Example of bumper only spot:

Example of outer bumper/chassis spot:

10.) Once all holes are drilled, remove the splitter. You now need to install the Lower Center Splitter Piece onto the splitter. You'll need the following:

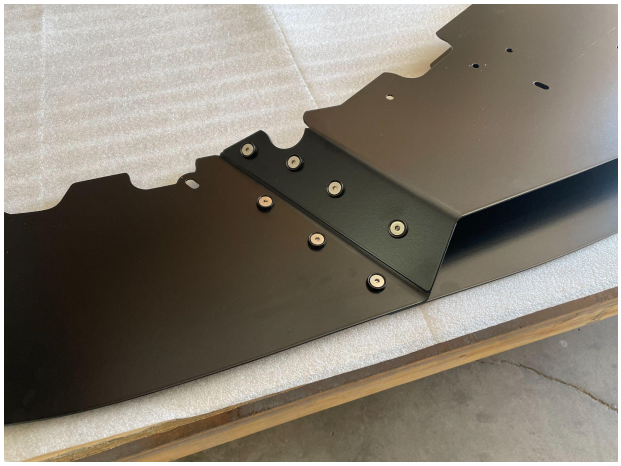
<u>Tools necessary:</u>

- 5/32" Allen Head Wrench
- 7/16" Open End Wrench
- Oil for the threads

<u>Hardware necessary:</u>

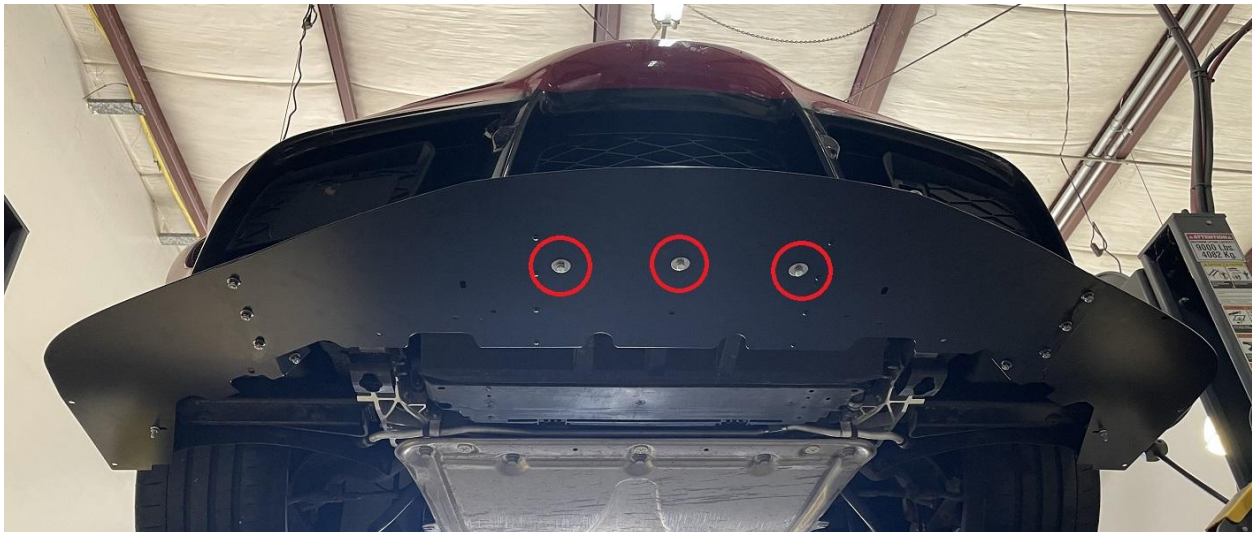
(6) Countersunk stainless steel ¼"-20 x 0.75" bolts
(6) ¼" Countersunk washers
(6) ¼" Stainless steel small washers
(6) ¼" Stainless steel nyloc nuts

