Mazda MX-5 Cup Car Technical Service Bulletin #2020-08-31

Updates will be marked Red. #2026-09-04

Optional: Mazda MX-5 Cup Cooling management tools

This TSB describes: The purpose of this TSB is to provide ND2 drivers and teams with additional cooling information that may be employed during very tight drafting conditions. A few drivers have experienced higher than normal coolant temperatures when involved with extremely close drafting. Extensive testing has confirmed that this is due to reduced air flow to the nose of the car combined with the higher heat generated by the more powerful ND2 engine. Please reference the engineering test report on the Flis Performance website for additional information.

Practical data and temperature management:

- During tight drafting with the increased RPM and HP additional heat is being generated by the ND2 engine, some cooling air must be provided to the nose of the car. Extensive testing has confirmed that when the trailing car runs greater than approximately 3 – 4' from the car in front, that there is then the minimal amount of air required to maintain a safe water temperature. Once the car-to-car distance is less than 3 or 4', there is then not enough air getting to the nose of the car to dissipate the additional heat generated at high RPM's and excessive water temperatures may occur.
- It is imperative that you monitor your coolant temperature and then manage the draft while at the same time providing cooling air to the car.

Some mechanical items to provide additional cooling capabilities:

- An optional higher-pressure radiator cap. This is to assist with water retention if coolant temperatures rise above the 215F mark. **Must use 16 psi, 19 psi or 30 psi radiator cap from Mazda Motorsports or Flis Performance. Highly recommended 30psi radiator cap - Part #0000-08-D242 - as show below. (PG 6)**
- Optional oil coolant line bypass. This option will keep the water pump housing cooler thus improving possible cavitation issues if a driver experiences excessive water temperature. **Competitor Information Bulletin #2026-06-07 - Recommended Replacement of Smaller Bypass Cap - LINK**
- Optional foam / tape up of the radiator ducting. This is to assists air flow through the radiator **only.** ~~It will be up the individual teams as to how much and exact placement of tape or foam, from between the grill and the face of the radiator surface.~~

  The intent of radiator taping is strictly to seal gaps and seams around the radiator so that air entering the radiator is directed through the radiator. This allowance is not intended to redirect airflow, alter the aerodynamic characteristics of the vehicle, or provide any performance advantage.

  No additional tape or foam may be used for enhanced engine inlet air flow or any aerodynamic advantage. It is strictly to allow for enhanced airflow to the radiator ONLY. **This tape must be WHITE in color ONLY, for inspection purposes. Tape may extend a maximum of 4" from the front side of the radiator fins.**
- Optional oil temp sensor – while this is always been an option for the ND1 and ND2 cars, it is suggested that the driver and team have access to the engine oil temperature data.
- **Optional under tray diffuser supplied by Flis Performance.**

Between session maintenance:

- It is imperative that the engine water level be checked after ***each*** session.
  - While this is more of a 'best practices' item, water that leaves the sealed system may not be fully reabsorbed back into the engine, therefore checking the coolant level must be checked after every session.
  - If the car loses even a small amount of coolant over several session, and is not refilled, the car will then be low on coolant (below the radiator cap) and contributing to further cooling issues.

Optional ND2 Oil Cooler Bypass Hose Delete

Competitor Information Bulletin #2026-06-07 - Recommended Replacement of Smaller Bypass Cap - LINK

Tools and Mazda parts needed

- **Tools for Removing Hose Clamps**
- **Panel Retainer Clip Removal Tool**
- **3/8 Drive Ratchet and 3/8 Drive 10MM Socket**
- **Phillips Head Screwdriver**
- **Coolant to Top Off System**
- **Drain Pan for Coolant**
- ~~**Cap = Mazda Part 0000-08-D237 (16 psi)**~~ **Highly recommended 30psi radiator cap - Part #0000-08-D242**
- **High-Pressure Cooling System Cap = Mazda Part 0000-08-D236 (19 psi) or Mazda part 0000-08-D242 (30 psi)**

