



INSTALLATION GUIDE

2020+ Toyota GR Supra 3.0L Performance Heat Exchanger | SKU: MMHE-SUP-20



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IMPORTANT SAFETY INFORMATION

- Mishimoto recommends you use safety glasses and protective gloves during the install of their products
- Raise vehicle only on jack stands or on a vehicle lift
- Allow vehicle to cool completely prior to attempting installation
- Do not run the engine or drive the vehicle while overheating; serious damage can occur
- Please dispose of any liquids properly
- Mishimoto is not responsible for any vehicle damage or personal injury due to installation errors, misuse, or removal of Mishimoto products

PARTS BREAKDOWN

DESCRIPTION	QUANTITY
HEAT EXCHANGER	1

TOOLS NEEDED

8MM SOCKET	E14 TORX BIT
10MM SOCKET	FLATHEAD SCREWDRIVER
13MM SOCKET	CUTTING TOOL
T30 TORX BIT	PICK TOOL

INSTALLATION TIME 5 HOURS

INSTALLATION DIFFICULTY     

INSTALLATION INSTRUCTIONS

- 01.** Remove rubber seal on the top portion of the bumper.



- 02.** Remove fender tops from driver and passenger side of vehicle. Hardware is shown on passenger side below. Locations are mirrored in location on the driver's side. (8x Pop-clips)



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03. Remove the hardware that secures the front bumper. Below images show all screw locations above, below, and in the wheel wells. (6x 10mm bolts, 25x plastic screws)



04. Disconnect the two electrical connections on the driver and passenger side just below the headlight near the wheel.



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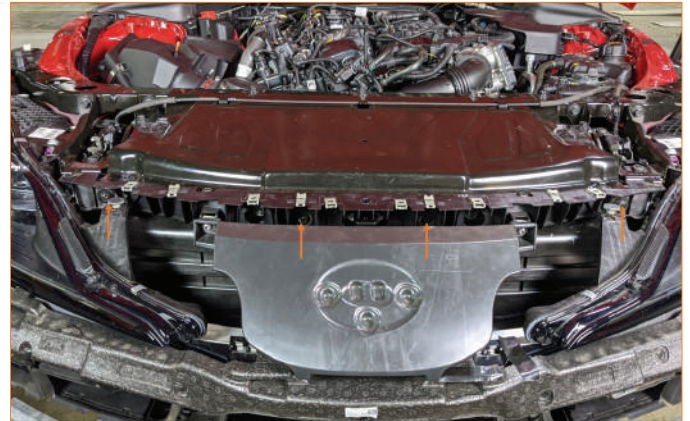


05. Remove bumper and lower splash shields.

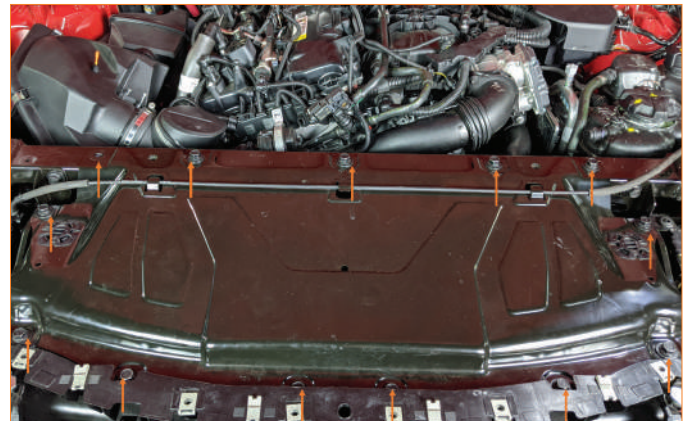
06. Remove the front bumper support. (2x T30 Torx bolts, 2x T30 plastic Torx screws)