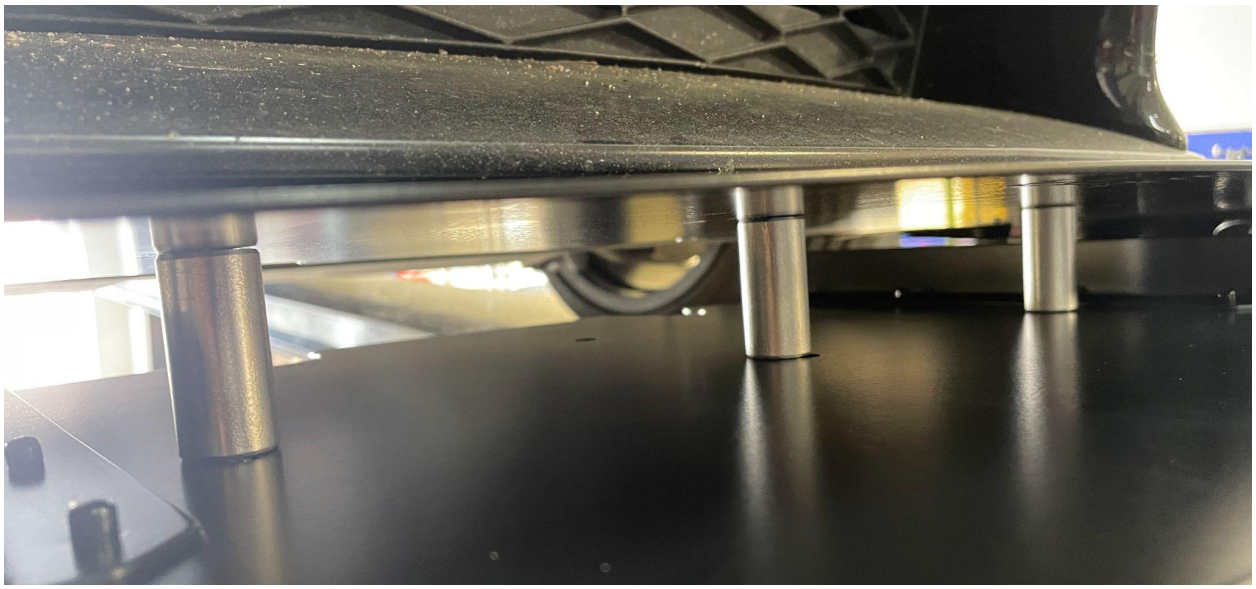
Make sure the Lower Center Piece is installed evenly left to right and don't forget to **USE OIL ON THE THREADS.** Securely tighten.



