



INSTALLATION GUIDE

Performance Heat Exchanger, Fits 2025+ Ram 1500
SKU: MMHE-RAM-25

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RESOURCES & CONTACT



CALL 1.877.466.4744

CUSTOMER SERVICE HOURS: MON-FRI 9:00AM-7:00PM EST



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ENGINEERING BLOG

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IMPORTANT SAFETY INFORMATION

- › Mishimoto recommends you use safety glasses and protective gloves during the installation of our 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
- › If you need any assistance while installing our products, reach out to our Customer Service Team at 1.877.466.4744

REQUIRED TOOLS

7/8" Socket – ½" Drive	10mm Wrench
1/2" Drive Breaker Bar	4mm Allen Key Or Socket
1/2" Drive Torque Wrench	Center Punch Tool
Trim Tools/ Pop Clip Removal Tool	1.25" Or 32mm Hole Saw
Pick Tool	Catch Bucket Or Similar For Coolant
8mm ¼" Drive Socket	1 Gallon Oat Premix Coolant (Or Equivalent)
10mm ¼" Drive Socket	Coolant Vacuum Fill Tool
1/4" Drive Ratcheting Wrench	Blue Painters' Tape (Or Similar)
1/4" Drive 6" Extension	
13mm Wrench	

INSTALL TIME: 2-3 HOURS

INSTALL DIFFICULTY:     

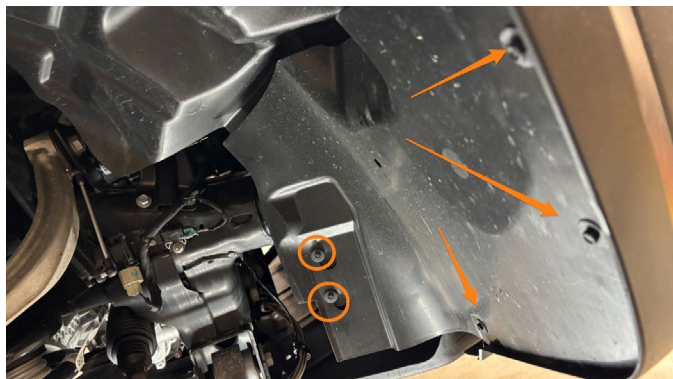
INSTALLATION INSTRUCTIONS

1. Allow the vehicle to cool completely. Raise the vehicle on a lift or jack stands if available. This installation should be able to be done with the vehicle on the ground, however, lifting the vehicle and removing the front wheels will make working around the wheel wells significantly easier. Remove the front wheels if the vehicle is on jacks stands or a lift.

2. Remove the 10x 8mm screws securing the fender flares to the vehicle. Then, remove the 3x push clips and 2x 8mm screws on the fender liner to remove the fender liner from the vehicle (only 2x push clips on the driver side wheel well). Repeat for the other front wheel well.

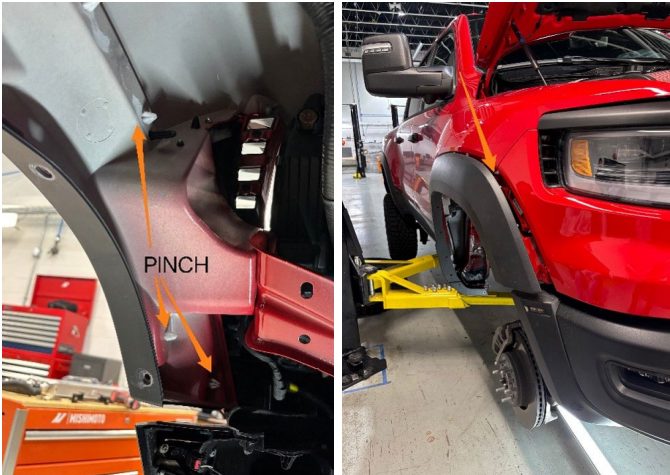


3. Remove the 3x 8mm screws holding the lower wheel well panel to the vehicle (arrows). Then, loosen the 2x 8mm screws holding the lower wheel well panel to the frame rail (circles). Remove the lower wheel well panel. Repeat for the other side.



