

# VERUS ENGINEERING

## EJ 25 AVCS Heat Shield Cover Install Manual

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Approvals: E. Hazen, P. Lucas

### Document Revisions

Rev	Date	Author	Description
01	2018/09/17	E. Hazen	Initial release of install manual

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## AVCS Heat Shield Cover – Install Manual

## 1. Introduction

**1.1. Overview:** Detailed instructions on installing the Verus Engineering AVCS Heat Shield Cover for the EJ 25 STI engine.

**1.2. Difficulty:** Easy

**1.3. Time Required:** 1-1.5 hour

**1.4. Tools Needed:**

- 1.4.1. 10mm Wrench
- 1.4.2. 10mm Socket
- 1.4.3. Ratchet
- 1.4.4. Extensions
- 1.4.5. 9mm Deep Socket
- 1.4.6. Jack and jack stands
- 1.4.7. Screwdriver or plastic push pin remover

**1.5. Dive Plane Components**

- 1.5.1. (2) Heat Shield Bracket
- 1.5.2. (2) Gold Foil Pieces
- 1.5.3. Hardware Bag
  - 1.5.3.1. (3) M6 x 1.0 Hex Head Cap Screw (HHCS), 12mm Long – Stainless
  - 1.5.3.2. (1) M6 x 1.0 HHCS, 20mm Long – Stainless
  - 1.5.3.3. (4) M6 x 12mm Small Washer - Stainless
  - 1.5.3.4. (4) M6 x 18mm Fender Washer – Stainless
  - 1.5.3.5. (1) M6 Locking Push Nut
  - 1.5.3.6. (1) M6 x 8mm Aluminum Spacer



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**2. Heat Shield Assembly**

**2.1.** We begin the installation by assembling the heat shield.



**2.2.** We will start with the small bracket, as it is a bit easier to install the gold foil.

**2.3.** Remove the plastic protective film.



**2.4.** Clean the bracket with a microfiber towel and some rubbing alcohol or acetone if you have some, if not, water will be sufficient.



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- 2.5. Remove the adhesive backing from the gold foil and install it on the bracket as shown below. Firmly press the gold foil down from one side to the other, to reduce wrinkles in the foil.



- 2.6. Moving onto the larger piece, use the same process as the small shield. Remove the protective film.



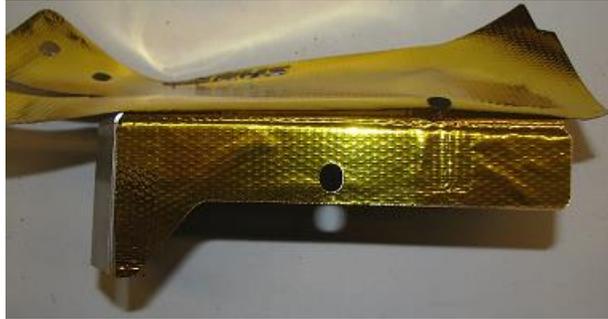
- 2.7. Clean the component quickly.



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- 2.8.** Apply the gold foil to the bracket. This component is quite a bit more difficult than the small bracket. What we found to work the best, is lining up the front of the bracket with the gold foil as well as the slot cut out.



- 2.9.** Cleanly push the gold foil down on the top of the shield.



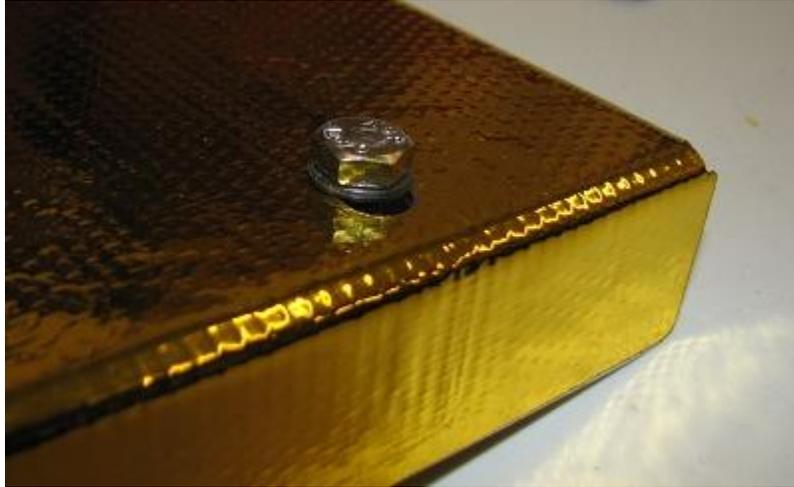
- 2.10.** Push the gold foil down on the bent sides of the shield and fully install the gold foil.



