



INSTALLATION GUIDE

2019+ FORD RANGER 2.3L ECOBOOST PERFORMANCE INTERCOOLER | SKU: MMINT-RGR-19



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RESOURCES & CONTACT



CALL 1-877-GOMISHI

CUSTOMER SERVICE HOURS: MON-FRI 8:30AM-5:00PM EST



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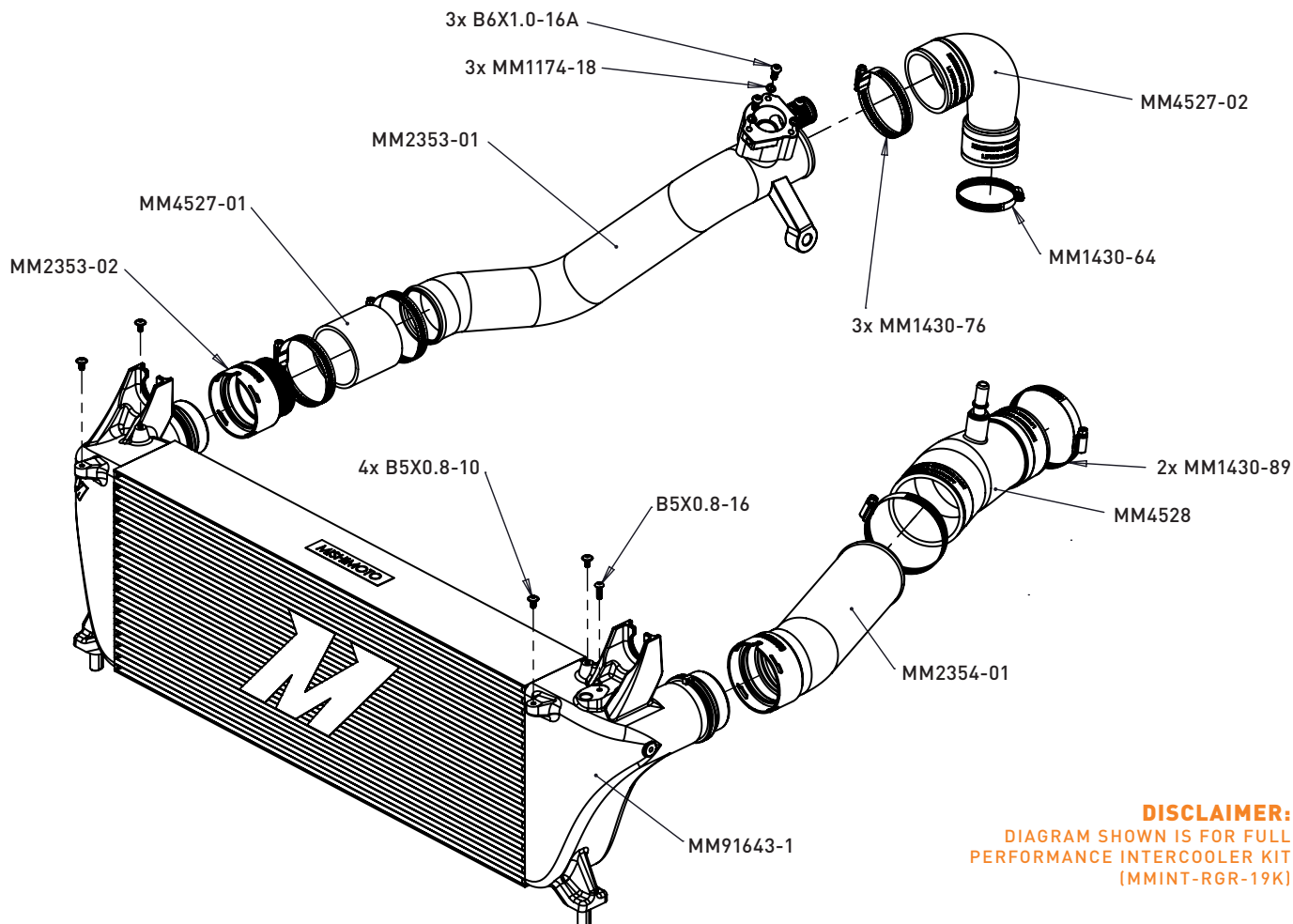
WEBSITE