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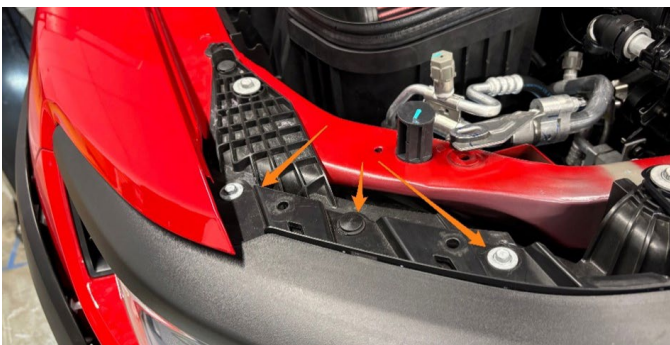
4. Starting from the front, pull back the fender liners while pinching the white clip inside the wheel well until the junction between the fender and the painted panel underneath the headlight is exposed. The whole fender flare does not need to be removed. Repeat for the other side.



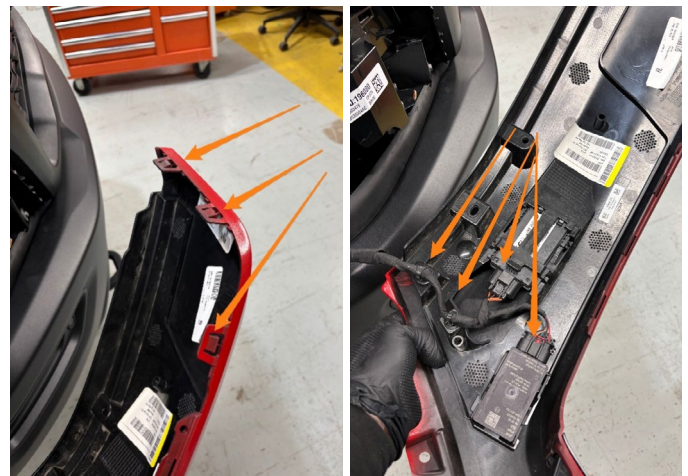
5. Remove the radiator cover panel in the front of the engine bay by removing all 12x push clips and removing the panel.



6. Remove 8x 10mm bolts and 2x push clips securing the upper headlight panel and remove the upper headlight panel to expose the upper grill bolts and lower headlight panel bolts.

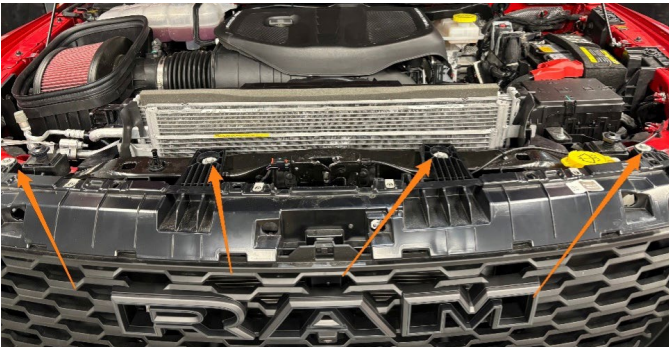


7. Remove the 1x 10mm bolt now exposed holding the power headlight panel to the vehicle. Then, carefully pull the panel away from the fender and away from the vehicle. Then, reach behind the panel and unclip the 3x clips underneath the headlight starting at the innermost clip and working outwards. Then, once free from the vehicle, disconnect the 2x electrical connectors and 2x zip tie wire clips connecting the wire harness to the panel. Repeat for the other side.

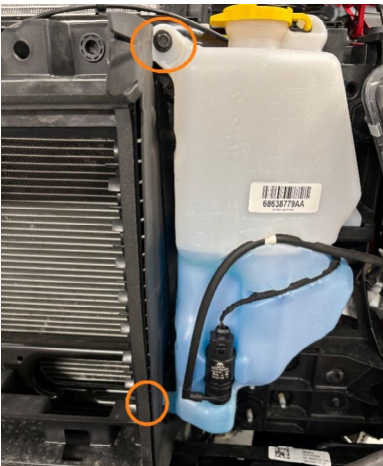


8. Disconnect the fiber optic electrical connector for the front camera in front of the hood latch assembly. Remove the 4x 10mm bolts on the top of the grille and 6x (3x per side) 10mm bolts holding the grill assembly to the front of the vehicle. Pay special attention to which bolts come from which holes, as there are several different size bolts that hold the grill to the vehicle. (Images on following page)