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- 2.11. Now we need to pre-install the bolt and spacer for an easier install.
- 2.12. Grabbing the 20mm long HHCS, and either a small or large washer, place it through the slot as shown below. **You can use either the large diameter washer, or small diameter washer (shown here); we supply enough washers for either preference.**



- 2.13. Flip the cover over, and install the 8mm spacer and push nut to keep it hold on by using a 9mm deep socket.



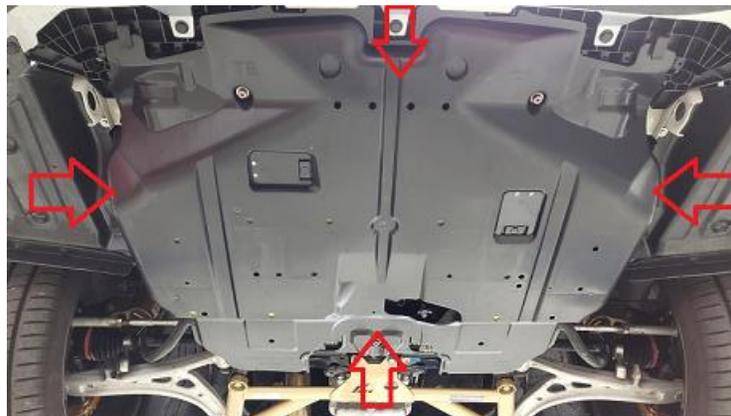
- 2.14. Below is a photo of the bracket ready for install.

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**3. Heat Shield Install On Car – Pictures courtesy of Pure Tuning!**

- 3.1. Verus Engineering is not responsible for damage to you or your vehicle by following this manual and/or installing Verus Engineering products.
- 3.2. It is wise to have the car fairly cool for this install as you are working near and around the engine and exhaust components of the car.
- 3.3. We begin by gaining access to the bottom of the engine; we can do so by jacking the car up or lifting it on a lift. Use proper safety procedures for each route.
- 3.4. Remove the engine's plastic underbody cover (belly pan) by remove multiple plastic push pins and bolts. This plastic cover is pointed out in the below photo.



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3.5. With the engine belly pan removed, you'll have access to the engine, as shown below.

