



MKV SUPRA

# HEAT EXCHANGER

# Introduction

The goal of AMS Performance is to provide the highest quality, best performing products available. By utilizing research and development, and rigorous testing programs AMS Performance will never compromise the quality or performance of our products. In addition, AMS Performance will only provide the finest customer service offering only parts and advice that are in the best interests of the customer. AMS Performance was built on a foundation of integrity. This is who we are; this is what you can count on.

A vehicle modified by the use of performance parts may not meet the legal requirements for use on public roads. Federal and state laws prohibit the removal, modification, or rendering inoperative of any part or element of design affecting emissions or safety on motor vehicles used for transporting persons or property on public streets or highways. Use or installation of performance parts may adversely affect the drivability and reliability of your vehicle, and may also affect or eliminate your insurance coverage, factory warranty, and/or new OEM part warranty. Performance parts are sold as-is without any warranty of any type. There is no warranty stated or implied due to the stresses placed on your vehicle by performance parts and our inability to monitor their use, tuning, or modification.

These instructions are provided as a guide only as there are many variables that cannot be accounted for concerning your particular vehicle, including but not limited to model year differences, model differences, the presence of non-OEM parts, and modifications that may already be or were previously installed. A basic knowledge of automotive parts and systems is helpful but a better understanding of the parts and systems on your particular vehicle may be required.

If you have any questions or issues at any time during the installation of your AMS Performance product(s) please call us for technical assistance. The AMS Performance tech line can be reached during business hours at 847-709-0530 for AMS Performance products only.

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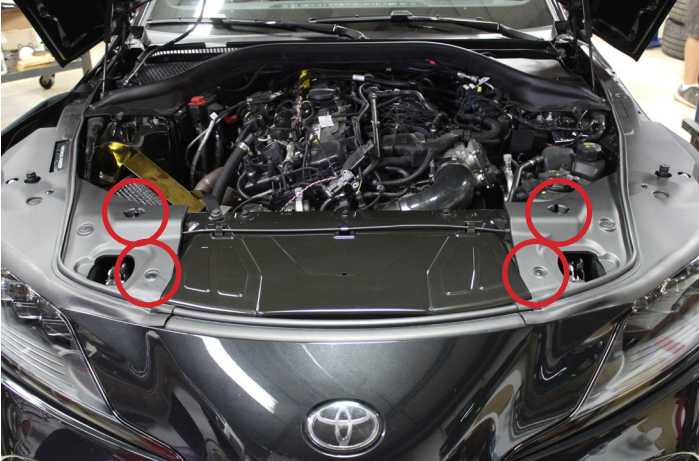
**04** Disassembly

**09** Install

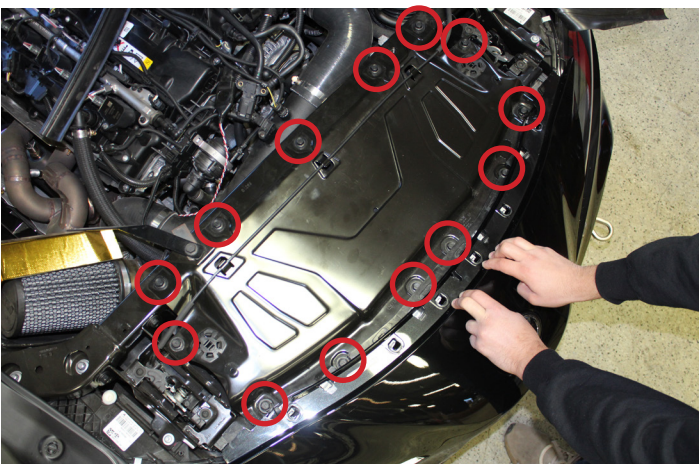
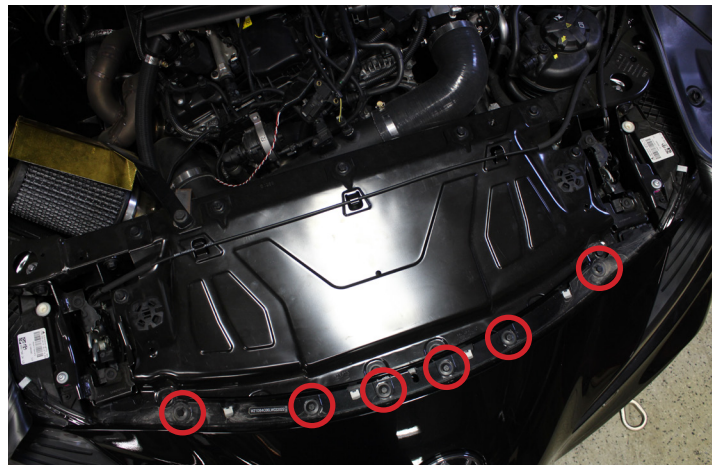
**10** Bleeding



1. Remove the 4 pin clips holding the plastic covers to the front cowl. This will allow the panels to be moved aside to gain access to the cover panels. Secure the panels with a bungie or tape to keep them out of the way.



2. Remove the front hood seal and the six 10mm bolts underneath. Gently pull the nose piece of the bumper free of its mounting clips. With that out of the way, you can gain access to the 13mm cover panel bolts. Loosen the four front bolts and remove the rest. Unclip the hood release cable and the panel will slide backwards and then pull up.