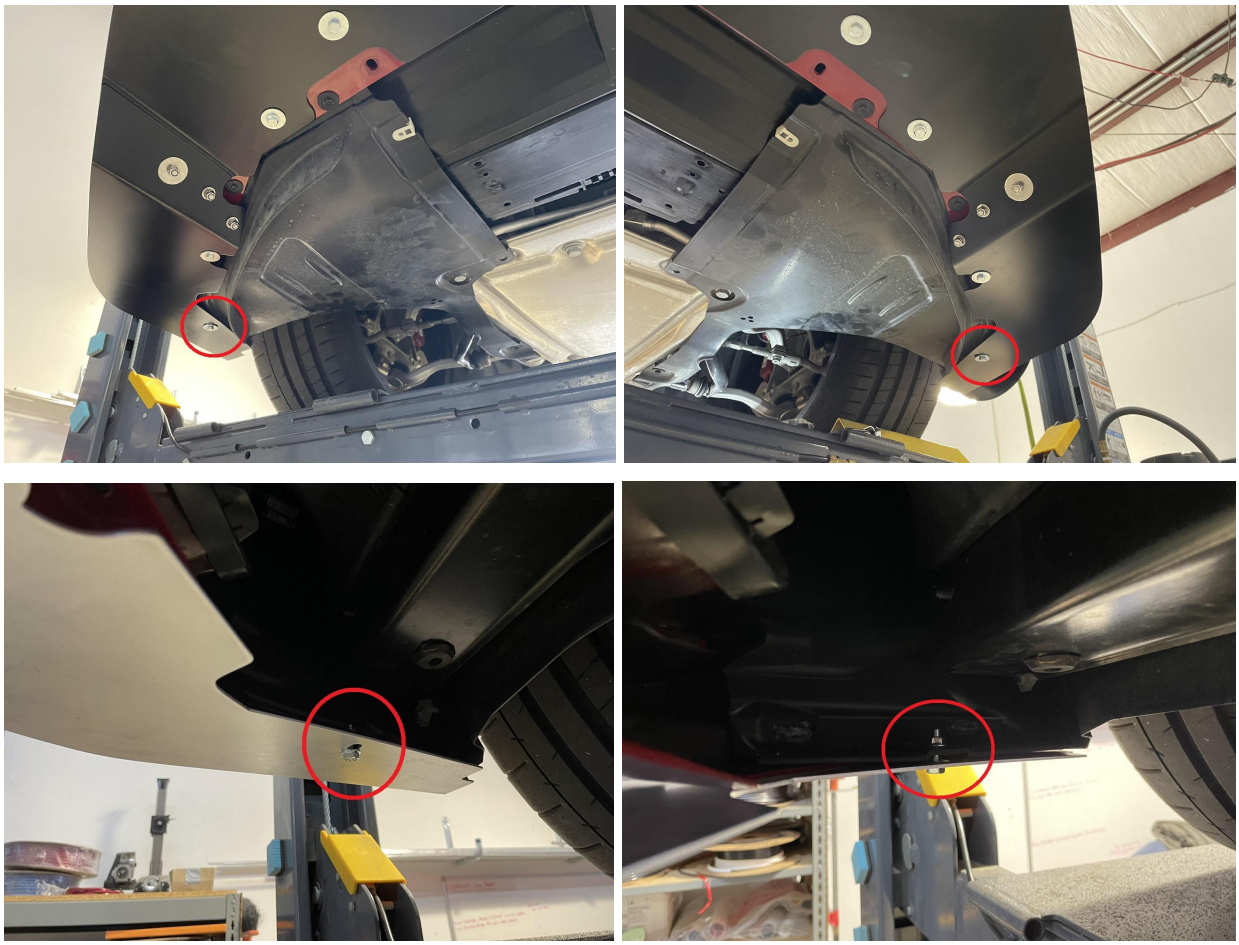
11.) You can now install the splitter onto the car. All bolts that pass through the center will need 40mm spacers between the Lower and Upper Center Splitter Pieces. We recommend installing the most front three bolts first. Use the following hardware + tools:
(3) M6-1.0 x 65mm bolts (10mm socket/ratchet wrench used)
(3) ¼" ID, 1" OD washers (is placed over bolt on top of lock washer)
(3) ¼" lock washers (right under head of bolt)
(3) 40mm spacers (between upper and lower center splitter pieces)

Lock washers sit under the heads of the bolts.





12.) Install bolts into the most outer “slots” in the splitter into the OEM holes in the bumper. Hand tighten these once you have the back edge of the splitter lined up with the front edge of the fender wells. These bolts are being temporarily installed so use the following hardware + tools:
(2) M6-1.0 x 30mm bolts (10mm socket/ratchet wrench + 10mm wrench)
(2) M6-1.0 whiznuts



IMPORTANT: The remaining steps show the V1 Splitter. All bolt sizes / spacer sizes have been corrected for the V3 splitter. Just keep in mind that for any bolts passing through the center splitter there needs to be a 40mm spacer between the upper and lower portions.

13.) Next install bolts into the OEM holes where the clips were located at the front of the bumper (2 bolts), as well as tighten the front three bolts with lock washers on them.