Getting Started

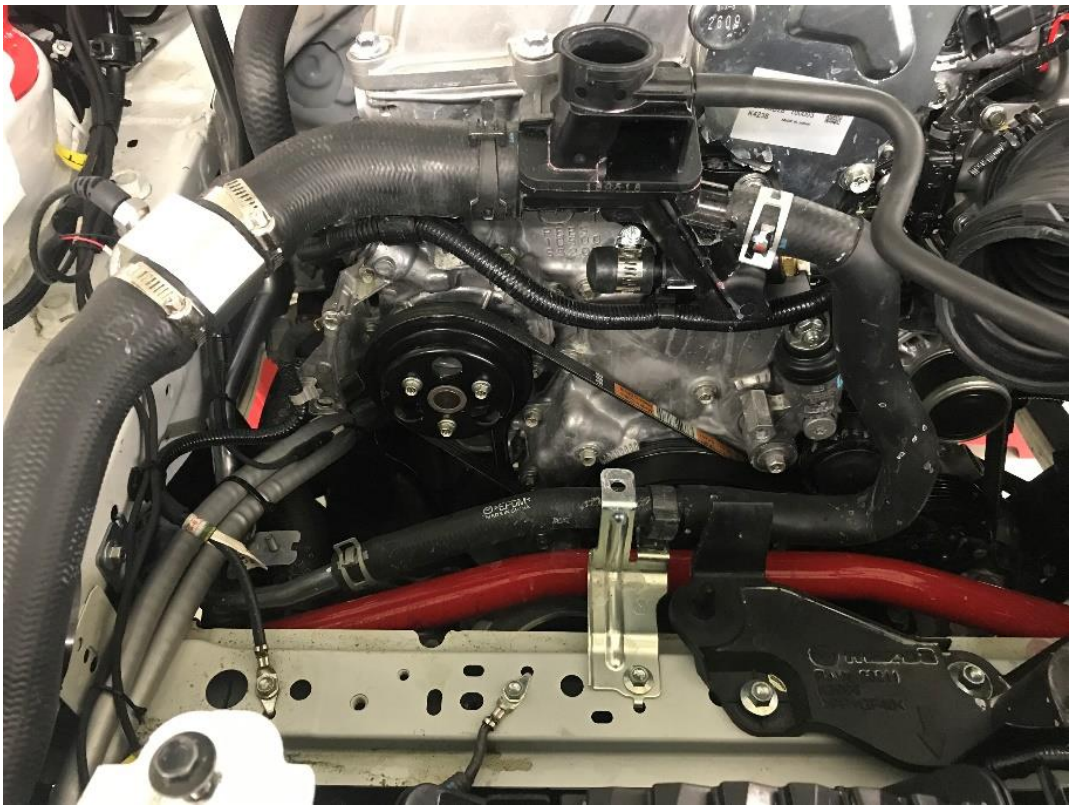
- **Follow all industry standards and use safety precautions. Never open a hot cooling system. Use safety glasses.**
- **Remove Floor Panel from Beneath Radiator to Allow for Draining of Coolant from System.**
- **Remove Cooling System Cap.**
- **Open Drain Petcock on Radiator.**
- **Drain Coolant Until Level is Below Upper Radiator Hose.**

Oil Cooler Bypass Hose Delete

The oil cooler bypass hose is located on the Thermostat/Water Pump Housing and is connected to the plastic cooling system cap housing located on the front of the engine. Removal of the hose will require installing caps (Mazda Part - 0000-08-D237) on the housings. It is important to service these caps in the same manner that any other hose in the cooling system would be serviced. Inspect caps between every on-track session and replace as needed.

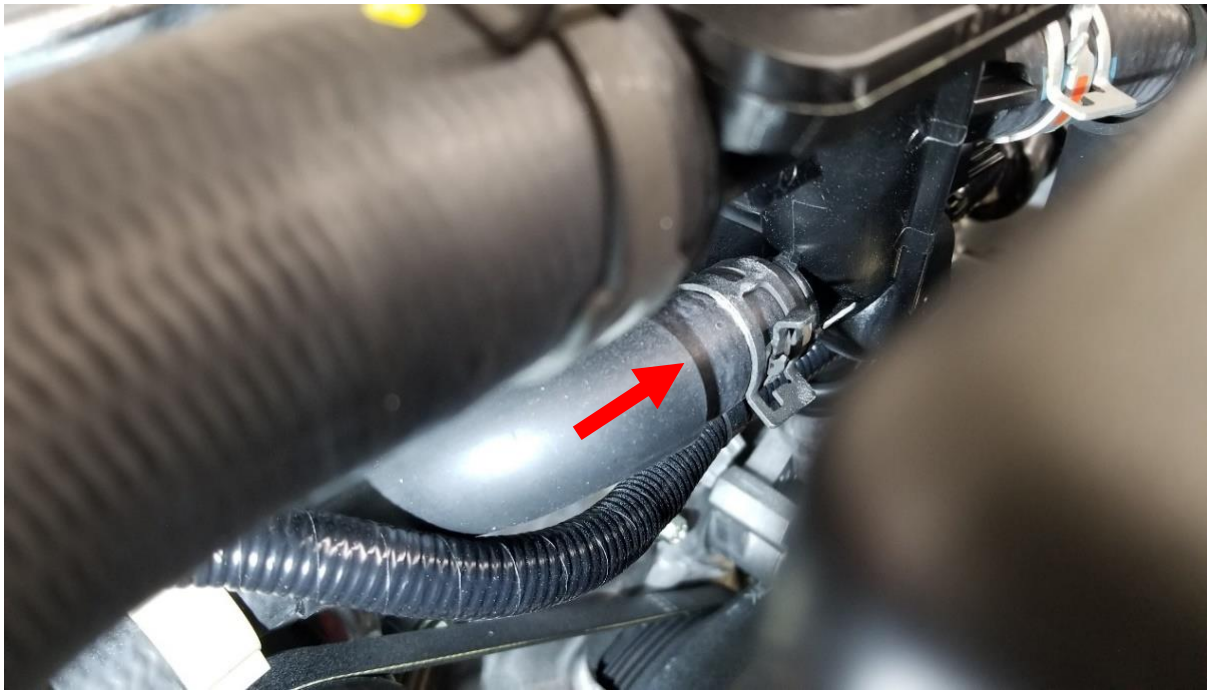
Step 1 – Access to Oil Cooler By-pass Hose

