



BMW F3x N20 Intake System Installation Instructions



Proper service and repair procedures are vital to the safe, reliable operation of all motor vehicles as well as the personal safety of those performing the repairs. Standard safety procedures and precautions (including use of safety goggles and proper tools and equipment) should be followed at all times to eliminate the possibility of personal injury or improper service which could damage the vehicle or compromise its safety.

Installation and Safety Information [pg.3](#)
 Removing the Stock Inlet Pipes [pg.4](#)
 Installing the New Inlet Pipes [pg.7](#)

N20 Intake System - Enclosed

INSTALLATION NOTES

- **RH** refers to the *passenger side* of the vehicle.
- **LH** refers to the *driver side* of the vehicle.
- Always use the proper torque specifications.
- If applicable to this installation, torque specifications will be listed throughout the document and at the end as well.
- Please read all of these instructions and familiarize yourself with the complete process **BEFORE** you begin.

GENERAL PREPARATION AND SAFETY INFORMATION

Turner Motorsport cares about your health and safety, please read the following safety information. This information pertains to automotive service in general, and while it may not pertain to every job you do, please remember and share these important safety tips.

- Park your car in a safe, well lit, level area.
- Shut the engine off and remove the key from the ignition switch.
- Make sure any remote start devices are properly disabled.
- **ALWAYS** wear safety glasses.
- Make sure the parking brake is applied until the vehicle is safely lifted and supported.
- Whether lifting a vehicle using an automotive lift or a hydraulic jack, be sure and utilize the factory specified lift points.
- Lifting a vehicle in an incorrect location can cause damage to the suspension/running gear.
- **ALWAYS** support the vehicle with jack stands.
- **ALWAYS** read and follow all safety information and warnings for the equipment you are using.



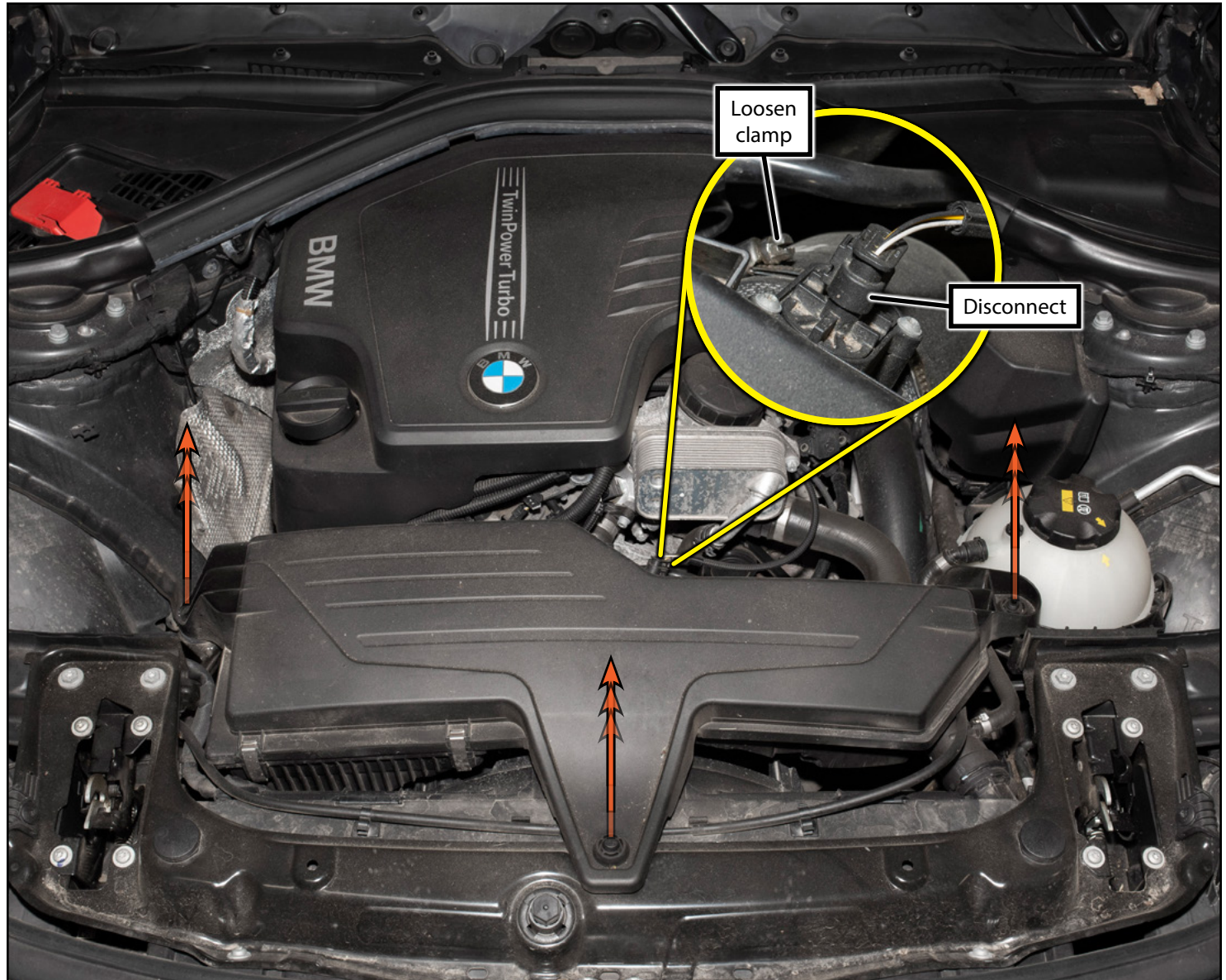
NEVER get underneath a vehicle that is supported only by a jack, and **ALWAYS** make sure that the vehicle is securely supported on jack stands.

