

# VERUS ENGINEERING

## Mk5 Toyota Supra Brake Cooling Kit

### Installation Manual



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**Approvals:** E. Hazen

#### Document Revisions

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1.1. **Overview:** Detailed instructions on installing our Brake Cooling Kit for the Mk5 Toyota Supra.

1.2. **Difficulty:** Beginner to Novice

1.3. **Time Required:** 2-3 hours

1.4. **Tools Needed:**

- Ratchet
- E16 Socket
- 8mm Socket
- 10mm Socket
- 3" Socket Extension
- 6mm Allen Wrench or Socket
- Impact Wrench
- Side cuts
- Razor Blade or Dremel
- Jack and Jack Stands or a Lift



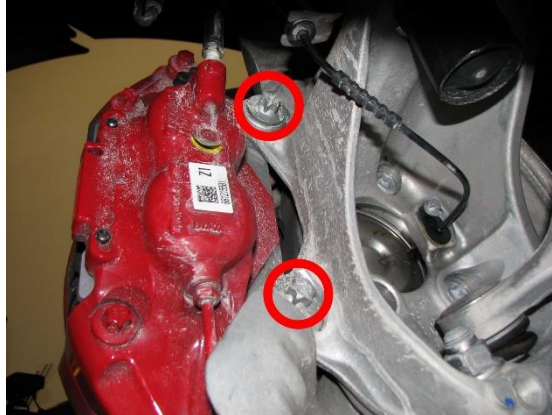
1.5. **Assembly Components**

- (1) Backing Plate with Carbon Duct – Driver Side
- (1) Backing Plate with Carbon Duct – Passenger Side
- (1) Carbon Fender Transition Duct – Drive Side
- (1) Carbon Fender Transition Duct – Passenger Side
- (2) 2.5" High Temp Silicone Hose Cut to Length
- (1) Hardware Bag
  - (4) 2.5" Hose Clamps
  - (2) 21.5" Cable Ties



## 2. Install

- 2.1. We are not responsible for damage to you or your vehicle by following this manual and installing Verus Engineering products.
- 2.2. Begin with disconnecting the battery, negative first, if this makes you feel more comfortable working on the car. It is always a good idea to disconnect the battery anytime when working on the car.
- 2.3. Break the lug nuts loose on the front two wheels.
- 2.4. Jack the front of the car up enough to fully remove front two wheels and comfortably work on the knuckle area of the car. Place the car on jack stands at appropriate locations, such as the plastic jacking points.
- 2.5. Remove the front two wheels.
- 2.6. Remove the caliper first by unbolting the two E16 bolts on the backside of the caliper (circled in red). Place the caliper out of the way. Do not let the caliper hang by the brake line, rather let the caliper rest on the LCA or similar location.

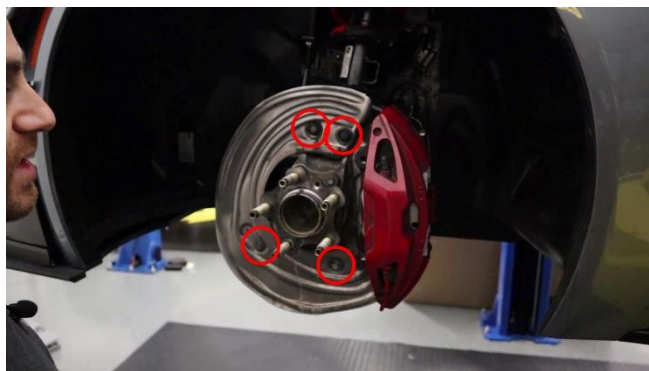


2.7. Remove the rotor by removing the 6mm Allen head bolt from the rotor as shown below.



2.8. Dependent on how long the car has sat, if it sees snow/salt, the rotor may need to be forcibly removed. You can do this with a rubber mallet on the rotor surface. Once the rotor is removed, we chose to loosely reinstall the caliper by hand threading in the top bolt.