07. Remove front bumper bolt bracket. (4x 10mm bolts)



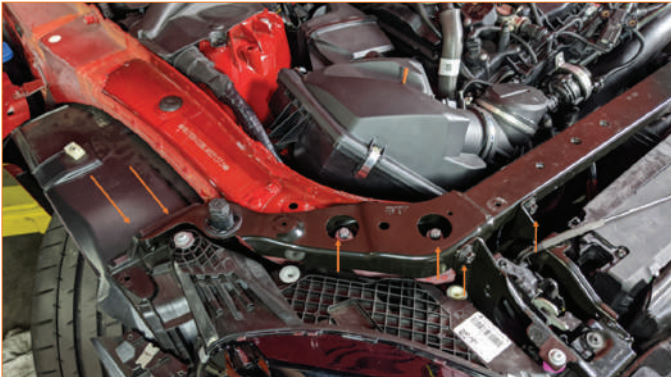
08. Remove the top metal radiator cover. Lift out of place once bolts are removed. (13x 13mm bolts)



NOTE: The following steps are **OPTIONAL**. It is possible to trim the radiator clamshell brackets while still installed on the vehicle. However, we recommend removing the brackets from the vehicle to ensure proper modification. In the subsequent steps, we will guide you through the proper draining of the primary and secondary cooling systems and removing the radiators from the vehicle. If you wish to attempt cutting the brackets while still installed, please note that it is at your own risk, and skips **steps 11, 12, 14, 16, 19, 20, 21, 23, and 26**, then continue to the end.

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09. Remove the upper crossbar. (4x 10mm bolts, 4x E14 bolts, 4x 13mm bolts)



10. To remove the fan shroud, disconnect the electric plug on the back of the fan and remove plastic screws that secure it to the top of the radiator. (2x T30 screws)



11. Remove the upper radiator cover. Simply unclip and pull off. (2x T30 plastic screws)



12. Remove the lower radiator cover in the same manner as the upper cover. Be careful where the inlet to the heat exchanger is you may need to use a pick tool to release a plastic tab up above the inlet. See dashed arrow. (2x T30 plastic screws)

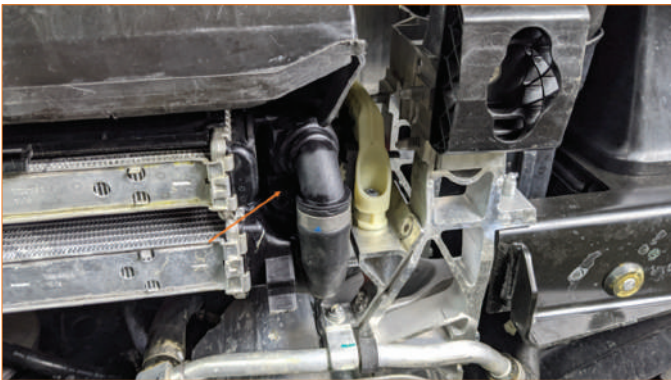


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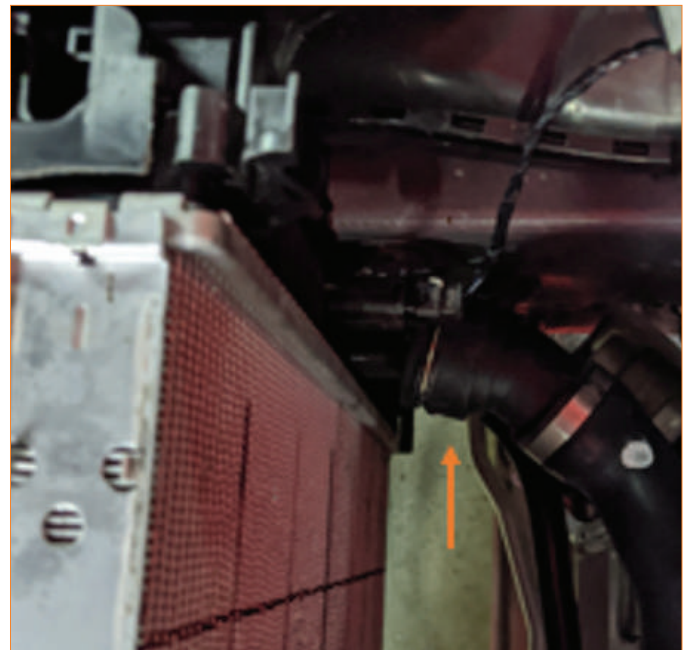
13. Drain the primary coolant and the secondary coolant systems. Remove caps from both and drain in the following manner: Drain the primary coolant system by removing the lower AUX quick disconnect from the vehicle's right side. Replace this once draining has been completed.