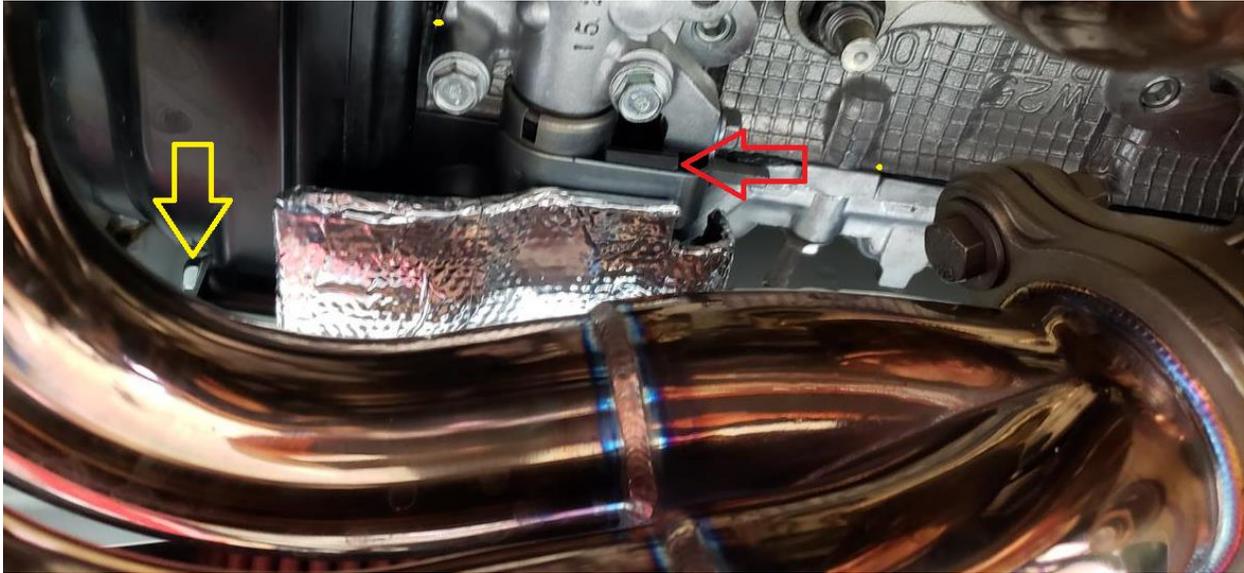


3.6. Remove the factory AVCS cover by removing the 10mm bolt (yellow arrow) and unclipping the plastic clip towards the back (red arrow).



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3.7. The AVCS cover should be free and removed at this point.



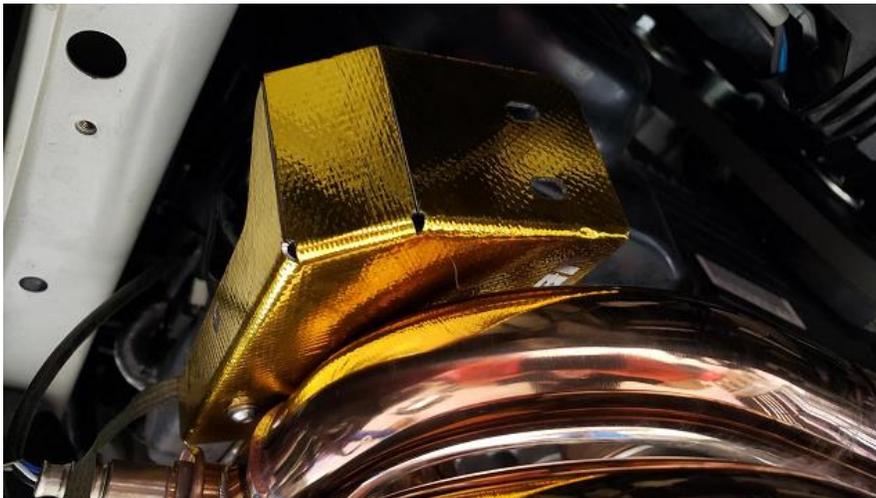
3.8. Remove the vehicle side ground to improve access when installing the heat shield.

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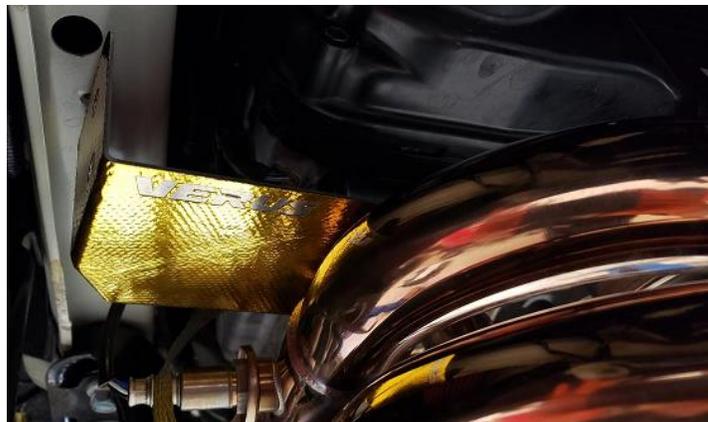
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- 3.9.** Place the heatshield in line (perpendicular to its installed position) with the car between the exhaust manifold and head.