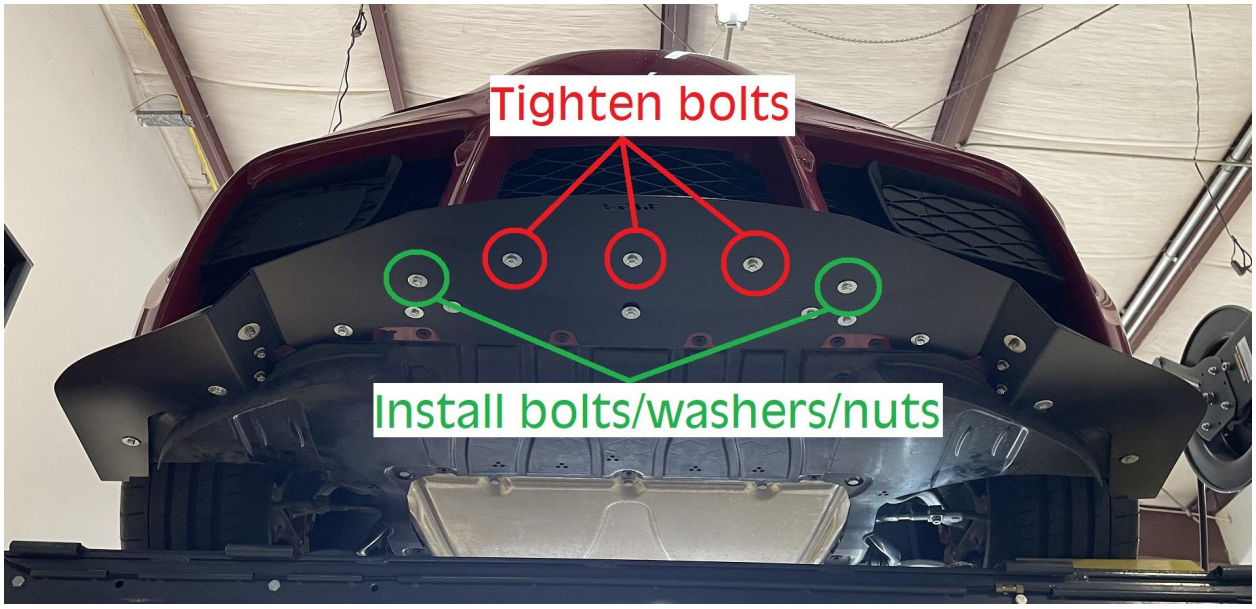
<u>Use this hardware for the two holes where the clips were located:</u>

(2) M6-1.0 x 65mm bolts (10mm socket/ratchet wrench)

(4) ¼” ID, 1” OD washers (bottom of splitter and inside of bumper)

(2) M6-1.0 nyloc nuts (inside of bumper, 10mm wrench)

(2) 40mm spacers



14.) Install 3 bolts into the bumper only spots (step 5 circled in orange).

Use this hardware and these tools:

(3) M6-1.0 x 65mm bolts (10mm socket/ratchet wrench)

(6) ¼" ID, 1" OD washers (bottom of splitter and inside of bumper)

(3) M6-1.0 nyloc nuts (inside of bumper, 10mm wrench)