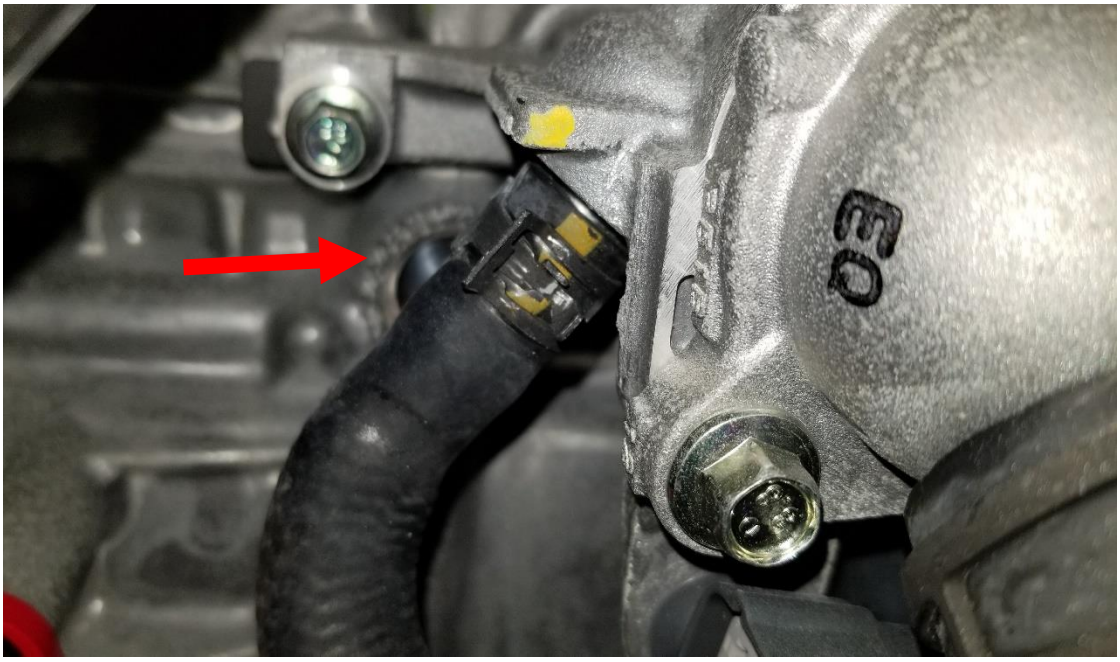
- **Remove Cooling System Catch Tank.**
- **Un-clip MAF Sensor Connector.**
- **Remove air intake hose.**
- **Use 10mm Socket to Remove Air Filter Housing Retaining Bolt.**
- **Un-clip top of Air Filter Housing and Remove.**
- **Remove lower section of air filter housing.**