DISASSEMBLY

Step 1:

Disconnect the MAF sensor connector on the back side of the air box, then loosen the hose clamp located just below it (**YELLOW** inset photo).

Pull upward on the air box at each of the three mounting grommets (arrows) to release them, release the intake coupler below it (the hose clamp we just loosened), then remove the air box from the vehicle.



DISASSEMBLY

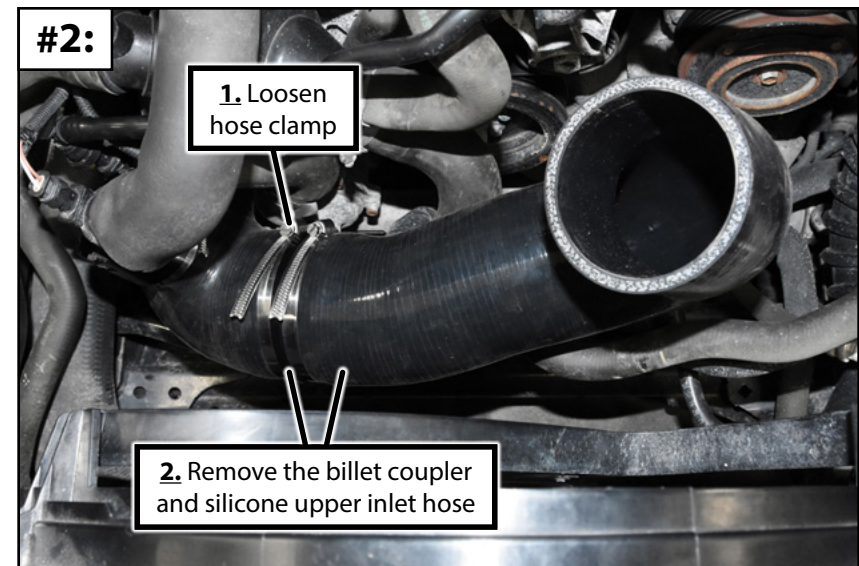
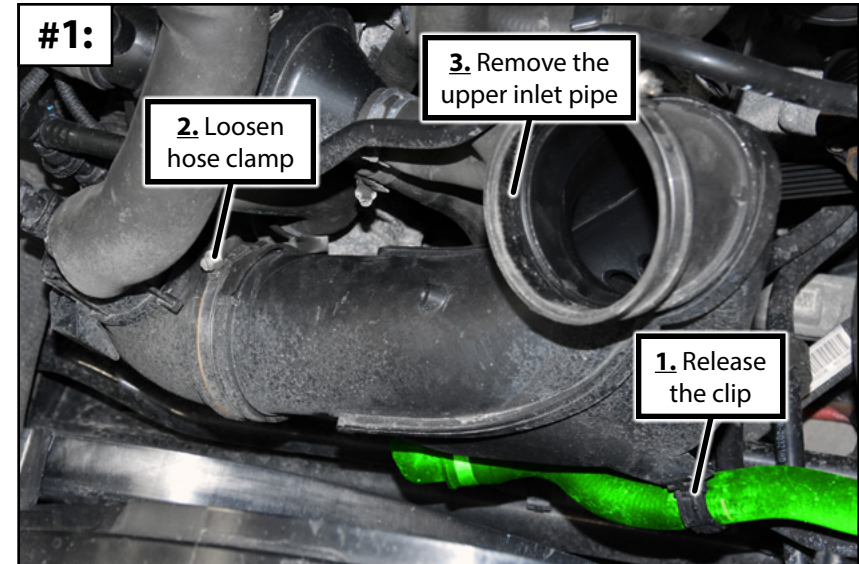
Step 2: Flat Head Screwdriver -OR- 6mm Socket & Ratchet