2.9. Now it is time to remove the OEM backing plate by unbolting the (4) 10mm bolts circled in red as shown below.

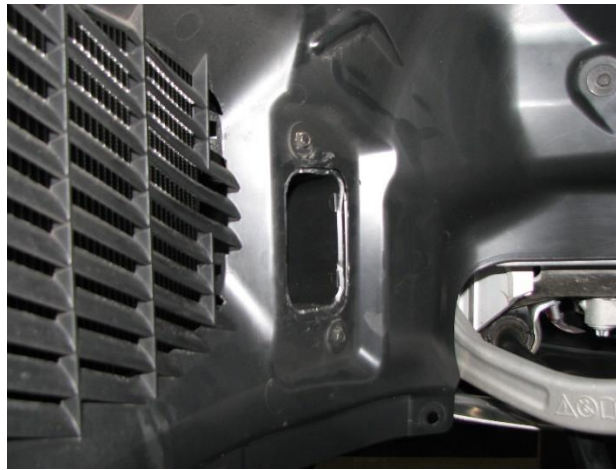


2.10. Once the OEM backing plate is removed, it is time to install the fender transition duct.

- 2.11. First, we need to remove the small lip on the factory fender liner (circled below) so that the duct can sit flush with the fender liner. Do so by using a razor blade or Dremel.



- 2.12. Once the flange is trimmed off, you should be seeing something similar to the below image.



- 2.13. Remove the (3) bolts circled below with an 8mm socket.





- 2.14. Using the factory bolts that we just removed, install the carbon fender transition duct. Note the orientation of the duct below as there are left-hand and right-hand sides for the ducts. Also note, this is the driver side of the vehicle on a left-hand drive model.



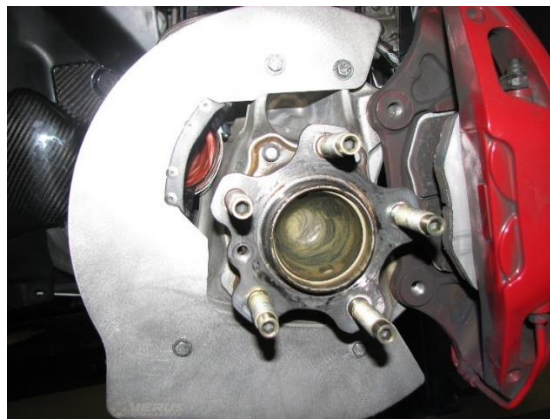
- 2.15. Install the silicone hose onto the carbon duct using a single hose clamp as shown below step (1.2). This step can also be done before the duct is installed onto the car.
- 2.16. Tuck the hose behind the knuckle until we can get the backing plates installed. This is shown below.



- 2.17. Once the hose is installed and tucked away, it is time to install the backing plate using the OEM hardware. Torque spec for these bolts is 6 ft/lbs. Note the orientation of the backing plate below as there are left-hand and right-hand sides. Again, this is the driver side of the vehicle on a left-hand drive model.



2.18. The backing plate should be installed as shown below.



2.19. We can now install the silicone hose onto the carbon duct on the backing plate by using a hose clamp. An image of the hose fully installed is below. You will also notice we used one of supplied zip ties to loosely fasten the silicone hose to the brake line bracket to assist in keeping the hose in place.





- 2.20. Verify the brake duct hose is not pulling on the backing plate during lock to lock turning.
- 2.21. Ensure the brake duct hose is not rubbing anywhere on the suspension and wheel/tire during suspension movement and turning.
- 2.22. Tighten the E16 bolts on the backside of the caliper to an OEM spec of 59 ft-lbs.
- 2.23. Reinstall wheel using factory torque specs.
- 2.24. At this point, the install for the brake cooling kit is concluded. Ensure that all bolts/plastic pins/hose clamps are tightened and installed.
- 2.25. Enjoy your brake cooling kit! Please contact Verus Engineering with any concerns, comments, or feedback. We continually strive to bring the highest quality components and appreciate the feedback. E-mails can be directed to [sales@verus-engineering.com](mailto:sales@verus-engineering.com).