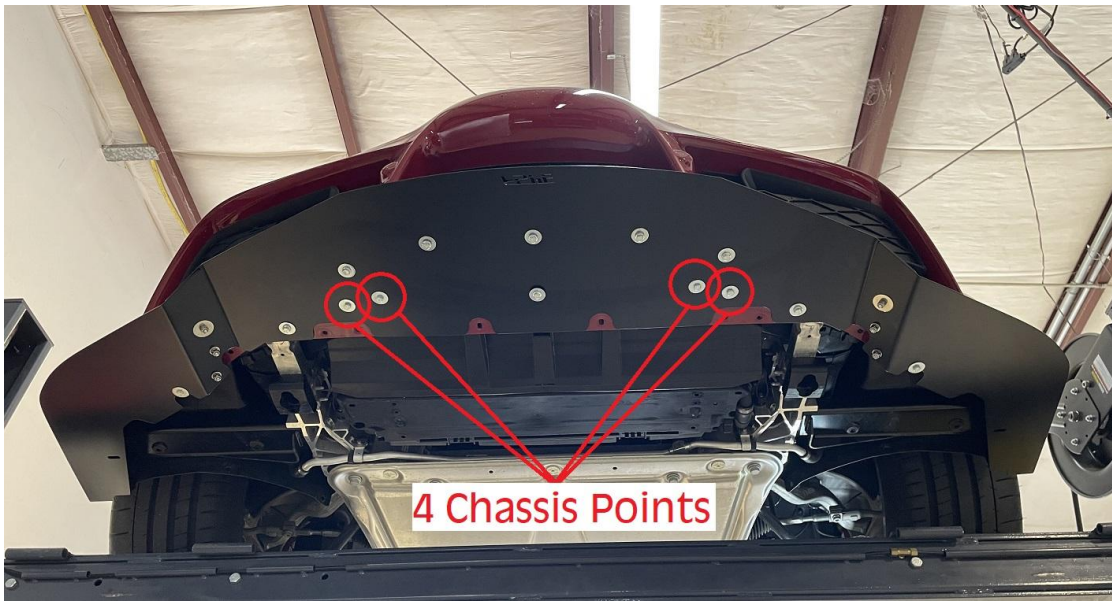
(3) 40mm spacers

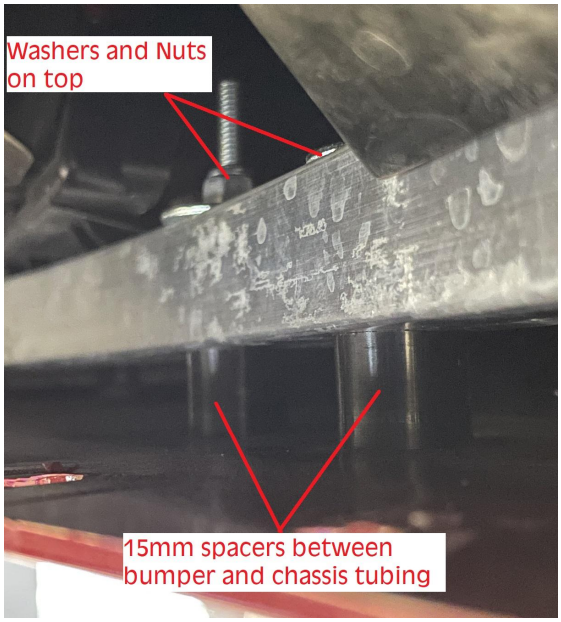
REMEMBER THAT YOUR V3 SPLITTER IS USING THE 65MM LONG BOLTS, AND 40MM SPACERS BETWEEN THE UPPER AND LOWER CENTER SPLITTER PIECES!

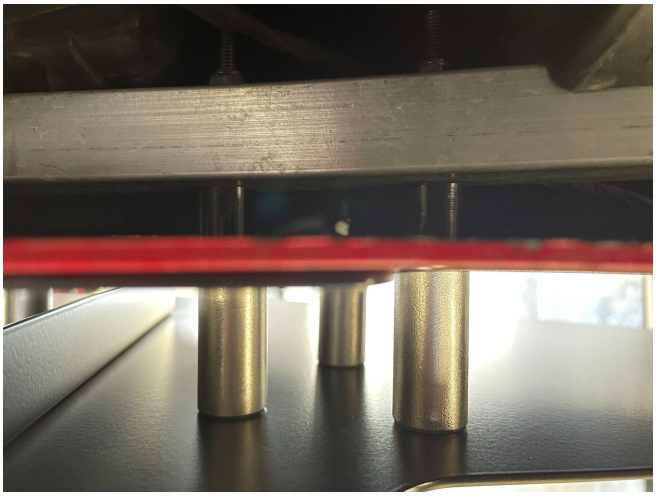
15.) Install the 4 bolts that mount to both the bumper and chassis located on the center section of the splitter. Use 15mm spacers between the inside of the bumper, and the chassis. Bolts (110mm long) are passed through the Upper and Lower splitter, bumper, spacer, and square tubing. Use nyloc nuts on top.