Step 2 – Remove Oil Cooler Bypass Hose

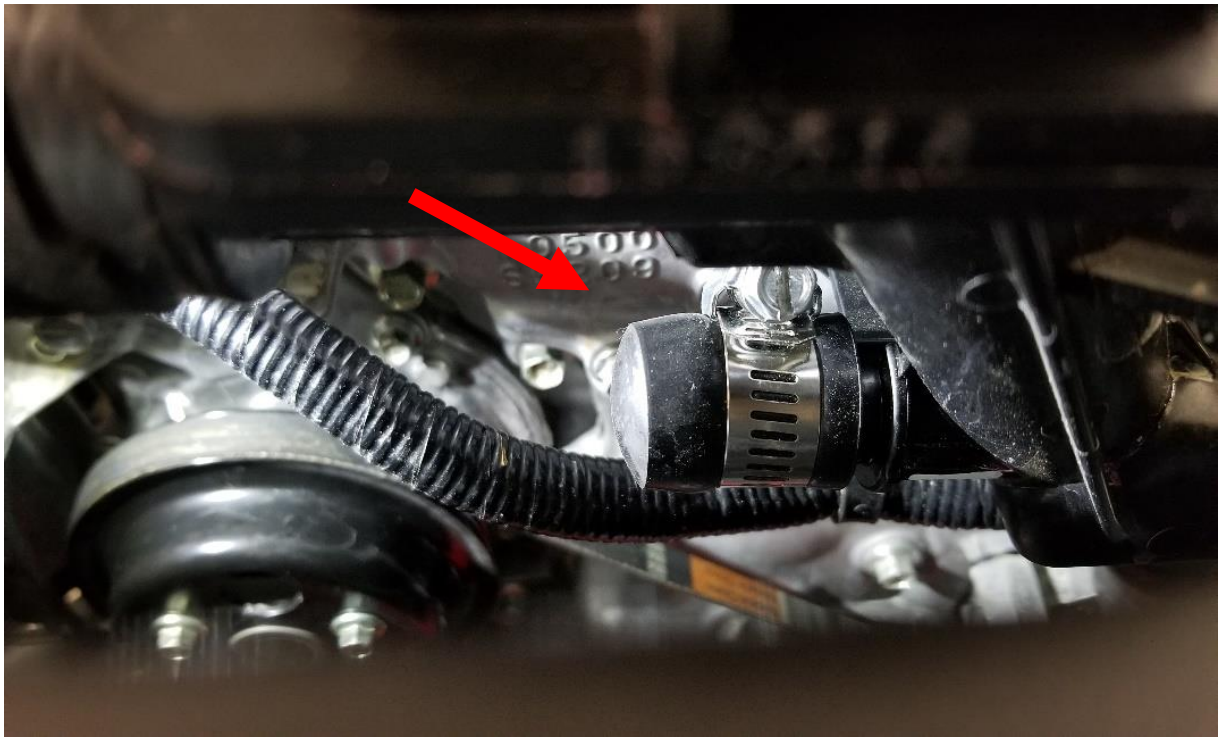
- **Remove pinch clamps from bypass hose at each end.**
- **Remove bypass hose. Some coolant may be present.**