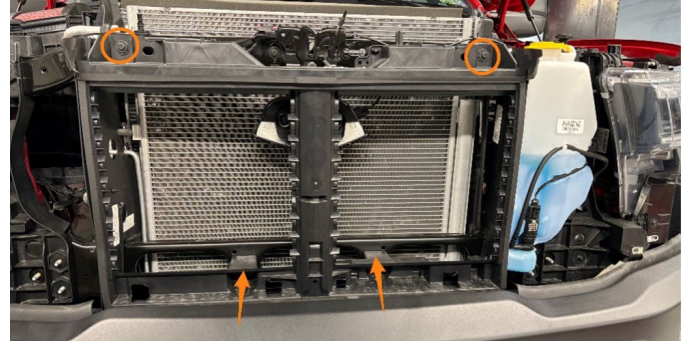
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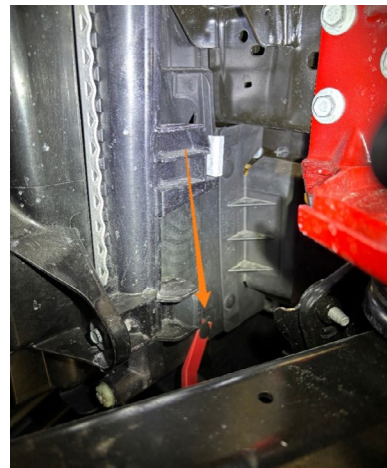
9. Remove the 2x 10mm bolts that secure the windshield washer reservoir to the vehicle. Move the reservoir off to the side so that the hoses do not need to be disconnected.



10. Remove the 4x 10mm bolts securing the grill shutter assembly to the front end. The lower two bolts are recessed and will require an extension. Then, disconnect the push clips that connect the grill shutter assembly to the side ducts and remove the assembly from the vehicle. (Image on the right)

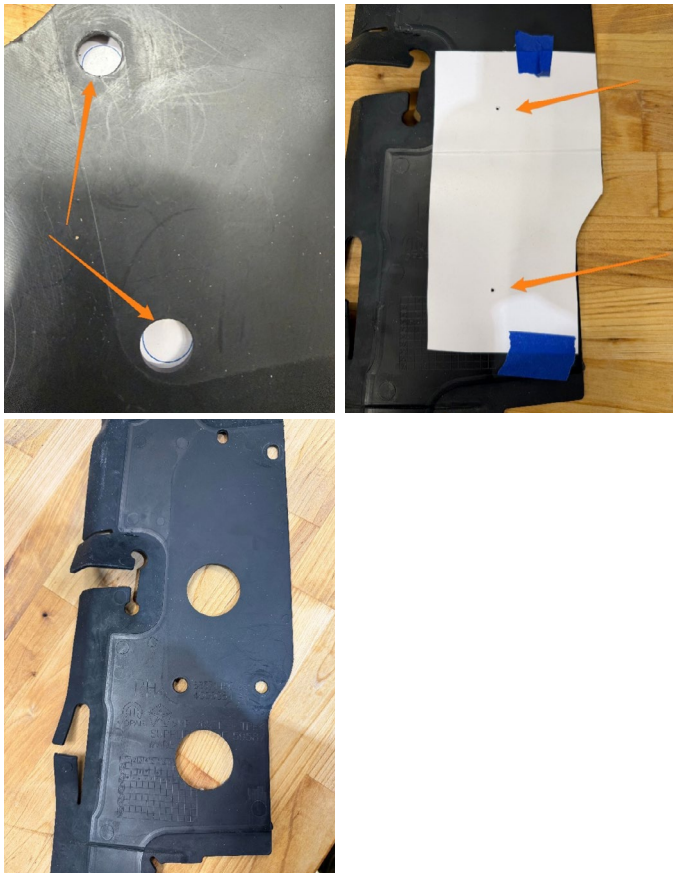


11. Remove the 1x remaining push clip on the passenger side radiator duct and remove it from the vehicle. You will need to maneuver the duct around the core support in order to fully remove it from the vehicle.



12. Cut out the included paper template. Then, use a center punch to make a small hole in the cross hairs in the larger 32mm holes. Then, put the template on the back of the side duct (what would be the outside of the duct) and line up the two small holes with the holes in the duct. The outside edge should line up with the outside edge of the duct. Tape the template in place and use the center punch to mark the center of the larger holes into the plastic duct (re-punch in the center of the large holes). Only the back of the template can be seen, however, the holes made in the template earlier in this step will locate the center of the large holes. Then, remove the template and take a 32mm or 1.25" hole saw and make a hole in that location. De-burr the holes if necessary (Images on the following page)

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13. Reinstall the duct into the vehicle.