14. Drain the secondary cooling system by removing the lower quick disconnect from the heat exchanger.



15. Remove the radiator hoses by releasing the clips that hold the quick disconnects to the radiator.

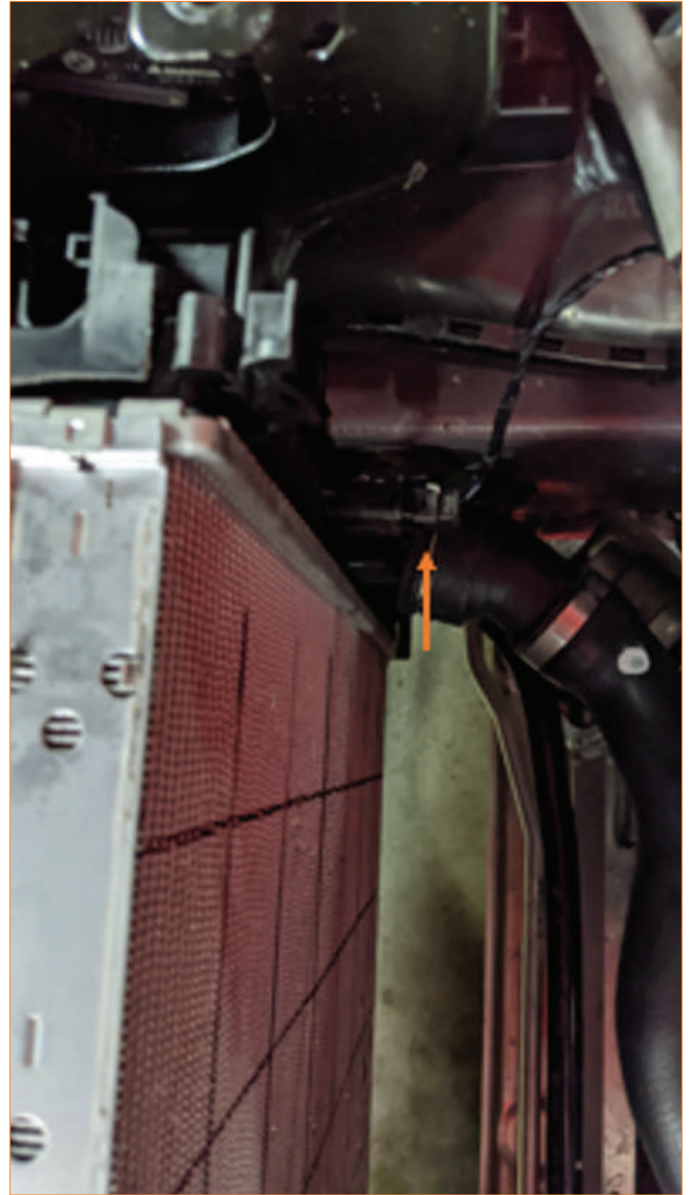


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16. Remove the upper quick disconnect fitting from the heat exchanger by releasing the clip that holds it in place.

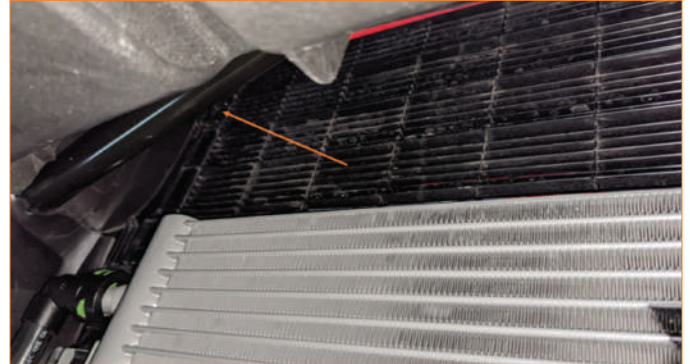


17. Remove the sensor wire from the back of the radiator.



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18. Lift the radiator out of the engine bay by tilting backward and sliding upward. Move hoses and tubes out of the way as you lift it out of place.
19. Remove the heat exchanger from the clamshell by sliding it upwards. This should remove easily.
20. Detach the stone guards that attach to the clamshell. Use a pick tool to release the plastic tabs and remove from vehicle.