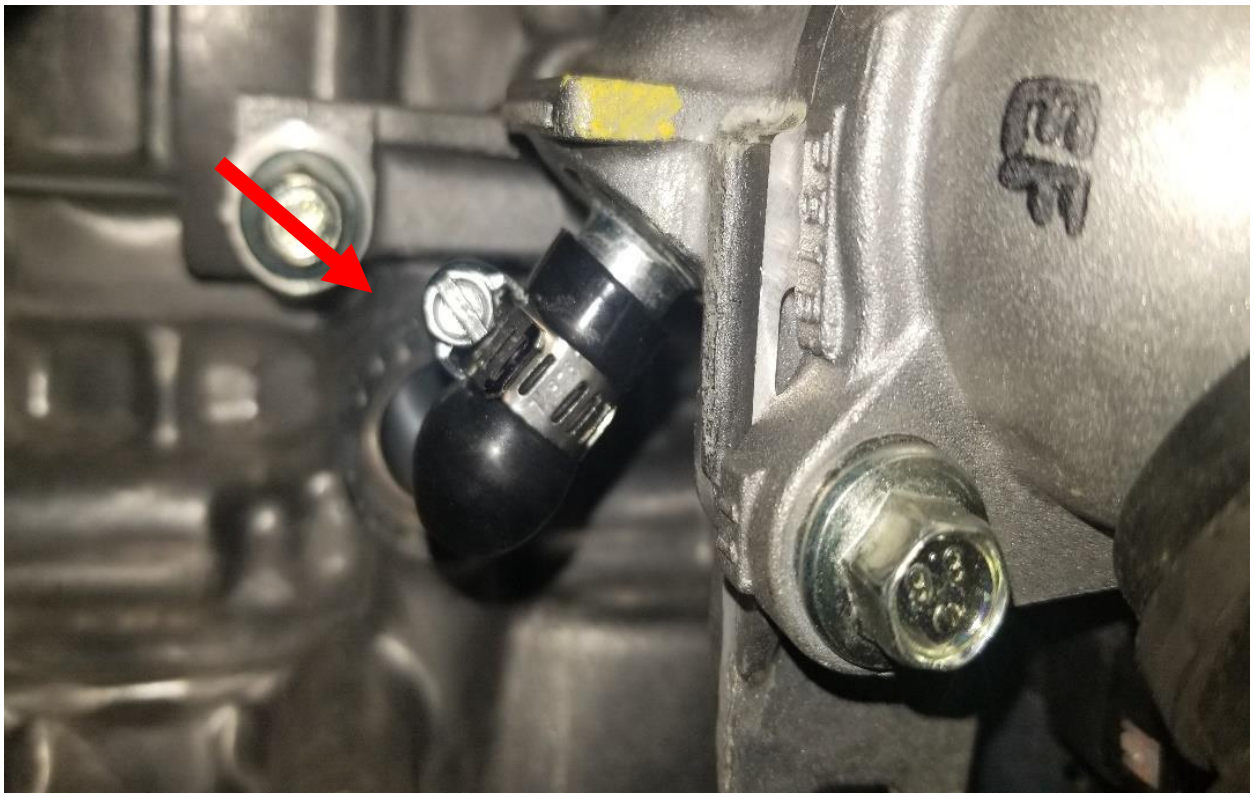


Step 3 – Cap Bypass Hose Connections

- **Place ½ inch cooling system bypass cap (Mazda Part - 0000-08-D237) onto cap housing nipple. Secure with Hose Clamp.**



- **Place 3/8 cap (Mazda Part - 0000-08-D237) on Thermostat/Water Pump Housing Nipple. Secure with Hose Clamp.**



Step 4 – Re-install Components

- **After Capping the Bypass Hose Connections, Re-install the Air Cleaner Box and Catch Tank.**

Step 5 – Refill Cooling System

- **Ensure that the Radiator Drain Petcock is tight.**
- **Refill Cooling System with Proper Mix of Cool-Aid and Distilled Water.**
- **Ensure that there are no Air Pockets in the System. Run Engine Until Thermostat Opens (188 - 190 Degrees F) and Check Coolant Level.**
- **Once System is Properly Filled, Install Updated High-Pressure Cooling System Cap (Mazda Part 0000-08-D236).**
- **Flis Performance recommends as of 08-28-2020 the Updated High-Pressure Cooling System 30 LB Cap.**

(Mazda Part 0000-08-D242)

Optional Radiator Ducting Tape and Foam Installation Instructions

Tools Needed

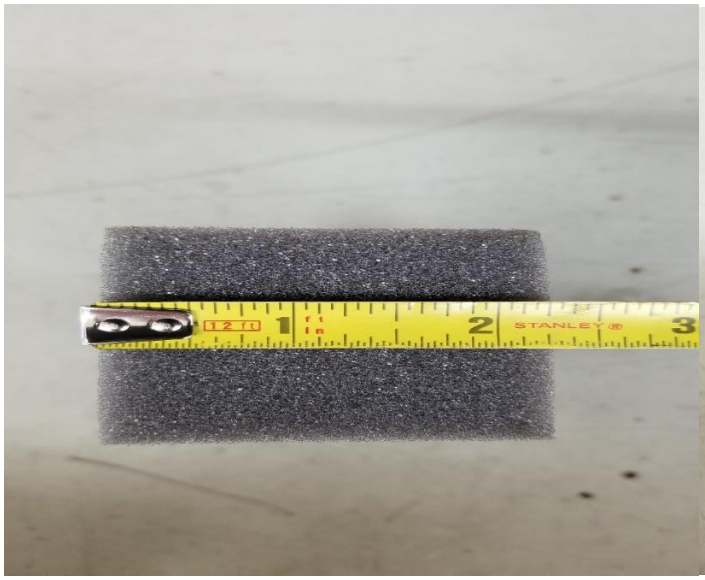
- **Tools to Measure and Cut Foam**
- **Hot Glue or Adhesive to Secure Foam to Floor Panel**
- **White Gaffer Tape**
- **Tools to Remove Front Bumper. Panel Clip Remover, 8mm Socket, Phillips Head Screwdriver**

Getting Started

- **Follow all safety precautions. Use safety glasses.**
- **Remove Front Bumper for Access to Radiator Ducting.**
- **Remove Floor Panel from Beneath Radiator if Not Already Removed.**

Step 1 – Radiator Foam

- **Type of Foam Used Is Open. Two Pieces Required.**
- **Type of Adhesive Used Is Open.**
- **Cut Foam to Fit Gaps Between Floor and Bottom of Radiator.**
- **Foam Used as Example Pictured Below.**