WWW.MISHIMOTO.COM



ENGINEERING BLOG

WWW.MISHIMOTO.COM/ENGINEERING



PARTS BREAKDOWN

PART NUMBER	DESCRIPTION	QUANTITY
MM91643-1	INTERCOOLER	1
MM2353-01	HOT SIDE PIPE	1
MM2353-02	HOT SIDE ADAPTER	1
MM4527-01	HOT SIDE COUPLER 1	1
MM4527-02	HOT SIDE COUPLER 2	1
MM1430-76	HIGH TORQUE WORM GEAR CLAMP	3
MM1430-64	HIGH TORQUE WORM GEAR CLAMP	1

PARTS BREAKDOWN

PART NUMBER	DESCRIPTION	QUANTITY
B6X1.0-16A	BOLT	3
MM1174-18	LOCK WASHER	3
MM2354-01	COLD SIDE PIPE	1
MM4528	COLD SIDE COUPLER	1
MM1430-89	HIGH TORQUE WORM GEAR CLAMP	2
B5X0.8-16	BOLT	1
B5X0.8-10	BOLT	4

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
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INSTALLATION TIME 2 HOURS

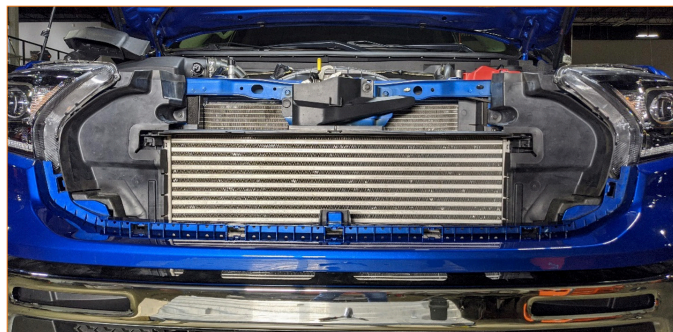
INSTALLATION DIFFICULTY     

INSTALLATION INSTRUCTIONS

- 01.** Remove the air intake duct fasteners and position the duct aside, then remove the retainers and the radiator shield.



- 02.** Remove the radiator grille. Loosen the two bolts at the top of the grille, then pull forward to disengage the tabs along the bottom and side edges.



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03. Remove and disconnect the marker light from the fender flare. Use a pick tool to depress the two tabs (arrows) to release the clips on the marker light. Remove the circled bolt.



04. Remove the pop clip closest to the truck's front end that secures the fender flare to the wheel well liner.



05. Carefully pull back the front part of the fender flare to expose the hex head bolt underneath, then remove the bolt.



06. Remove 3x bolts securing the bumper fascia support (black plastic structure) to the frame, along the intercooler's underside. Repeat steps 3-6 on the other side.



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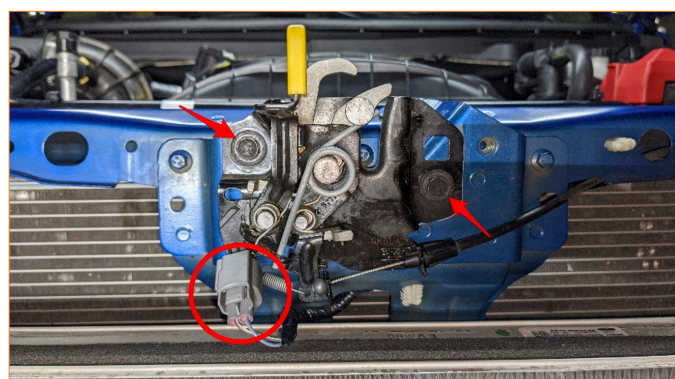
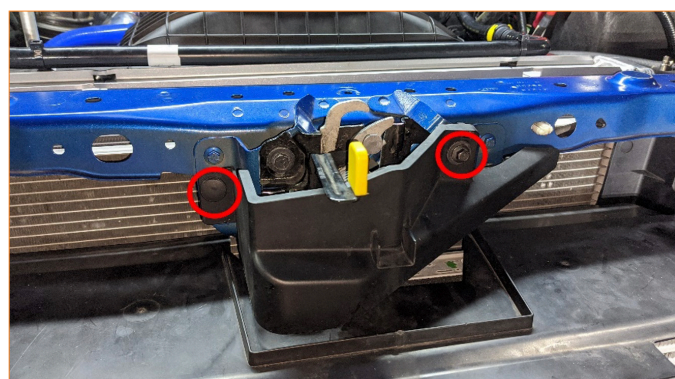
- 07.** Remove the push clip and bolt securing the bumper fascia support (black plastic bracket) to the frame.