21. Lift the transmission cooler out of its location. Tip: it may be easier to detach one side of the hoses attached to the cooler to remove.
22. Remove the left and right clamshell. There is a small rubber tang on the lower portion of the plastic. Use a pair of pliers to press in the tangs, push it through and pull off the pieces.



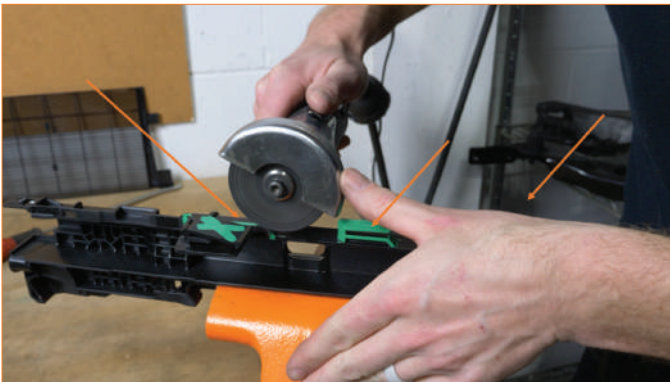
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23. To fit the increased size of the heat exchanger, some trimming is required. Using either a reciprocating saw, side grinder, Dremel, or hand saw trim the plastic covers are indicated by the green paint.

23.1 Start with the left side. Cut where indicated in the below photo.



23.2 Move on to the right side and cut along.

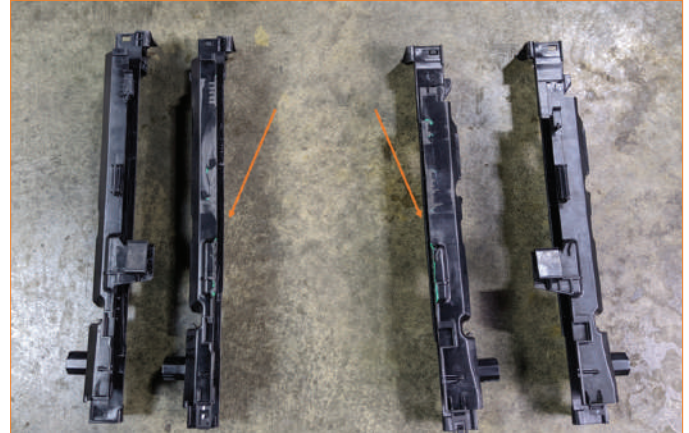
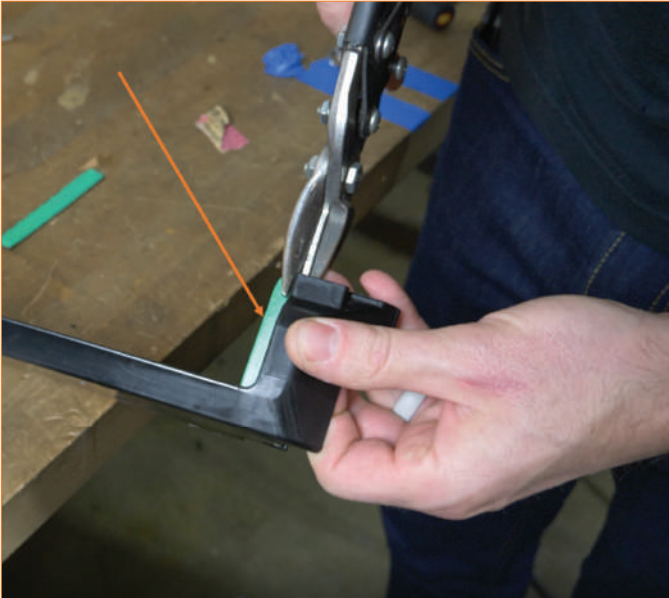