Step 2 – Foam Fitment and Installation

- **Check Fit of Foam Before Gluing to Floor Panel**

Step 3 – Glue Foam

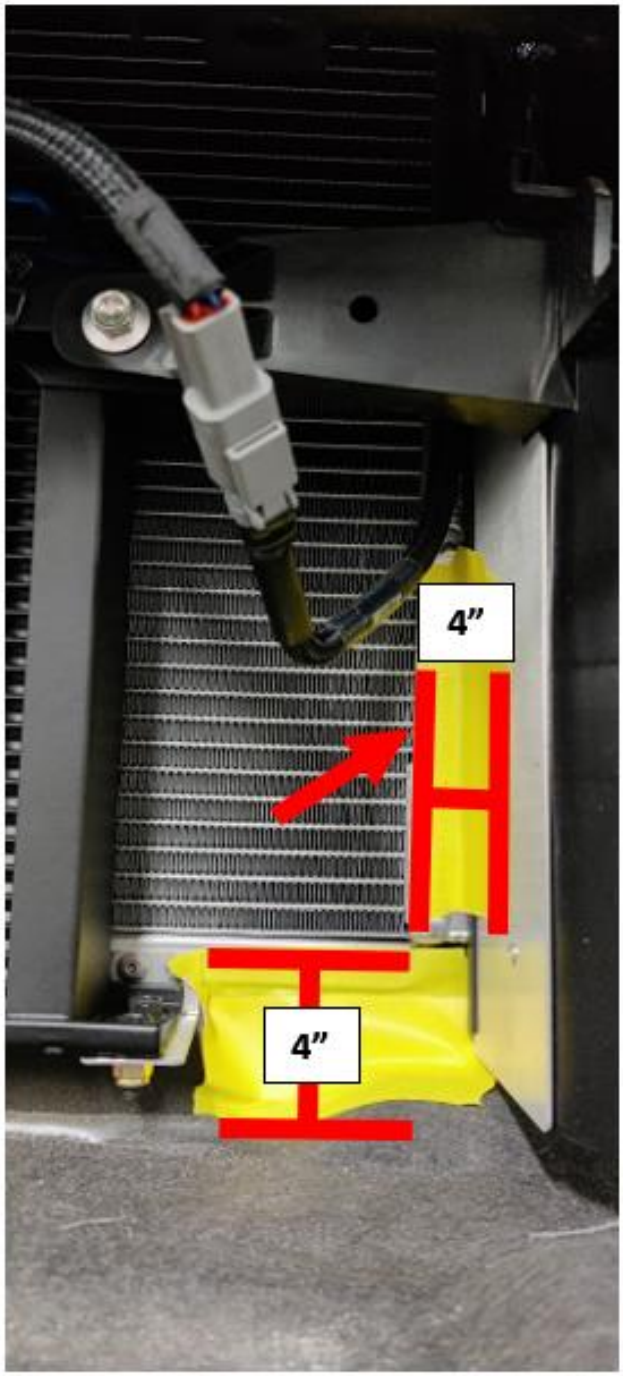
- **Using Adhesive, Glue Foam to Floor Panel in the Same Manner as the Factory Foam Piece.**

- **Once Foam Is secured, Re-install Floor Panel Beneath Radiator.**

Step 4 – Optional Radiator Ducting Tape and Re-assembly

- **Use of White Gaffer Tape Required.**
- ~~**Taping of Duct Work is open.**~~
- **Tape Up Gaps and Seams in Radiator Ducting.**
- **Pictures Below for Reference**
- **Re-Install Front Bumper**

NOTE: ~~This is to assists air flow through the radiator only. It will be up the individual teams as to how much and exact placement of tape or foam, from between the grill and the face of the radiator surface~~. ***No*** additional tape or foam may be used for enhanced engine inlet air flow or any aerodynamic advantage. It is strictly to allow for enhanced airflow to the radiator ONLY.