14. Remove the horn bracket and horn electrical connector from the vehicle by removing the 1x 10mm bolt on the back side of the core support with a 10mm wrench. Remove the 2x 10mm nuts securing the



horns to the bracket. Be careful removing them as they are connected to each other with wires. Transfer the horns over to the supplied Mishimoto bracket in the position shown using the factory 10mm nuts. Do not fully tighten the nuts as the horns may need to be adjusted into the correct position later.



15. Secure the flat bracket to the bottom of the heat exchanger using the 2x button head flanged m6 bolts using a 4mm Allen key/socket. Then, attach the 2x included pegs to the slotted holes in the bracket using the other 2x button head flanged m6 bolts. Try to tighten the pegs in the middle of the slotted holes. The pegs can be counter held using a 13mm wrench.



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16. Attach the lower bracket (bracket with the studs pre-installed) to the lower radiator support bracket on the vehicle and secure using the supplied m6 lock nuts with a 10mm wrench. Make sure the bracket is oriented as shown in the photo. Install the 2x included rubber bushings into the bracket.

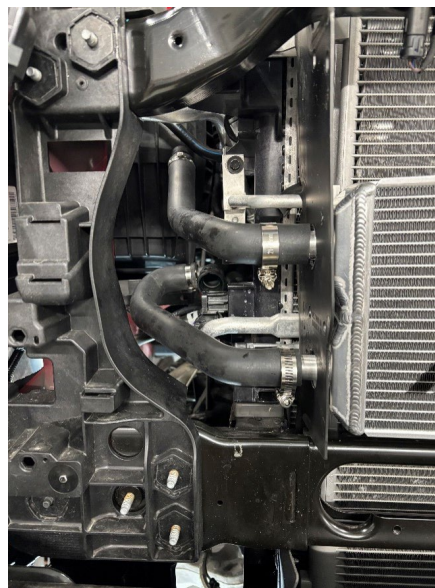


17. Attach the horn bracket to the top of the heat exchanger using the 2x included m6 bolts using a 10mm wrench. Do not fully tighten at this time to leave room for adjustment. Then, put the heat exchanger into the vehicle, aligning the pegs into the rubber bushings and the top bracket should line up with the hole from the original horn bracket. In addition, make sure that the inlet and outlet of the heat exchanger are in the holes made previously in the side duct. Use the original horn bracket bolt to secure the upper heat exchanger bracket to the upper radiator support. (Image on the right)



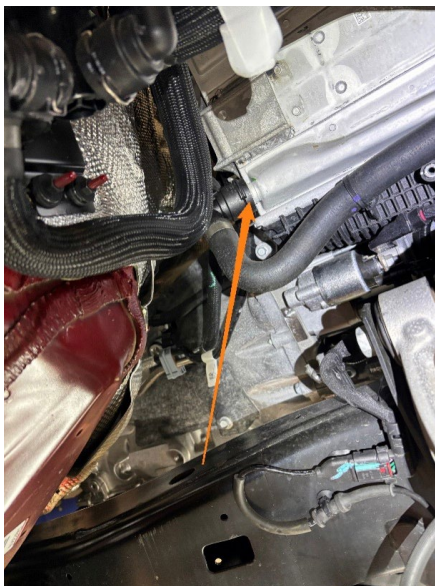
18. Adjust the position of the heat exchanger and horns to ensure that nothing is interfering and then fully tighten all of the 10mm bolts and 4mm button head flanged bolts.

19. Remove the 2x caps on the inlet and outlet of the heat exchanger and attach the two included hoses and clamps. The top port (outlet) of the heat exchanger should have the straight male quick connect fitting on it and the bottom port (inlet) with the 90-degree female fitting on it. Leave the clamps loose and the hose fittings disconnected for now.