<u>Use this hardware and these tools:</u>

(4) M6-1.0 x 110mm bolts (10mm socket/ratchet wrench)
(8) ¼" ID, 1" OD washers (bottom of splitter and top of chassis square tubing)
(4) M6-1.0 nyloc nuts (top of square tubing, 10mm wrench)
(4) 15mm spacers (between bumper and chassis square tubing)
(4) 40mm spacers (between upper and lower center splitter pieces)



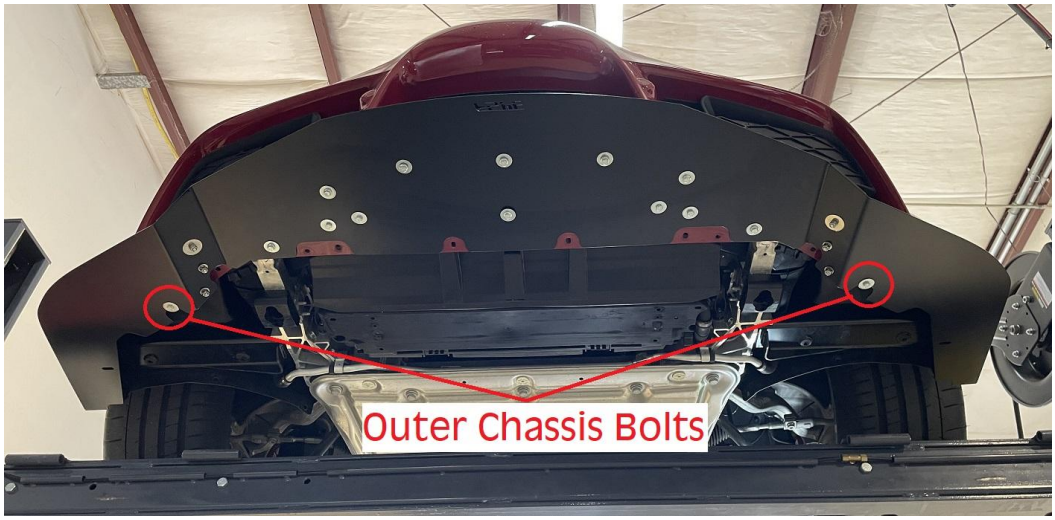




16.) Install the 2 bolts that mount to both the bumper and chassis located on the outer sections of the splitter. Use 20mm spacers between the splitter and bumper and use 45mm spacers between the inside of the bumper, and the chassis. Bolts (90mm long) are passed through the splitter, bumper, both spacers, and only the bottom layer of the square tubing. Use the smaller ¼" washers and nyloc nuts on the inside of the square tubing. THIS WILL BE TRICKY. TAKE YOUR TIME AND DON'T LOSE THE WASHER IN THE SQUARE TUBING (we ended up omitting the washer on our end).

<u>Use this hardware and these tools:</u>

(2) M6-1.0 x 90mm bolts (10mm socket/ratchet wrench)
(2) ¼" ID, 1" OD washers (bottom of splitter and top of chassis square tubing)
(2) ¼" ID small washers (inside of square tubing)
(2) M6-1.0 nyloc nuts (inside of square tubing, 10mm wrench)
(2) 20mm spacers (between splitter and bumper)
(2) 45mm spacers (between bumper and chassis square tubing)




<Nylon Spacer to fill gap & metal spacer above

17.) Now that these bolts are installed you must make a cutout using diagonal cutters in the OEM outer skid plates for the metal spacers (both sides). The cutouts are necessary for proper fitment. You can figure out exactly where to cut by test fitting. As an example here is where the cut landed on the right side of the car's OEM skid plate.