Starting point of the maximum 4” tape limit

Optional Diffuser Carpet Tray and Installation Instructions

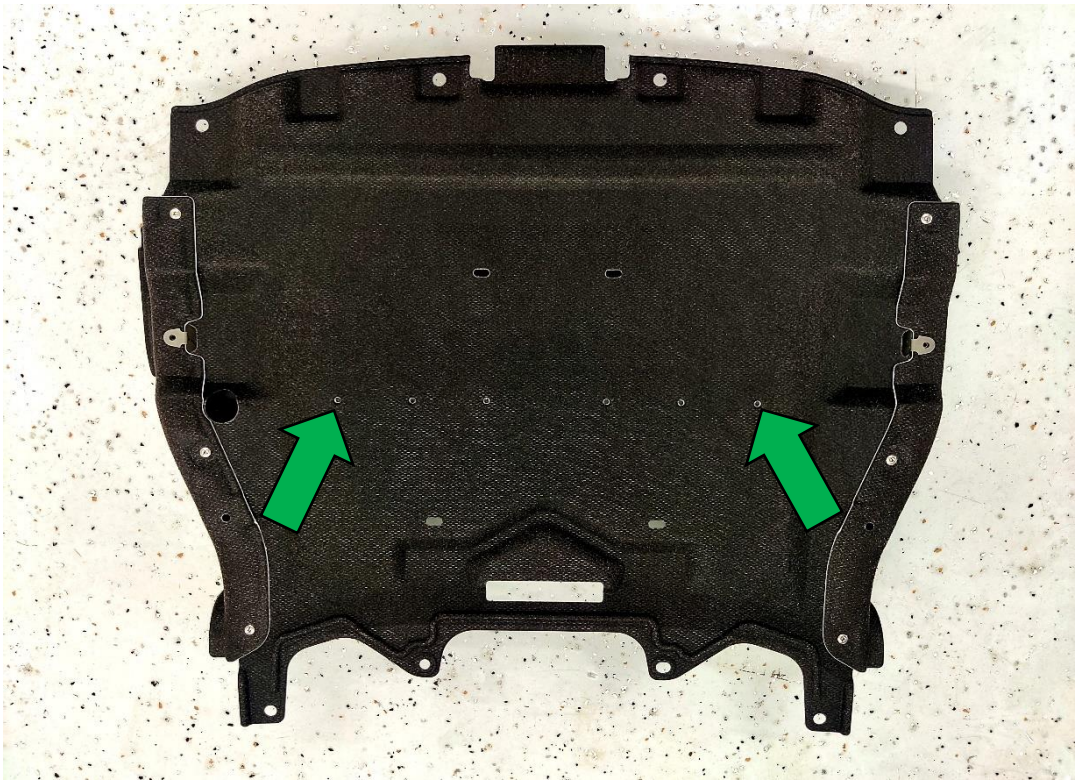
Tools Needed

- **Drill and 3/16” Drill Bit**
- **Tools to Measure and Cut**
- **Pop Rivet Gun**
- **8 Rivets**
- **8 Washers**