Stock turbo inlet (Photo #1):

1. Release the coolant hose (highlighted in **GREEN**) from the mounting clip on the upper inlet pipe.
2. Loosen the hose clamp.
3. Remove the upper inlet pipe from the engine bay.

Turner silicone turbo inlet:

1. Loosen the hose clamp.
2. Remove the billet hose coupler and the silicone upper inlet hose from the engine bay.



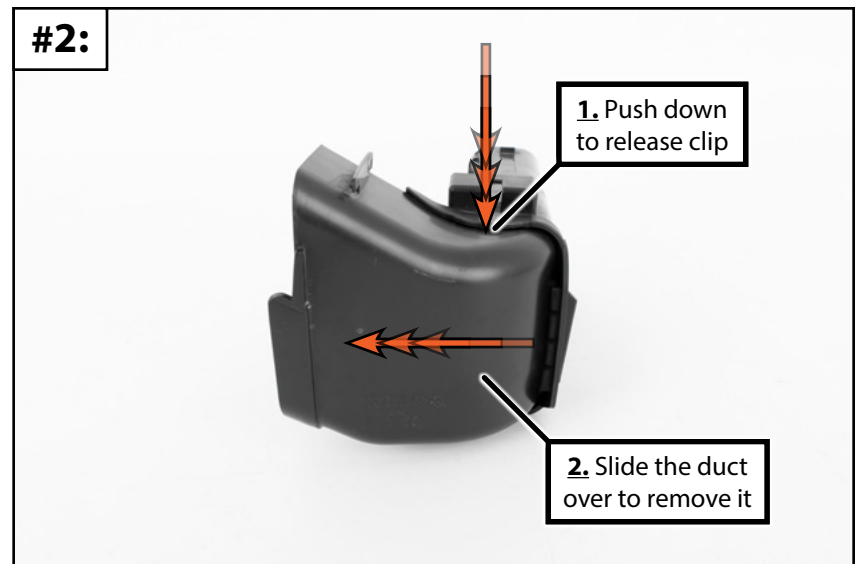
DISASSEMBLY

Step 3:

Finally, we need to remove the end of the intake duct (highlighted in **GREEN** in **Photo #1**) to make room for the new heat shield.

To do this you'll need to do the following (**Photo #2**):

1. Push downward on the top of the duct to release the clip.
2. Slide the duct toward the LH side of the vehicle to remove it.



INSTALLING THE NEW INTAKE SYSTEM

Step 1:

Using the photo and illustration on the right for reference, install the two standoffs into the heat shield with the provided hardware.