23.3 Trim the top piece.



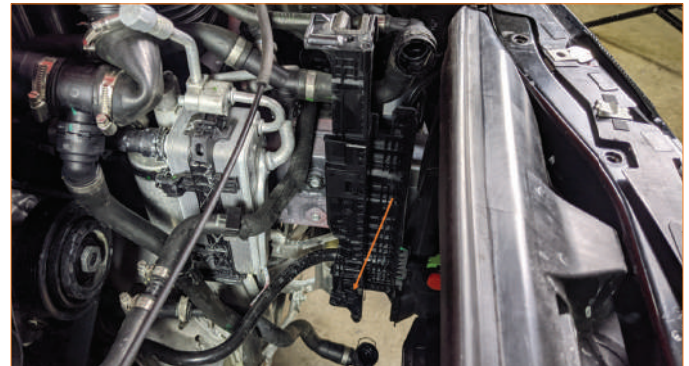
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23.4 Trim the lower plastic piece.



This cutting can be performed on the vehicle without removing the radiator. However, for demonstration and easier cutting, removing the rad and pieces from the vehicle was done.

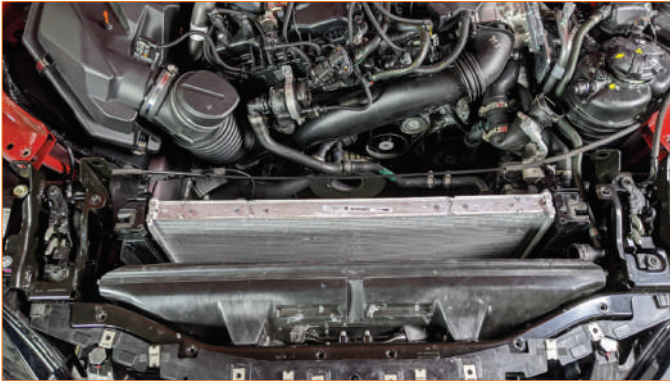
24. Place the modified clamshell surrounds back inside the vehicle. Use a pair of pliers to pull the small rubber tang through the hole on the lower portion. This locks the bracket in place.



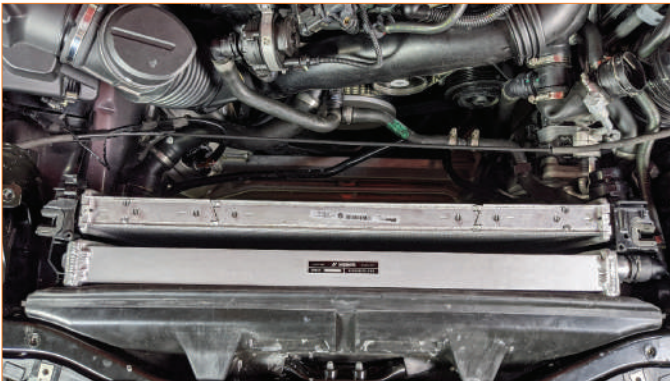
The end result should look similar to this: (The original ones are on the outside while the modified ones are on the inside.)

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25. Slide the radiator back into place. Slide the radiator in from the top, avoiding the transmission lines and the auxiliary cooler return line. Once the radiator is close to the bottom angle, the top towards the engine then slide in the bottom. Push the top of the radiator towards the front of the car, and it should slide into place.



26. Next, slide the heat exchanger down from the top. This can be done without removing the radiator once all plastic pieces have been trimmed.

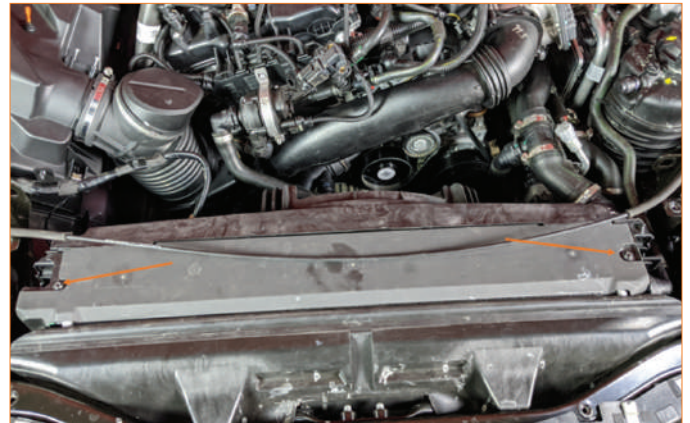


27. Reconnect the quick disconnects supply and returns on both the radiator and the heat exchanger. Ensure the locking ring is securely in place. Reattach the sensor's electrical connection on the back right side of the radiator.

