

VERUS ENGINEERING

Motor Mount Assembly – GR86/Subaru BRZ Install Manual



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Engine Mount, Toyota GR86 – Install Manual

CONTENTS

1. Introduction.....	<3>
1.1. Overview.....	<3>
1.2. Difficulty.....	<3>
1.3. Time Required.....	<3>
1.4. Tools Needed	<3>
1.5. Motor Mount Components.....	<3-4>
2. Motor Mount Install.....	<4-14>

Engine Mount, Toyota GR86 – Install Manual

1. Introduction

1.1. Overview: Detailed instructions on installing the Verus Engineering Motor Mount Assembly for the Toyota GR86/Subaru BRZ.

1.2. Difficulty: Moderate - Difficult

1.3. Time Required: 3 -4 hours

1.4. Tools Needed:

- 1.4.1. Ratchet
- 1.4.2. 5mm Allen Key or Socket
- 1.4.3. 10mm Socket
- 1.4.4. 12mm Socket
- 1.4.5. 13mm Socket
- 1.4.6. 14mm Socket or Wrench
- 1.4.7. 16mm Socket or Wrench
- 1.4.8. 17mm Socket
- 1.4.9. 19mm Socket or Wrench
- 1.4.10. 5mm Allen Socket or Wrench
- 1.4.11. Extension
- 1.4.12. Clip Removal Tool or Flat tip screwdriver
- 1.4.13. Torque Wrench
- 1.4.14. Flashlight



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Engine Mount, Toyota GR86 – Install Manual

1.5. Engine Mount Components

- 1.5.1. (2) Engine Mount Bracket
- 1.5.2. (2) Bushing Retainer Bracket
- 1.5.3. (2) Bushing Retainer
- 1.5.4. Hardware Bag
 - 1.5.4.1. (4) M12 x 1.75 x 80mm Long HHCS (Hex Head Cap Screw)
 - 1.5.4.2. (4) M12 x 1.75 Nyloc Nut
 - 1.5.4.3. (2) M12 x 1.75 x 20mm Long HHCS
 - 1.5.4.4. (4) M8 x 1.25 x 20mm Long FHCS (Flat Head Cap Screw)
 - 1.5.4.5. (4) M8 x 1.25 Serrated Flange Nut
 - 1.5.4.6. (4) Bushing Sleeve
 - 1.5.4.7. (8) 70A Durometer Bushing (Black)
 - 1.5.4.8. (8) 80A Durometer Bushing (Grey)
 - 1.5.4.9. (8) 90A Durometer Bushing (Blue)

**2. Motor Mount Assembly Install**

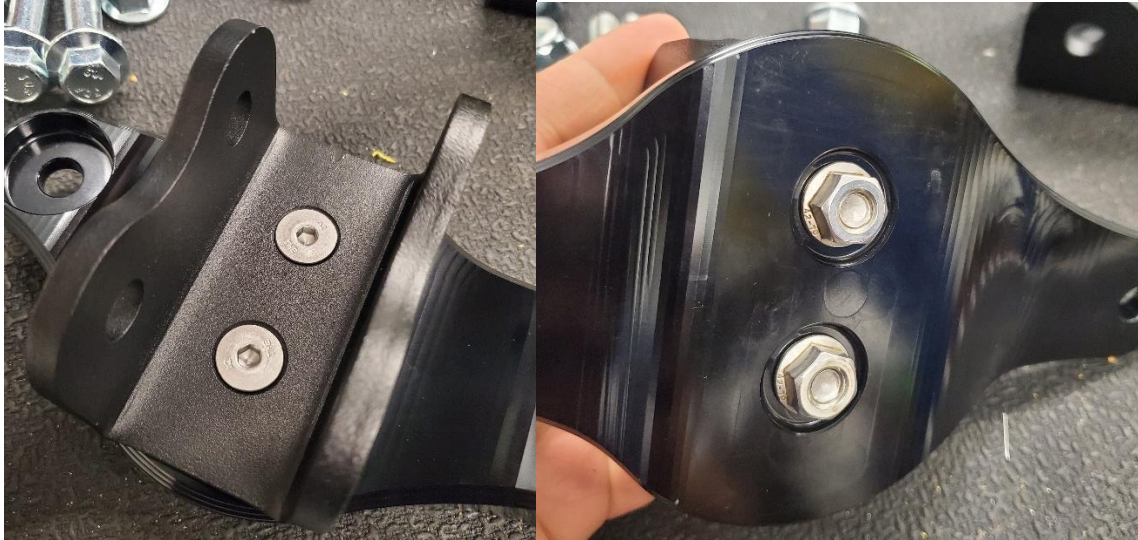
- 2.1. Verus Engineering is not responsible for damage to you or your vehicle by following this manual and/or installing Verus Engineering products.
- 2.2. We begin by gaining access to underneath the hood. Pop the hood and open it.
- 2.3. Jack the car up, and support it safely.