- 3.10.** As you slide the shield into position you will rotate it 90deg counter clockwise watching the inside edge clearance to other hardware.



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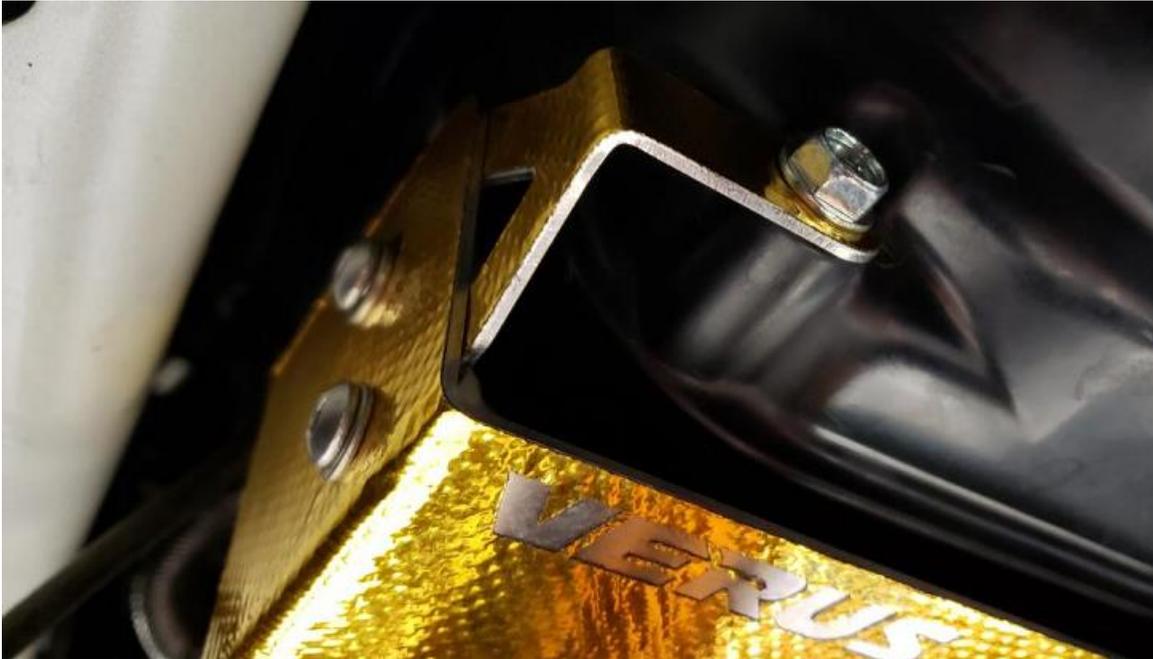
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- 3.11.** Once you have the shield roughly in place you will loosely thread in the 10mm hex head bolt with spacer on the top side into an unused bolt hole on the AVCS solenoid (blue arrow). Do not tighten this bolt yet. **(\*Note, hardware has updated since install photos\*)**