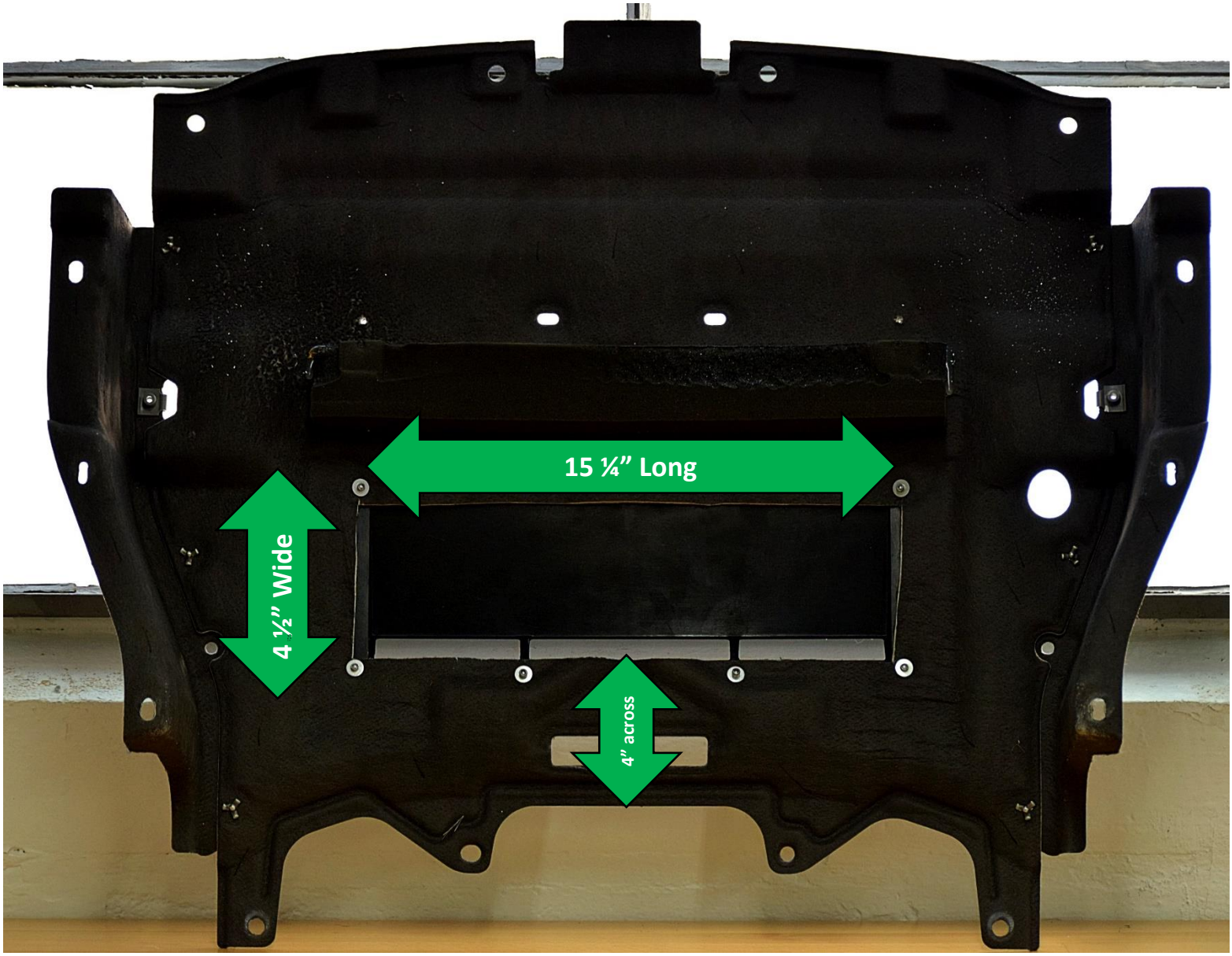
Getting Started

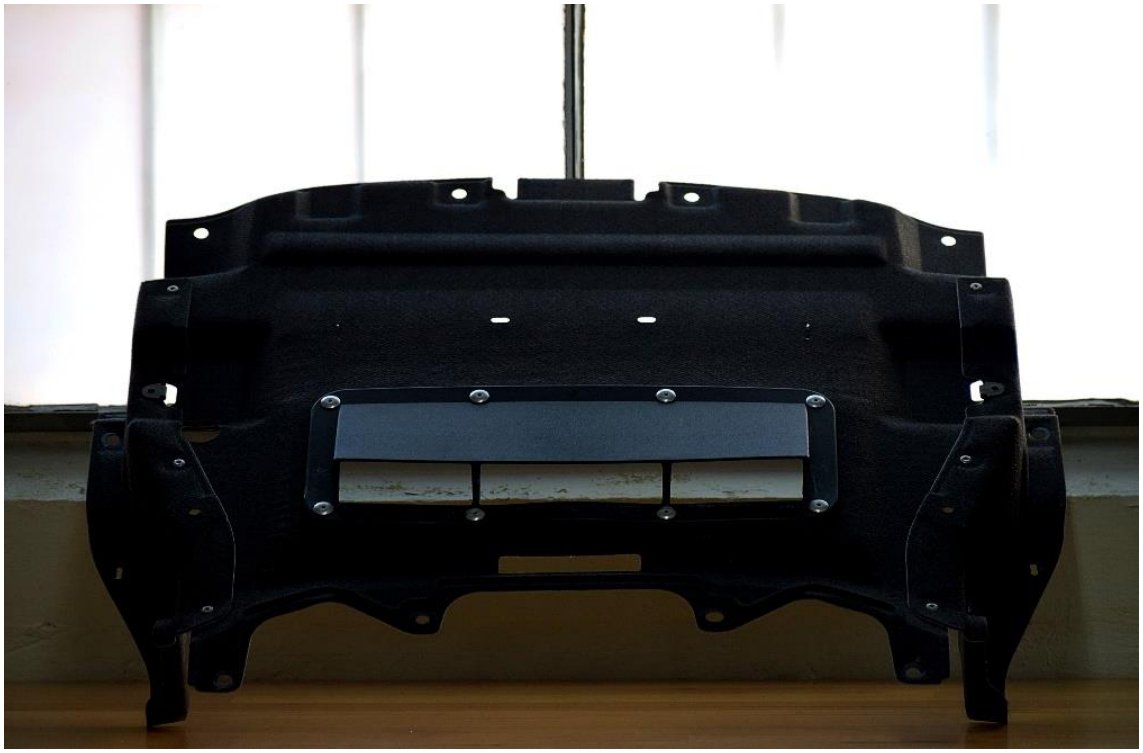
- **Follow all industry standards and use safety precautions.**
- **You will use the two factory holes on the outside of the carpet tray to align and pop rivets for your new diffuser. Then you will re-drill the remaining holes in the carpet tray and pop rivets. Please use the aluminum back up washers when riveting to the carpet tray. (See Picture below #A)**
- **Cut 15 ¼” - Long (See picture below #B)**
- **Cut 4 ½” Wide (See picture below #B)**
- **Make sure the edge of the top cut is 4 inches from the back of the carpet tray (See picture below #B)**

Picture #A



Picture #B





When exposed to extreme ambient/water temperatures, we recommend running the defroster heater core fan.

If you have any questions about this Technical Bulletin, please contact Flis Performance at:
ashli@flisperformance.com or 386-256-7021

Ashli Richardson

386-256-7021

ASHLI@FLISPERFORMANCE.COM

WWW.FLISPERFORMANCE.COM

106 ANITA AVE
DAYTONA BEACH, FL
32114

FLIS PERFORMANCE
DAYTONA USA

WHELEN
MAZDA
MX-5 CUP
PRESENTED BY MICHELIN
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