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Engine Mount, Toyota GR86 – Install Manual

2.4. Assemble the engine mounts.

2.4.1. Using the four supplied 20mm M8x1.25 FHCS bolt the bushing retainer brackets to the engine mount bracket. Torque to 13 ft-lbs.



2.4.2. Three different durometer bushings are supplied. Which durometer you install is ultimately up to you, however we installed the black bushings. **Black – Soft, Grey – Medium, Blue – Hard.**



Durometer



70A
Most Soft

80A

90A
Most Stiff

Engine Mount, Toyota GR86 – Install Manual

- 2.4.3. Lubricate the bushing half surfaces, and center sleeves with a high temperature automotive grade grease.



- 2.4.4. Insert the bushing halves (8) into the bushing retainers.

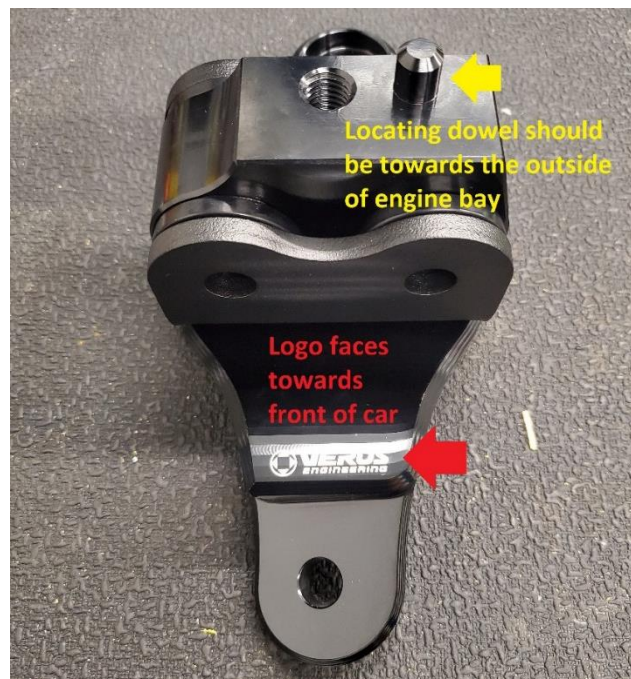


Engine Mount, Toyota GR86 – Install Manual

2.4.5. Insert the center sleeves into the bushing halves.

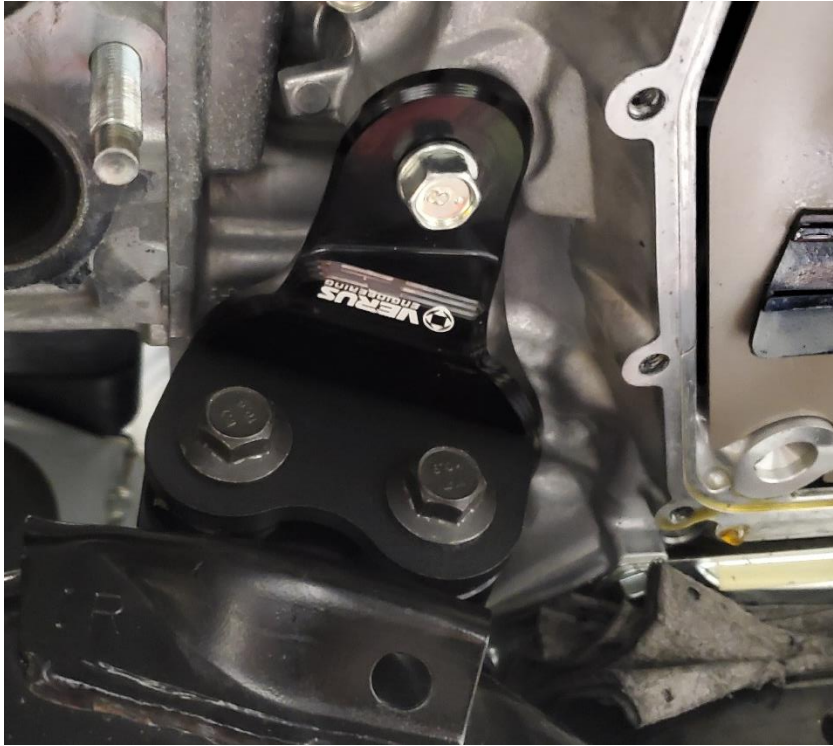