- 08.** Remove the painted bumper fascia and the black plastic support bracket assembly from the vehicle. Start at the corners of the bumper fascia, pull to disengage the tabs along the underside of the headlights.

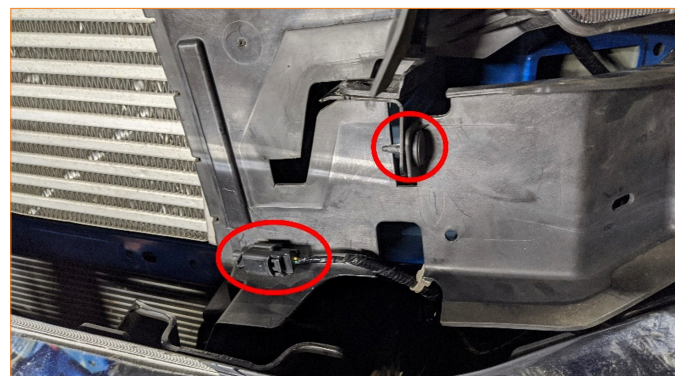
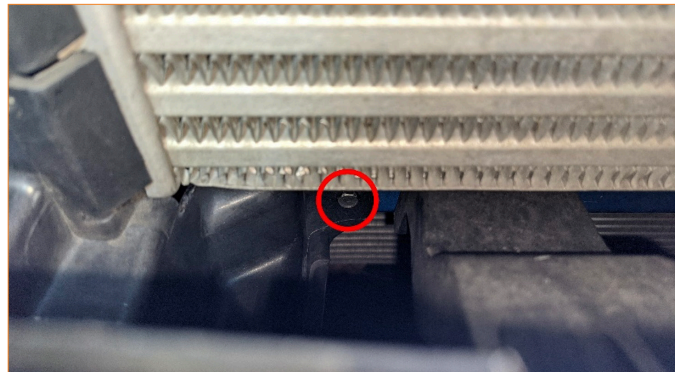


- 09.** Remove the hood latch cover and disconnect the hood latch sensor. Mark the hood latch bolts' position with a marker, then remove them to loosen the hood latch assembly. Place the hood latch assembly on top of the radiator and out of the way. **DO NOT DISCONNECT THE CABLE.**



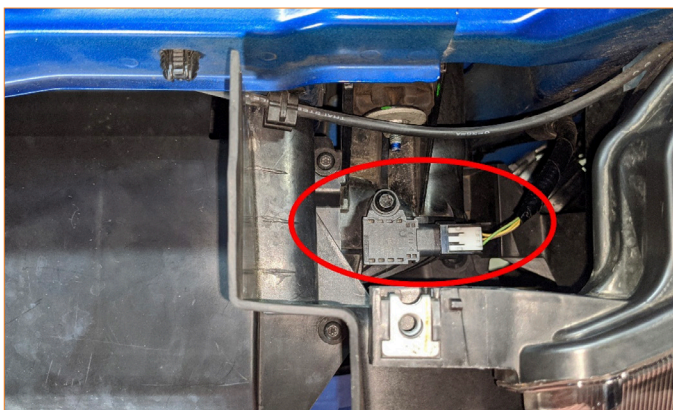
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10. Remove the plastic trim pieces around the intercooler. There are 4x bolts securing the top trim panel to the intercooler, 2x bolts, and pop clips on each side trim. Disconnect and unclip the ambient temp sensor on the driver side trim.

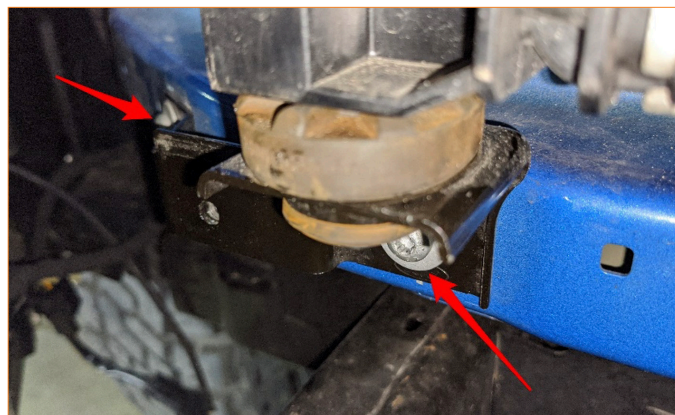


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- 11.** Disconnect and remove the MAP sensor from the stock intercooler. Transfer the sensor to the Mishimoto intercooler using the provided hardware (longer M5 bolt).