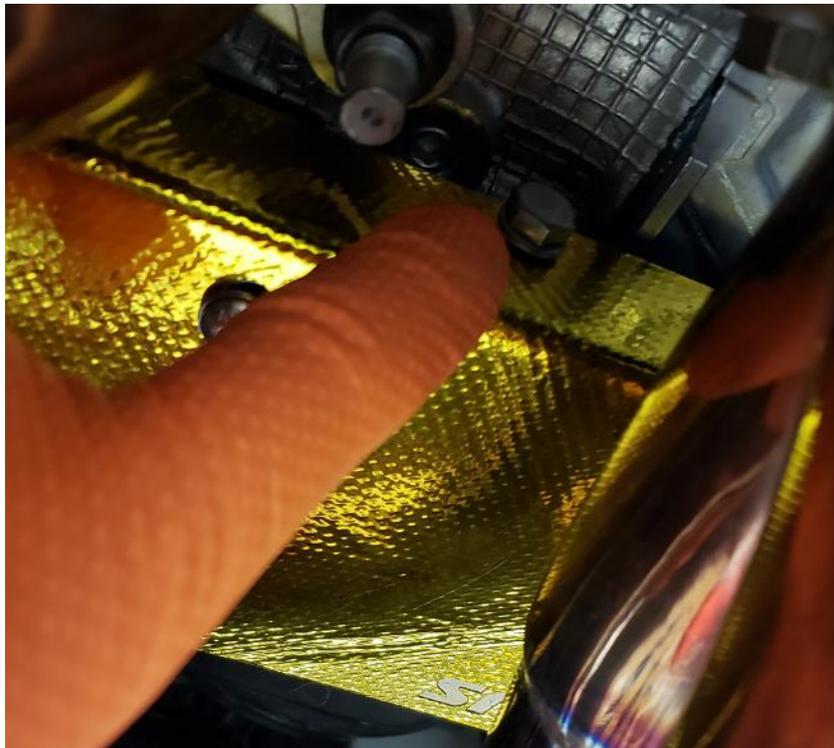


- 3.12.** Install the small bracket supplied with the shield using the remaining supplied fasteners and long OE bolt into place. Do not tighten these bolts completely yet.

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- 3.13.** Take a look at the shield placement and make sure it is square and lined up. Hold it in place and first tighten the AVCS control valve bolt on the back of the shield.



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- 3.14.** Tighten the captive 10mm hex bolt at the bottom of the shield (hardware has updated since initial install). This was the first fastener you installed.



- 3.15.** Ensure the shield is square with the timing cover and then finally tighten the fasteners on the outside bracket.



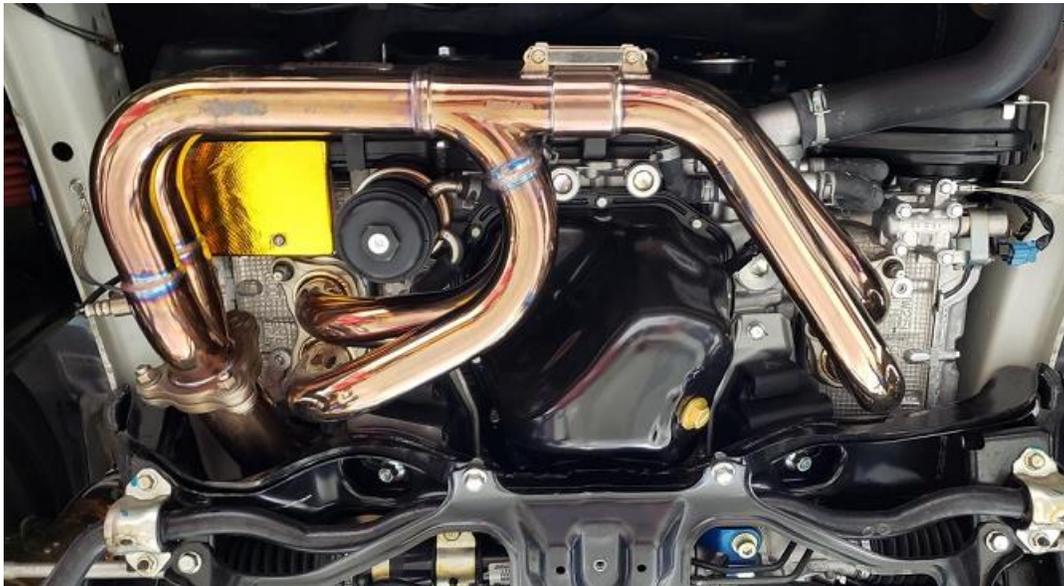
- 3.16.** Recheck all the recently installed fasteners to make sure they are tight.
- 3.17.** For those with an upgraded header on 2015+ STI we recommend attaching the passenger side ground wire engine side to the valve cover lower center bolt as shown below.

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- 3.18. Reinstall front belly pan.
- 3.19. Congratulations on installing the Verus Engineering AVCS heat shield.
- 3.20. Please send any questions, comments, concerns, or photos to Verus Engineering via e-mail; [sales@verus-engineering.com](mailto:sales@verus-engineering.com).



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