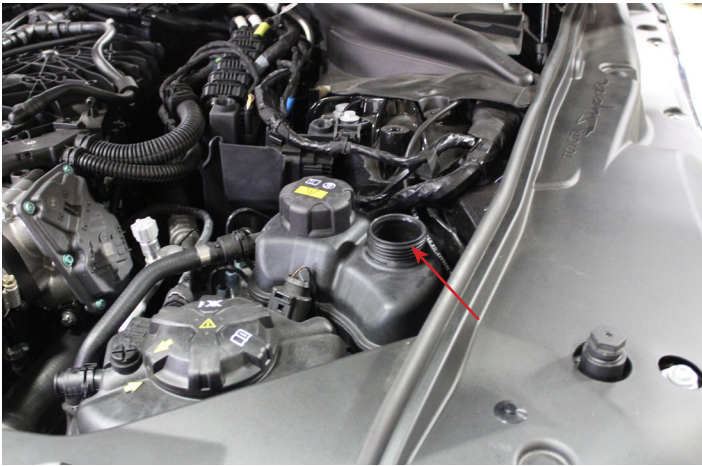


3. Next, remove the two T30 screws holding the plastic radiator cover in place. It is clipped into the fan shroud and will need to be unclipped to remove. If the cover is difficult to remove, try lifting up on the fan shroud slightly to create more clearance for the cover.





4. Remove the front plastic undertray. Remove the cap from the reservoir and place a drain pan underneath the lower heat exchanger fitting on the driver side of the car. Pry the spring clip back and slide the fitting down. Once all the coolant has drained, remove the upper fitting.



5. With both fittings removed, the factory heat exchanger can be lifted out.



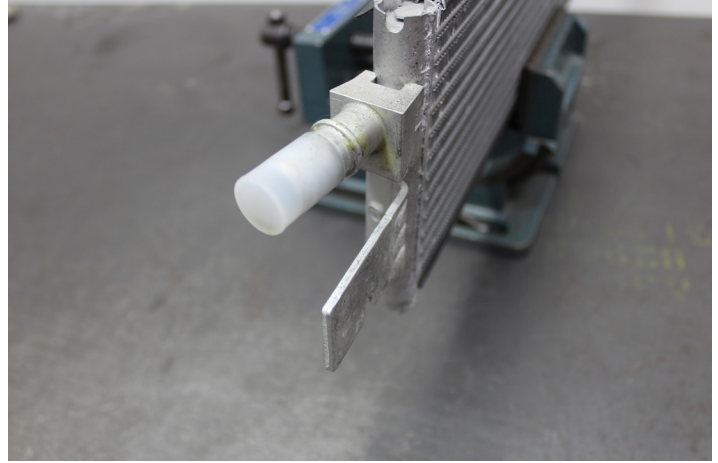
6. With the factory heat exchanger removed, the mounting brackets for the transmission cooler will need to be slightly modified to account for the extra width of the AMS heat exchanger. There are a few different ways to do this, explained in the following steps.

**\*TECH NOTE-** To achieve the most ideal results, it is recommended to remove the transmission cooler from the car and use a vice to bend the tabs as straight as possible. However, the tabs are thin enough to be bent by hand if you prefer to not remove the cooler fittings. If you choose to remove the cooler from the car, pry upwards on the green clips to release them and slide the fittings off the cooler. Cap the fittings on the cooler and use shop towels to prevent fluid spilling from the lines. Ideal fitment is achieved once the mounting tabs are flush with the rear face of the transmission cooler.





7. The pictures below illustrate how the mounting tabs need to be bent straight to bring the cooler forward. To do this without removing the lines, you will need to complete one side at a time. The mounting tabs sit in plastic clips attached to the core support, located directly under the fittings. Gently push the plastic tab forward by hand and lift the transmission cooler until it is clear of the plastic clip. The tab can be bent by hand until it is straight and flush with the rear face of the transmission cooler core. Once both tabs are straightened, the transmission cooler can be reinstalled in the plastic mounts.



8. With the transmission cooler modification complete, the AMS heat exchanger can be installed.





9. Once the AMS heat exchanger has been fitted, the rest of the installation is a reverse of the disassembly process. Make sure the heat exchanger fittings are properly clipped in place before installing any cover panels or refilling the system. All covers and hardware are installed back in their original locations.





## **BLEEDING**

Once the car is back together, you will need to vacuum bleed the system to ensure it is properly refilled. The intercooler system on these vehicles is difficult to bleed to avoid an “air lock” condition due to the intercooler being the highest point. Since the intercooler pump is not self-priming, it cannot move air. If one part of the system has an air pocket close to the pump, no coolant will flow. It is also important to know that damage may occur to the intercooler pump if it is run dry. Avoid this at all cost! Standard filling procedures will not work for this application. The method we prefer involves using a widely available system called an Air Lift or Vacuum Venturi System. These systems use compressed air to draw the cooling system under a vacuum and remove all the air from the system. The vacuum then draws in coolant into the entire system. Almost no bleeding is required after.

<https://www.matcotools.com/catalog/product/MCR103A/COOLING-SYSTEM-FILLER/>

<https://www.matcotools.com/catalog/product/MPT0445/COOLING-SYSTEM-ADAPTER-BMW/>

- Follow your tools manufacturer instructions for bleeding.
- After completion, test drive the vehicle and check the fluid level in the reservoir.
- Once the system is properly bled, Enjoy!

\*Track photos provided by Jackie Ding