- 12.** Remove the nuts and lower brackets securing the stock intercooler to the frame on both sides, then remove the intercooler assembly. Transfer the lower brackets, grommets, and inserts to the Mishimoto intercooler.



- 13.** To install the Mishimoto intercooler, reverse the stock intercooler removal procedure. Note that the Mishimoto intercooler includes 4x shorter M5 bolts to install the top trim piece to the intercooler and a longer M5 bolt for the MAP sensor to replace the stock hardware.

Congratulations! You have completed your installation.

****For Disposal Instructions, and Warranty Information continue to the following page.***

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



- All claims must be accompanied with a picture of the Mishimoto product showing the issue for which the claim is being submitted.
- Mishimoto asks that the customer inspect their purchased item for any damage immediately upon arrival.
- Any product deemed dead on arrival (DOA) must be claimed within 14 business days of delivery. Claims outside of this time frame will not be covered under the Mishimoto Lifetime Warranty.
- This warranty does not include payment and/or reimbursement of the cost of labor in connection with the removal of any product returned pursuant to the warranty policy or in connection with the installation of any replacement items provided under the warranty policy.
- Mishimoto has the right to refuse a claim at any time.

- When Mishimoto accepts a claim, Mishimoto retains full discretion to choose if it will: (i) repair or replace purchaser's original Mishimoto product; (ii) replace purchaser's original Mishimoto product with the most current available model; or (iii) provide the purchaser with a gift card redeemable on [Mishimoto.com](https://www.mishimoto.com) in the amount of the original purchase price of the original Mishimoto product. The provision of a replacement of a Mishimoto product is subject to availability and Mishimoto retains the right to substitute any warranty claim item with a comparable item or credit at any time.
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- Mishimoto is not liable for incorrect shipments in connection with a claim if a claim form is completed incorrectly, or if a model number is not included in a claim.
- If you have a vehicle equipped with an automatic transmission, please make sure to specify this within the text box on the claim form. Mishimoto is not responsible for incorrect replacement shipments if transmission type is not indicated.



WARNING
Cancer and
Reproductive Harm
www.P65Warnings.ca.gov

This product can expose you to chemicals which are known to the state of California to cause cancer. For more information visit: www.p65warnings.ca.gov