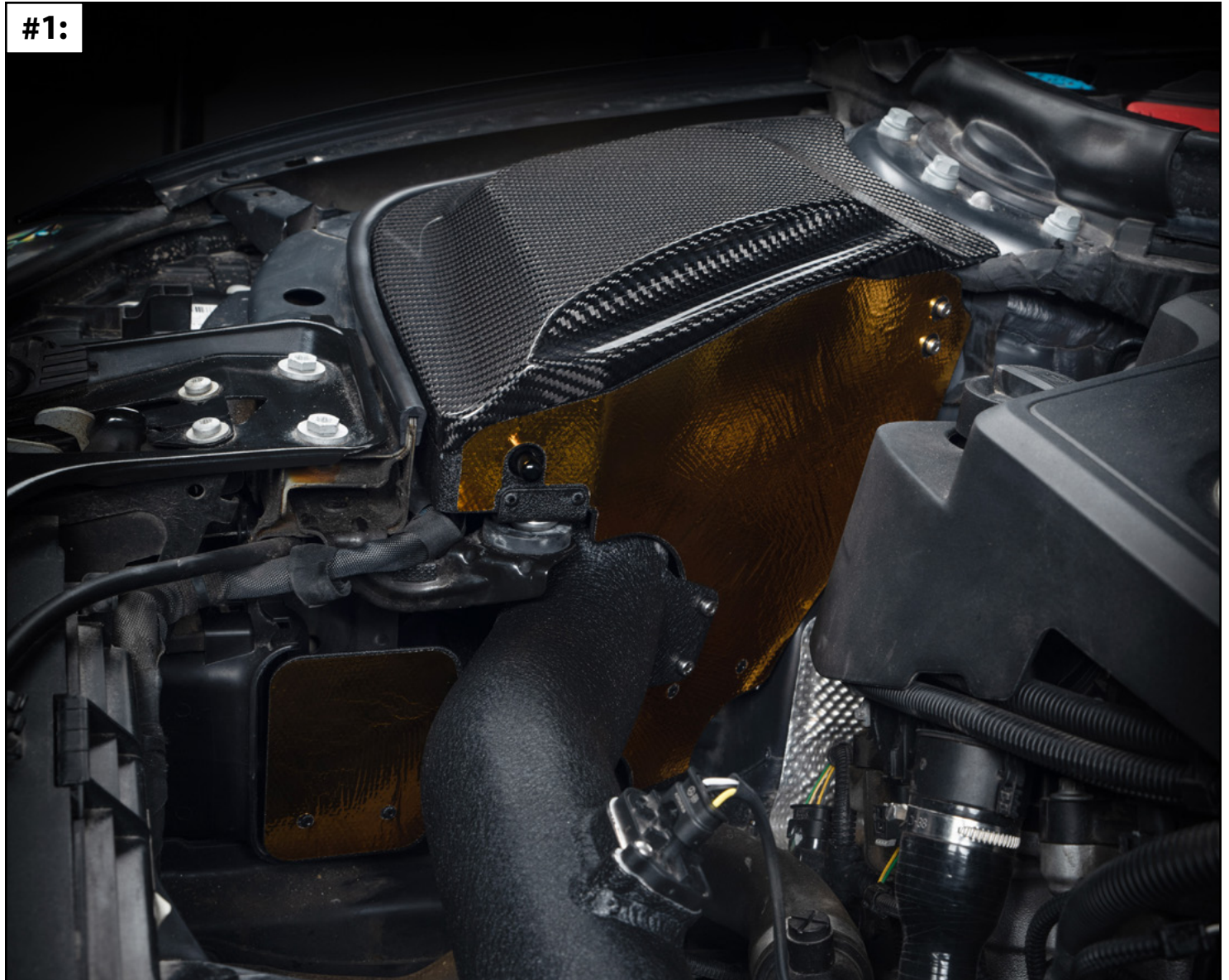


INSTALLING THE NEW INTAKE SYSTEM

Step 2:

Apply the Gold heat tape to the side of the heat shield (**Photo #1**). It's much easier to do this now **BEFORE** the heat shield is installed in the engine bay.

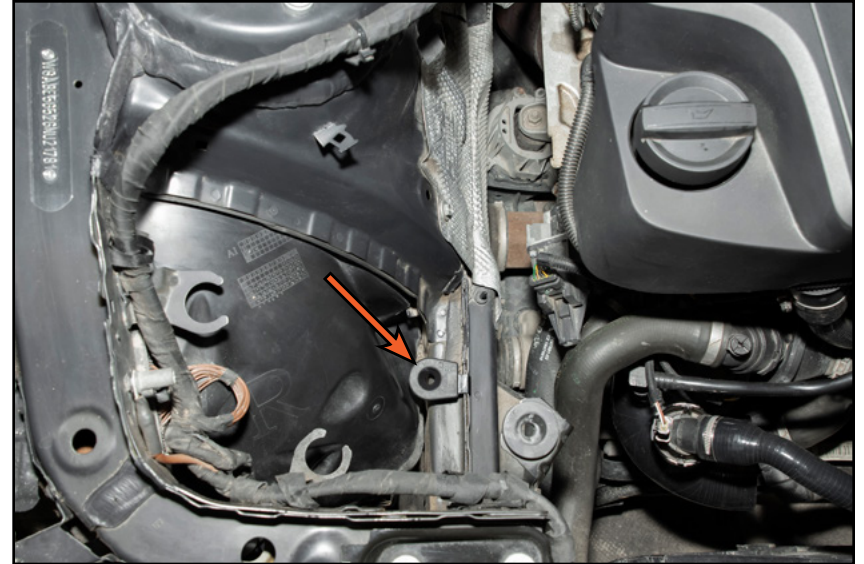
#1:



INSTALLING THE NEW INTAKE SYSTEM

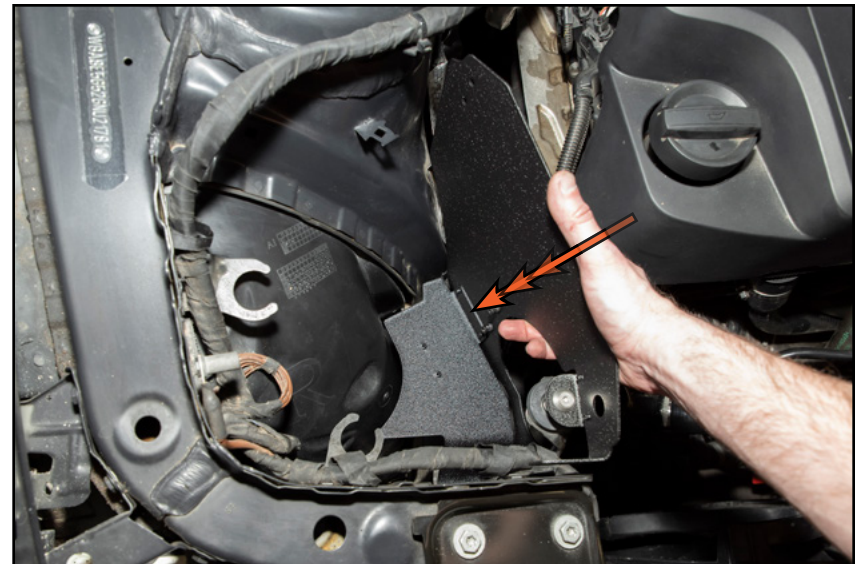
Step 3:

Clip the bottom support (arrow) onto the chassis just behind the RH headlight.



Step 4:

Install the heat shield into position. Be sure to insert the two standoffs into the rubber grommets

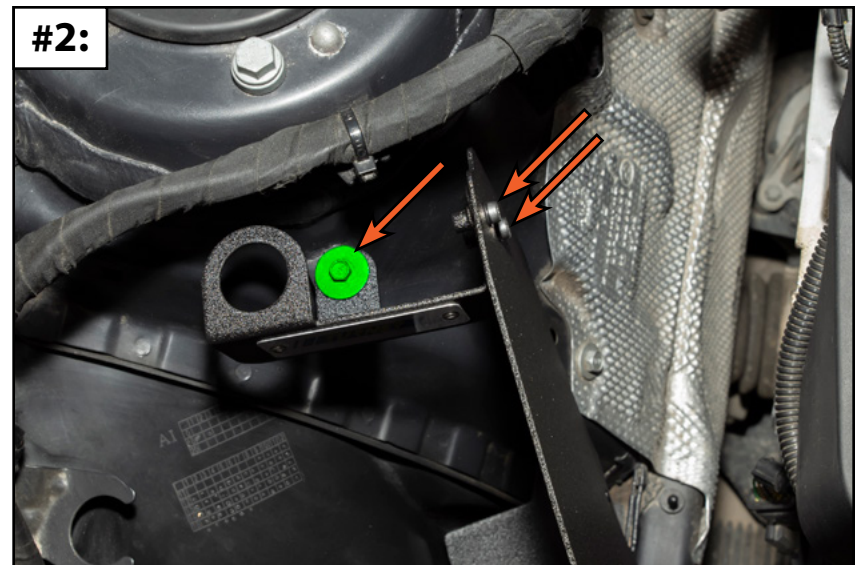


INSTALLING THE NEW INTAKE SYSTEM

Step 5: 8mm Socket & Ratchet, 3mm Hex (Allen)

Install the new expanding nut into the bracket on the RH strut tower (**Photo #1**). These can be a rather tight fit, if you have trouble getting it to seat with your hands you could try using channel locks and a socket which is large enough for the nut to slip into without interference (**YELLOW** inset photo).

Install the support bracket between the heat shield and the expanding nut we installed in step 3 (**Photo #2**). We're installing the support bracket for an enclosed system, if you purchased the open system your bracket will look slightly different.



INSTALLING THE NEW INTAKE SYSTEM

Step 6:

ENCLOSED systems only:

Remove the fur tree clip which secures the wiring harness to the RH strut tower and flip it over. This will pull the harness slightly downward, making it easier to install the carbon fiber air box lid.