28. Reinstall the lower radiator cover using the factory 2X T30 plastic screws. Again, take special care to ensure all plastic clips have been locked into place before doing up the screws.



29. Install the top radiator cover. This needs to be placed in before the fan shroud since the fan locks into this. Use the factory T30 plastic screws to secure in place.



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- 30.** Slide in the fan shroud. Ensure it lock into the top and bottom radiator cover. Use 2x T30 plastic screws to secure to the clamshell. Reattach electrical components to the fan.



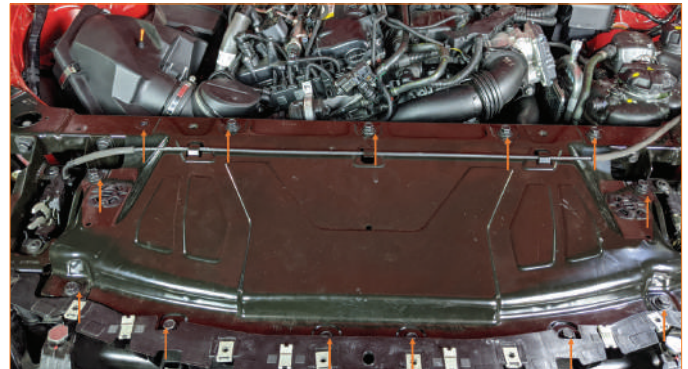
- 31.** Reinstall the upper crossbar. Take special note of where the hood release lines go. (4x E14 bolts, 4x 13mm bolts, 4x 10mm bolts)



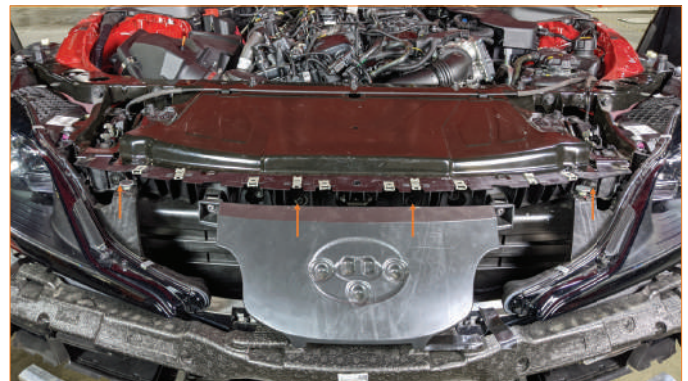
- 32.** Reattach the transmission cooler. Slide tabs on the Mishimoto heat exchanger, then secure in place using 2.5mm allen tool. (2x M4X0.7 bolts)



- 33.** Reinstall the top metal cover. (13x 13mm bolts)



- 34.** Reinstall the upper bumper bolt bracket. (4x 10mm bolts)



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35. Reinstall the front bumper support. This is held in place with 2X T30 bolts (top) and 2X T30 plastic screws (bottom).



36. Slide bumper back onto the vehicle using the factory plastic Velcro loops (just inside the headlights) to help hold into position. Reattach the electrical connectors on the left and right side of the bumper.
37. Replace the lower splash shields using the factory hardware.
38. Reattach the bumper using all factory hardware.
39. Replace fender tops from the right and left side of the vehicle. There are eight pop clips on each location shown below on the right side. They are mirrored in location on the left side.



40. Finally, replace the small rubber trim on the front center of the bumper.
41. If you drained both your coolant systems refill with OEM or OEM compatible coolant. Let both systems get up to temperature and cool down completely. The top off coolant as needed.

Congratulations! You have finished your installation.