INSTALLATION GUIDE

**2019+ FORD RANGER PERFORMANCE INTERCOOLER
PIPE & BOOT KIT | SKU: MMICP-RGR-19**

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RESOURCES & CONTACT



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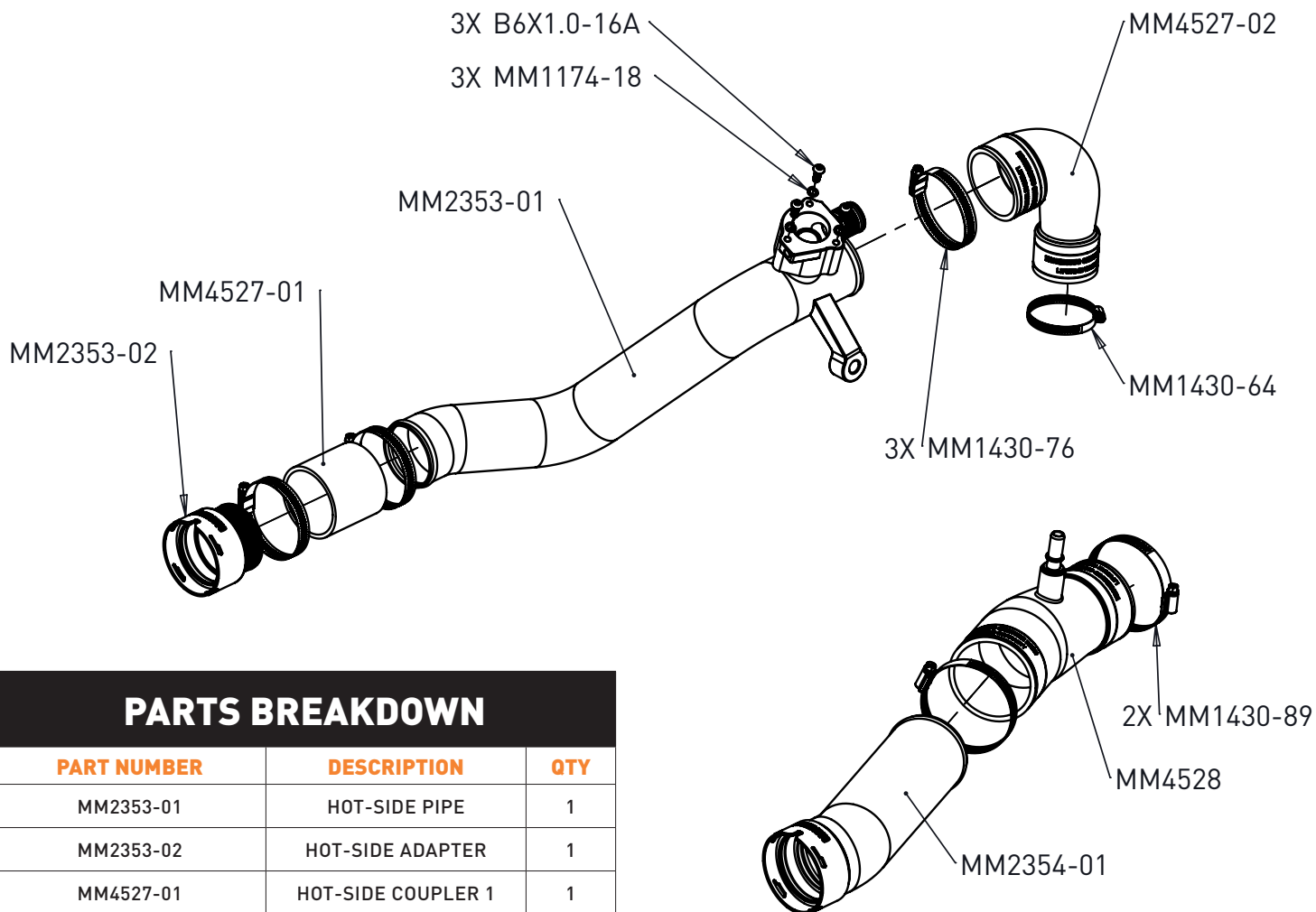
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INSTALLATION TIME 1 HOUR

INSTALLATION DIFFICULTY     

TOOLS NEEDED

1/4" RATCHET AND EXTENSIONS	SPRING CLAMP TOOL OR
7MM, 8MM, 13MM SOCKET	CHANNEL LOCK PLIERS

INSTALLATION INSTRUCTIONS

01. Unbolt and remove the air duct from the airbox. (2x 8mm bolts)



02. Loosen 2x worm gear clamps, disconnect the vacuum line and tree clip at the back of the intake hose, then remove the rubber intake hose.

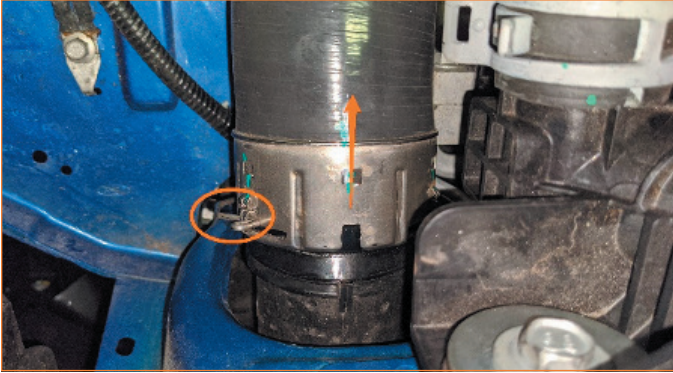


03. Unbolt the stock hot-side (passenger side) intercooler pipe from the engine block. (1x 13mm bolt)



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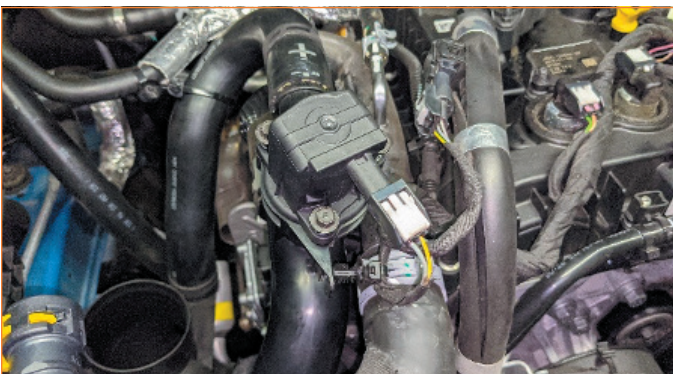
04. Disengage the spring clip as shown (this is the 'disengaged position') and disconnect the hot-side pipe from the intercooler.