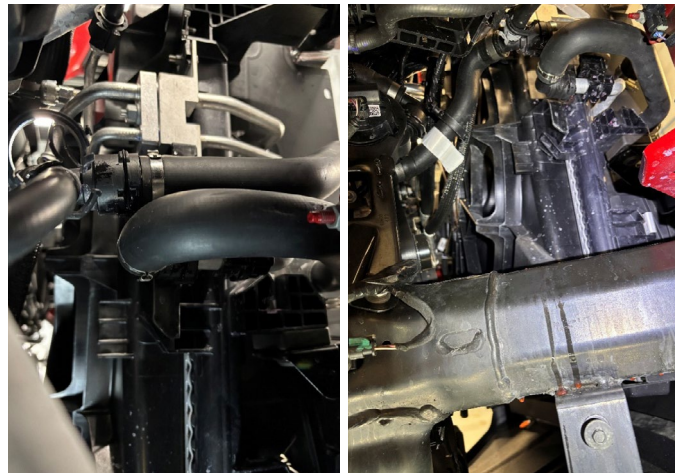


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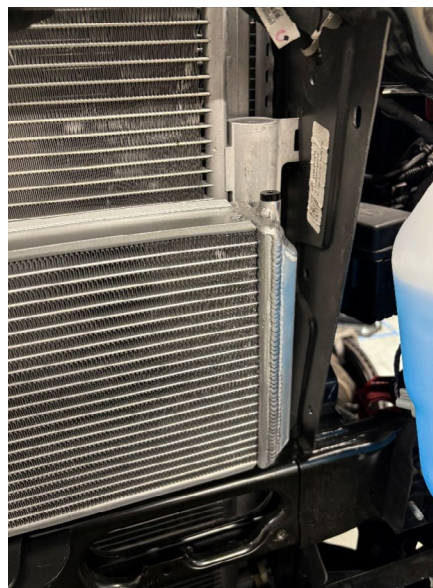
20. Locate the intercooler inlet port on the back of the intercooler, on the rear passenger side of the engine above the starter. Disconnect the hose and collect any coolant coming from the intercooler by putting a bucket underneath the intercooler. While the intercooler/secondary cooling system drains, remove the cap from the secondary cooling system reservoir (smaller coolant tank on the passenger side of the engine bay) to allow the full system to drain. Alternatively, the cooling system can be drained from the outlet of the heat exchanger (lower port), however, you will need to remove the front skid plate in order to keep the coolant from making a mess.



21. Once the system is fully drained reconnect the intercooler hose and disconnect the factory heat exchanger outlet hose from the heat exchanger. Connect the straight male fitting into the factory hose and connect the 90 degree female hose into the port on the factory heat exchanger. When fully connected, you should hear a positive click. Make any adjustments to make sure that all the hoses are not rubbing on anything abrasive and tighten the worm gear hose clamps on the Mishimoto heat exchanger. (Images on the right)



22. Make sure that all the coolant connections are secure and tighten the 4mm bleed port on the upper drivers' side of the heat exchanger. Then, vacuum fill the secondary cooling system. After the system is full, quickly crack the bleed port on the heat exchanger until coolant comes out, to make sure no air is trapped in the tank.



23. Reinstall the grill shutter assembly. Make sure to reinstall any of the push clips that connect the grill shutters to the side radiator ducts. Reinstall the wire harness clip for the front camera onto the grill shutter so that it is accessible once the grill is installed.

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24. Reinstall the grill. The bolts with the smaller washer go on the outside lower holes. The long bolts go into the inner lower grill bolt holes and the 4x shorter bolts go into the upper holes. Do not forget to re-connect the front camera electrical connector.

25. Install the lower headlight panels. Do not forget to connect the 2x electrical connectors inside the panels. Reinstall the 1x (2x total) 10mm bolt on each side.

26. Turn on the engine and check for leaks in all the hoses that were touched/opened in the installation process.

27. Reinstall the two fender liners and lower fender liner panels and fender flares.

28. Reinstall the wheels if removed. Torque lug nuts to 130 ft-lbs.

29. Take the vehicle for a test drive and verify there are no leaks.

Congratulations. You have finished your installation.

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DISPOSAL INSTRUCTIONS

- › Do not dispose of any product as unsorted municipal waste. Use separate collection facilities. Contact your local authority for information regarding the collection systems available.
- › Never improperly dispose of any coolant, oil, or other chemicals

WARRANTY INFORMATION



This product is backed by Mishimoto's Lifetime Limited Warranty. Please visit mishimoto.com/lifetime-warranty to see the full warranty.

ACTIVATE YOUR WARRANTY

Scan the QR code to activate your warranty. Every Mishimoto product is covered by our Mishimoto Lifetime Warranty, which also includes accident protection. Registration is easy. Visit: mishimoto.com/register and save the receipt for your records.



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