Step 7: T20 Torx, 2.5mm Hex (Allen)

ALL systems:

Remove the MAF from the stock intake pipe (arrows in **Photo #1**). Install the MAF into the new intake pipe using the provided M4 screws (arrows in **Photo #2**).



INSTALLING THE NEW INTAKE SYSTEM

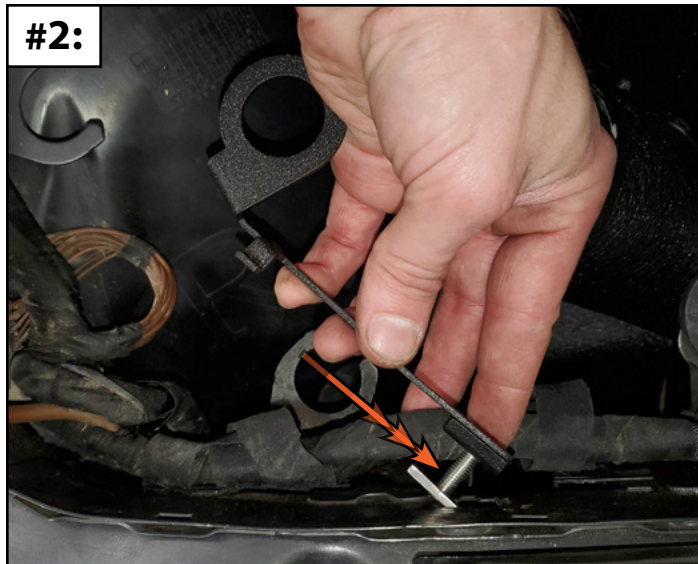
Step 8:

Using the photos on the right for reference, assemble and install the front support bracket.

#1:



#2:



#3:



INSTALLING THE NEW INTAKE SYSTEM

Step 9: 3mm Hex (Allen)

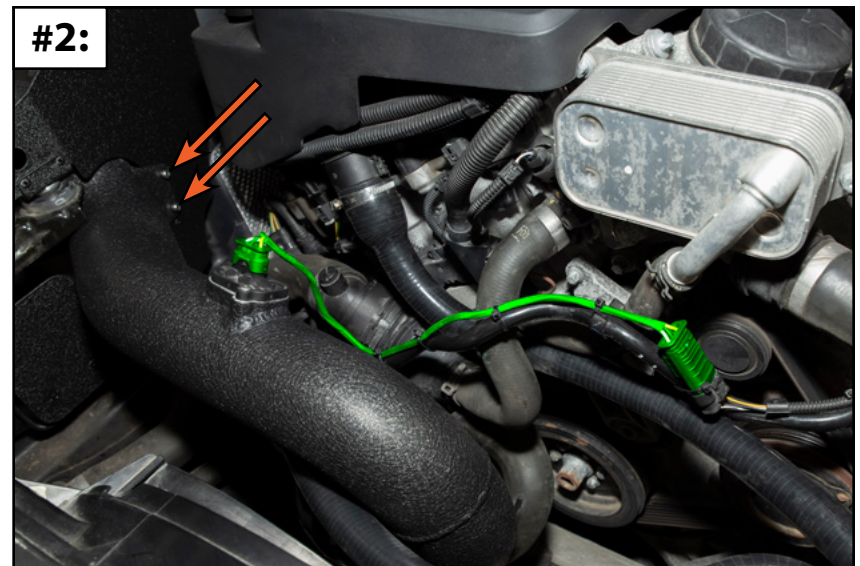
ENCLOSED systems only:

Install the provided grommets (arrows in **Photo #2**) into the air box lid support brackets.

ALL systems:

Install the intake pipe into place (**Photo #1**). Secure the intake pipe to the heat shield using the provided M5 bolts and flat washers (arrows in **Photo #2**).

Connect the provided wiring harness extension (highlighted in **GREEN** in **Photo #2**) between the engine harness and the MAF sensor.



INSTALLING THE NEW INTAKE SYSTEM

Step 10:

ENCLOSED systems only:

Align the carbon fiber lid so that the side stud slides into the side of the heat shield (**Photo #1**), then push downward to pop the other two mounting studs into the grommets, securing the lid in place (**Photo #2**).

#1:**#2:**

Your Intake System installation is complete!



These instructions are provided as a courtesy by Turner Motorsport

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