2.4.6. Insert the Bushing Retainer into the Bushing Retainer Bracket. **Note: The bushing retainers should be installed so that the locating dowel will be closer to the outside of the engine bay. Use the photo below for reference.**



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Engine Mount, Toyota GR86 – Install Manual



- 2.5. Next, we'll begin the installation process.
- 2.6. Remove the engine under panel.
- 2.7. Begin by disconnecting the two O2 sensor harnesses at the timing cover above the exhaust manifold on the passenger side.



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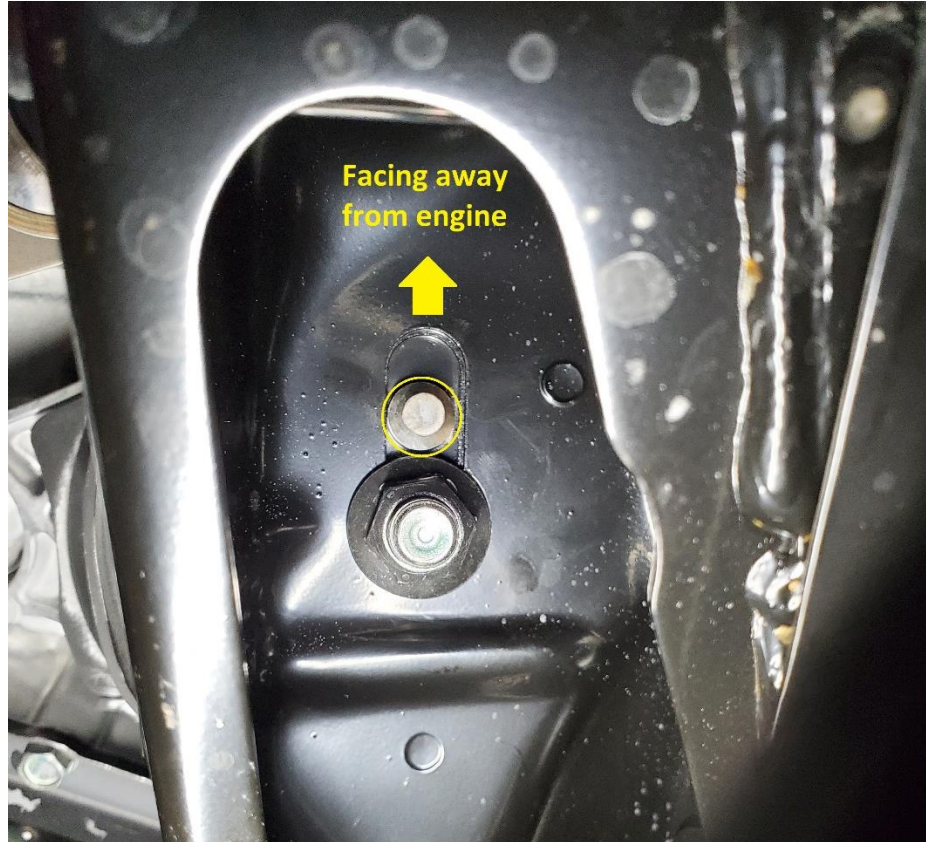
Engine Mount, Toyota GR86 – Install Manual

- 2.8. Unclip the O2 sensor harnesses from the brackets.



- 2.9. Unbolt the 17mm nuts that hold the OEM engine mounts to the subframe. Take note of the locating dowel orientation. This is the same orientation that we'll be installing our engine mounts.