05. Loosen the worm gear clamp at the turbo side.



06. Unplug and remove the blow-off valve from hot-side pipe. (3x 8mm plastic screws, 1x tree clip)



07. Disconnect the BOV hose. (1x spring clamp)



08. Remove the stock hot-side pipe assembly from the vehicle.

09. Remove the spring clip from hot-side pipe coupling and transfer it over to the Mishimoto hot-side pipe push-on adapter. Spring clip must be installed in the 'engaged position', as shown, before pushing it onto the intercooler inlet port. You should hear and feel the spring clip click into position. Pull on the adapter to ensure the spring clip is engaged.



10. Install the turbo-side silicone hose with 2x high-torque worm gear clamps. Locate the polybag with 4x clamps; the single smallest clamp goes on the turbo end of the hose. Leave the clamps loose.

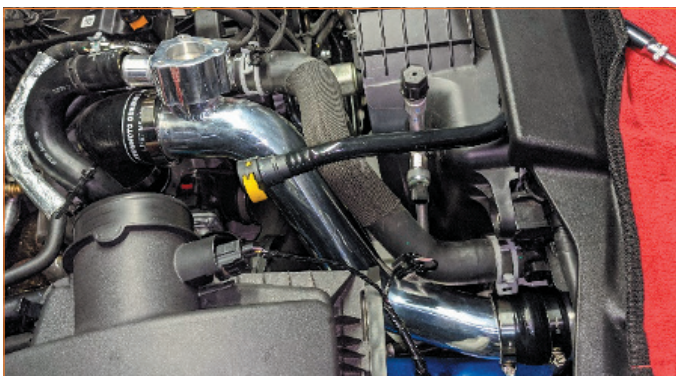
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11. Install the short silicone coupler with 2x larger clamps left in the 4-clamp polybag. Leave the clamps loose.



12. Install the aluminum pipe section and secure it to the engine block with the original 13mm bolt you previously removed. Do not fully tighten.



13. Align the pipe and silicone couplers. Adjust the clamps, ensuring they are seated between the white lines on each end of the silicone hose and are behind the beadroll/barb of the pipe, turbo port or CNC adapters. Fully tighten all 4x worm gear clamps and the 13mm bolt.

14. Install the blow-off valve with provided hardware. (3x 4mm M6 bolts, 3x locking washers)

15. Connect the blow-off valve hose with the original spring clamp. The hot-side intercooler piping install is now complete.



16. Disconnect vacuum fitting from the stock cold-side (driver side) pipe, close to the throttle body.



17. Disconnect the cold-side pipe from the intercooler following the same procedure as step 4.

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18. Loosen the worm gear clamp at the throttle body.

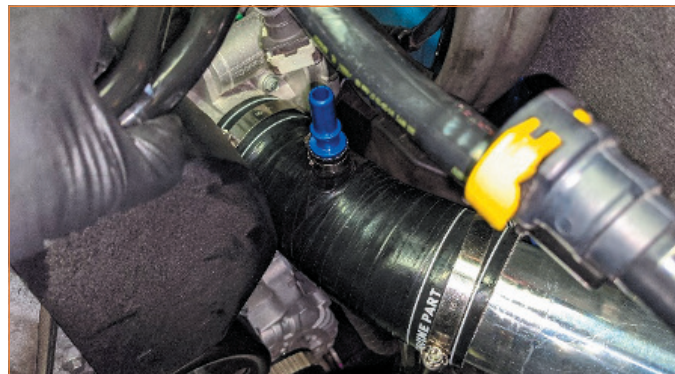


19. Remove the stock cold-side pipe assembly from the vehicle.

20. Install the Mishimoto cold-side pipe section, following the same procedure as step 9.



21. Install the cold-side silicone coupler with 2x high-torque worm gear clamps packaged in a separate polybag. Adjust the silicone hose, pipe, and clamps following the same procedure as step 13. Fully tighten all clamps.



22. Connect the vacuum line with the blue fitting on the cold-side silicone hose. The cold-side intercooler pipe install is now complete.



Congratulations! You have finished your installation.

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WARNING
Cancer and
Reproductive Harm
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This product can expose you to chemicals which are known to the state of California to cause cancer. For more information visit: www.p65warnings.ca.gov