18.) Remove the speed clips found on the OEM outer skid plates that are toward the outside of the car.

19.) You can now install your outer skid plates on both sides. Remove the bolts and nuts from step 12 (the temporary ones). The hole just exposed in the previous step after removal of the speed clip uses one of our supplied bolts. The bolt passes through the splitter, bumper, and outer skid plate. All other holes in the skid plate use OEM bolts.

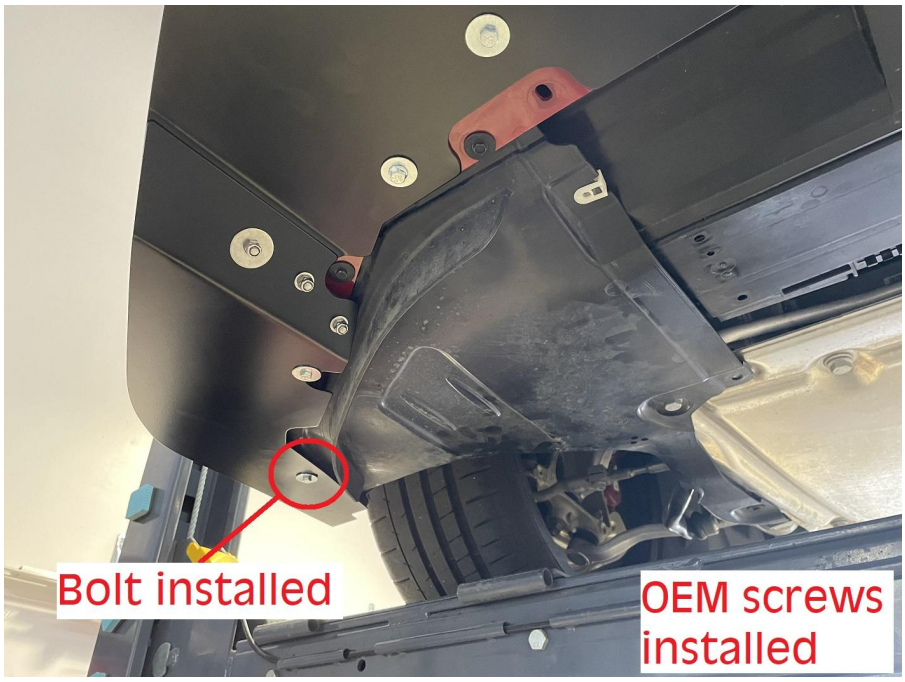
Use this hardware and these tools:

(2) M6-1.0 x 30mm bolts (10mm socket/ratchet wrench)

(4) ¼" ID, 1" OD washers (bottom of splitter and inside of outer skid plate/bumper)