Engine Mount, Toyota GR86 – Install Manual

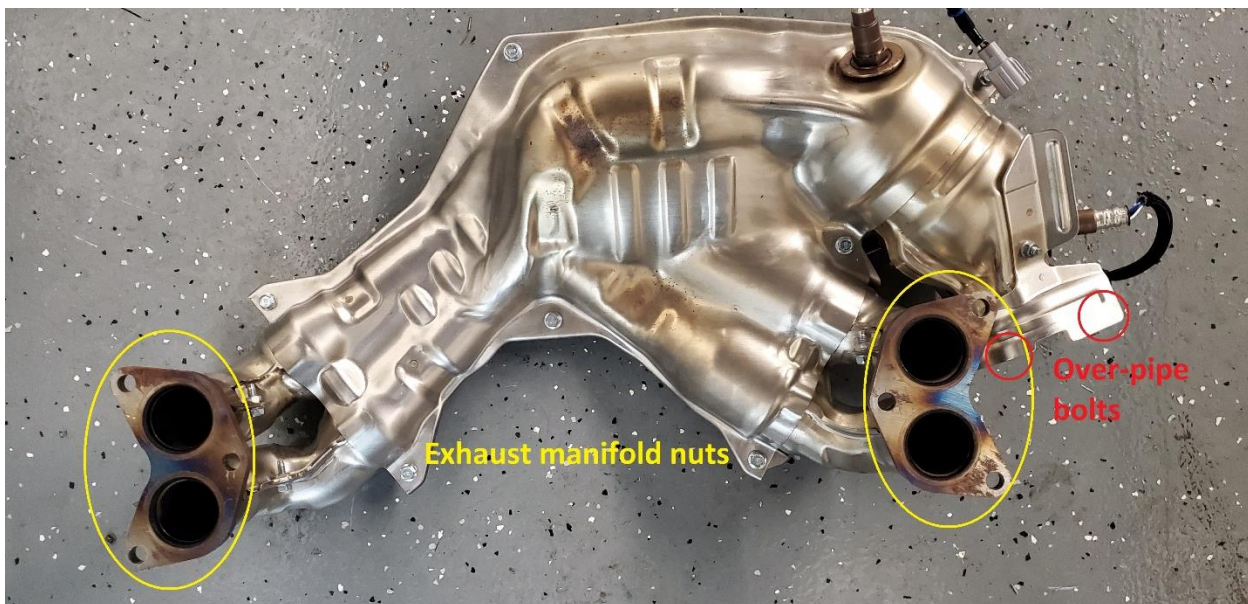


- 2.10.** Jack up the engine by the transmission just behind the bellhousing. Use a block of wood and a jack.

Engine Mount, Toyota GR86 – Install Manual



- 2.11.** Being careful not to put any hose, wires, etc. in tension, jack the engine up until the engine mount studs clear the sub frame.
- 2.12.** Unbolt the six 14mm nuts (three on each side) connecting the exhaust manifold to the cylinder heads, and the two 14mm bolts connecting the manifold to over-pipe.



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- 2.13. Remove the exhaust manifold.
- 2.14. Remove the 17mm bolts holding the OEM engine mount brackets. The rear bolts are located above the subframe near the lowest bellhousing nut.



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Engine Mount, Toyota GR86 – Install Manual

- 2.15.** Install the Verus-Engineering Engine Mounts making sure they're in the correct orientation in regards to the locating dowel. Reuse the OEM 17mm head bolts from **2.14**. Tighten to 26 ft-lbs.
- 2.16.** While the engine is still jacked up, reinstall the exhaust manifold. The cylinder head stud nuts (**2.12**) are torqued to 22 ft-lbs, and the over-pipe bolts are torqued to 32 ft-lbs. Replacing the gaskets is recommended.
- 2.17.** Begin lowering the engine slowly so that you can ensure the locating dowels are correctly seating into the slot in the subframe. Just before the engine mounts make contact with the subframe, start the M12 x 1.75 bolts into the threaded hole on the engine mounts. This way you can shimmy the engine around to get the bolts started properly.



- 2.18.** Lower the engine completely and torque the M12 bolts to 30 ft-lbs.
- 2.19.** Re-connect the O2 sensors, and reassemble any remaining components in reverse order.
- 2.20.** Congratulations on installing the Verus Engineering Engine Mounts for the Toyota GR86/Subaru BRZ.
- 2.21.** Please send any questions, comments, concerns, or photos to Verus Engineering via e-mail; sales@verus-engineering.com.

Engine Mount, Toyota GR86 – Install Manual



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