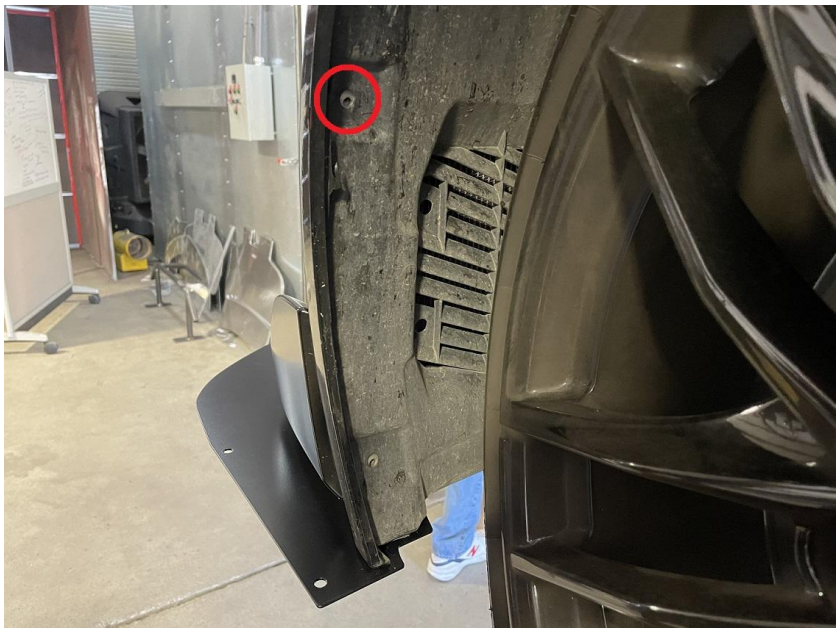
(2) M6-1.0 nyloc nuts (inside of outer skid plate/bumper, 10mm wrench)

(12) OEM bolts (2 are omitted, 8mm socket and ratchet wrench)

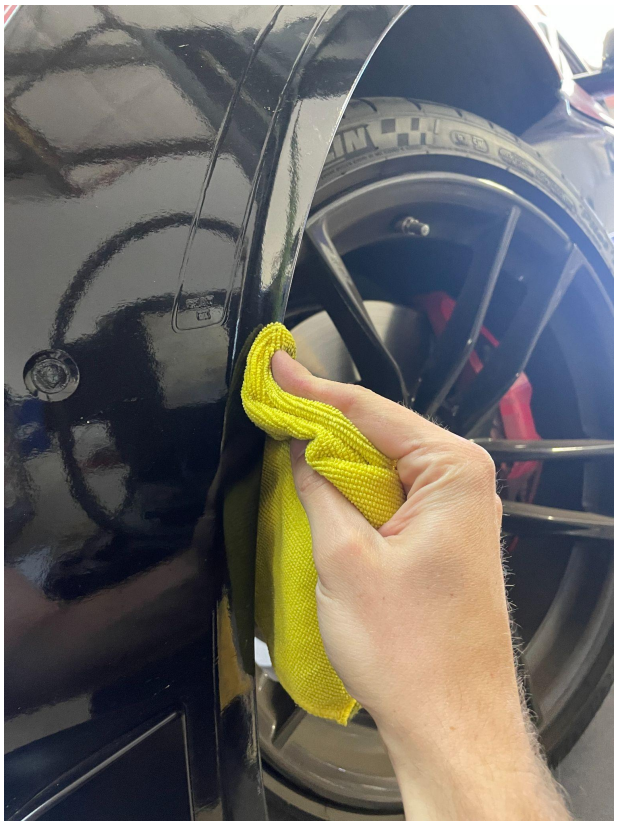


20.) Install your center OEM skid plate using all 9 OEM bolts/screws. It will be a tight fit.

21.) Your V3 splitter has end plates. These mount to the splitter and fender liner. Remove the screw found here on both sides: (ours wasn't present, and the wheel may need to be turned).



22.) Next clean the fender next to that screw location. Then apply a 2" rubber strip to the fenders on both sides for protection against the endplate.



23.) Install the end plates onto the splitter! Use oil on the threads.

Tools necessary:

- 5/32” Allen Head Wrench
- 7/16” Open End Wrench
- Oil for the threads

Hardware necessary:

(4) Countersunk stainless steel ¼”-20 x 0.75” bolts
(4) ¼” small washers
(4) ¼” Countersunk washers
(4) ¼” Stainless steel nyloc nuts

Then install the tabs of the end plates onto the fender with #8 1.5” long screws and 20mm spacers between. See pics!

24.) Assure everything is securely tightened. Enjoy your new FS Performance Engineering aero!
Be sure to use #FSPerformanceEngineering in the online world.
For questions email costas@fspeinc.com Or call/text us at 1-661-809-0954.