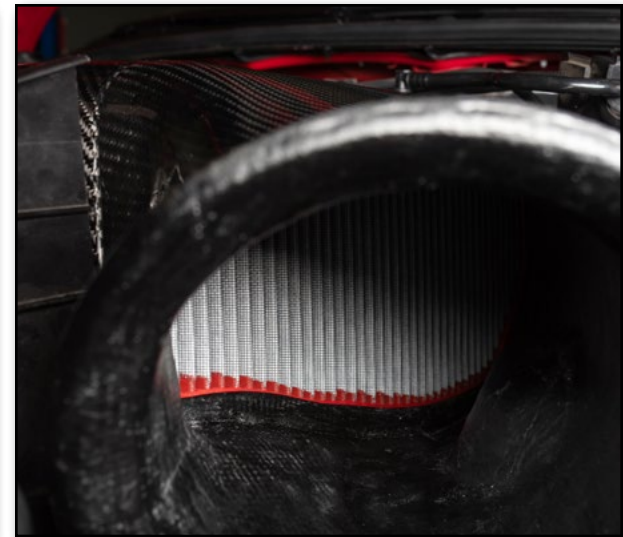
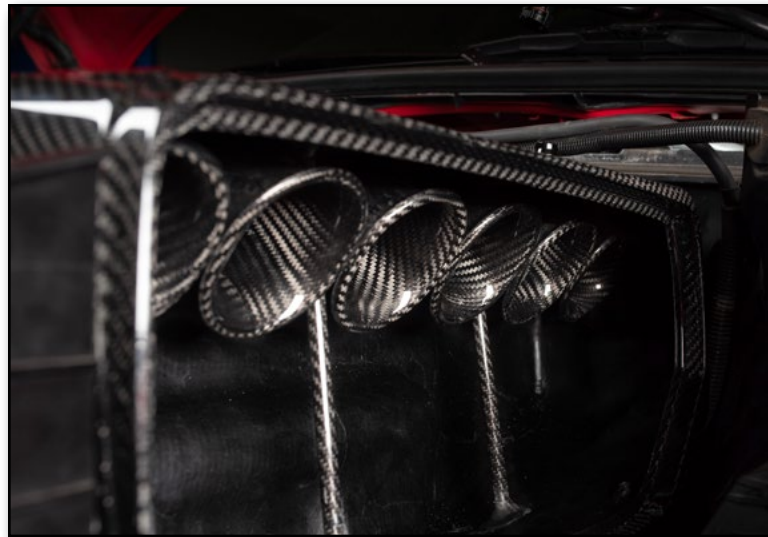




BMW E46 M3 CSL-Style Intake System Installation Guide



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.

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OPTIONAL REPLACEMENT PARTS



CSL Engine Oil Dipstick Tube - **QTY 1**
(replaces the stock tube, mounts
beneath the CSL plenum)



CSL Engine Oil Dipstick - **QTY 1**
(replaces the dipstick, mounts
beneath the CSL plenum)



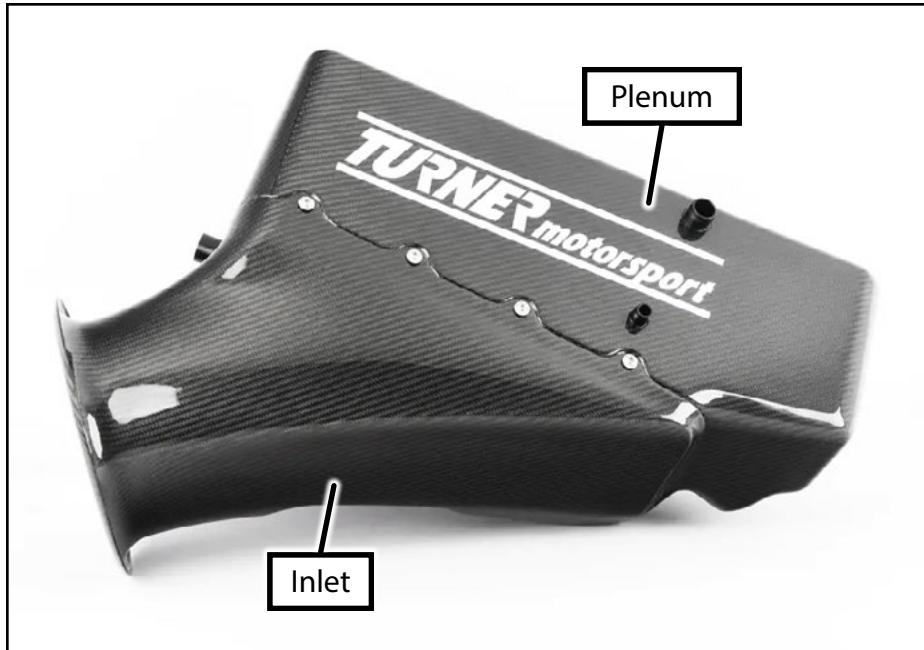
CSL SMG Expansion Tank* - **QTY 1**
(replaces the stock SMG
expansion tank, mounts to
the LH strut tower)



CSL SMG Tank Bracket* - **QTY 1**
(relocates the SMG expansion
tank to the LH strut tower to
make room for the CSL plenum)

*For SMG-equipped vehicles only,
see [Page 29](#) for more information

KIT CONTENTS



CSL-Style Plenum & Inlet - **QTY 1**
(available in gloss or matte carbon fiber)



CSL Air Filter - **QTY 1**
(fits perfectly inside the CSL plenum)



Solenoid Mounting Bracket - **QTY 1**
(secures the solenoid beneath the plenum)



CSL Air Shut Off Valve - **QTY 1**
(replaces the stock shut off valve)



CSL Crankcase Vent Pipe - **QTY 1**
(replaces the stock vent pipe)



Rubber Air Box Mount - **QTY 2**
(mounts the CSL plenum to the engine)



M6 Flange Nut - **QTY 2**
(secures the CSL plenum to the engine)



Intake Air Temp Sensor - **QTY 1**
(replaces the stock sensor)



IAT Sensor Relocation Harness
(adapts and extends the IAT sensor)



Throttle Body Couplers
(to replace the stock rubber couplers)



50-70mm & 60-80mm Hose Clamps
(to secure the couplers to the engine)

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.

REMOVING THE STOCK INTAKE SYSTEM

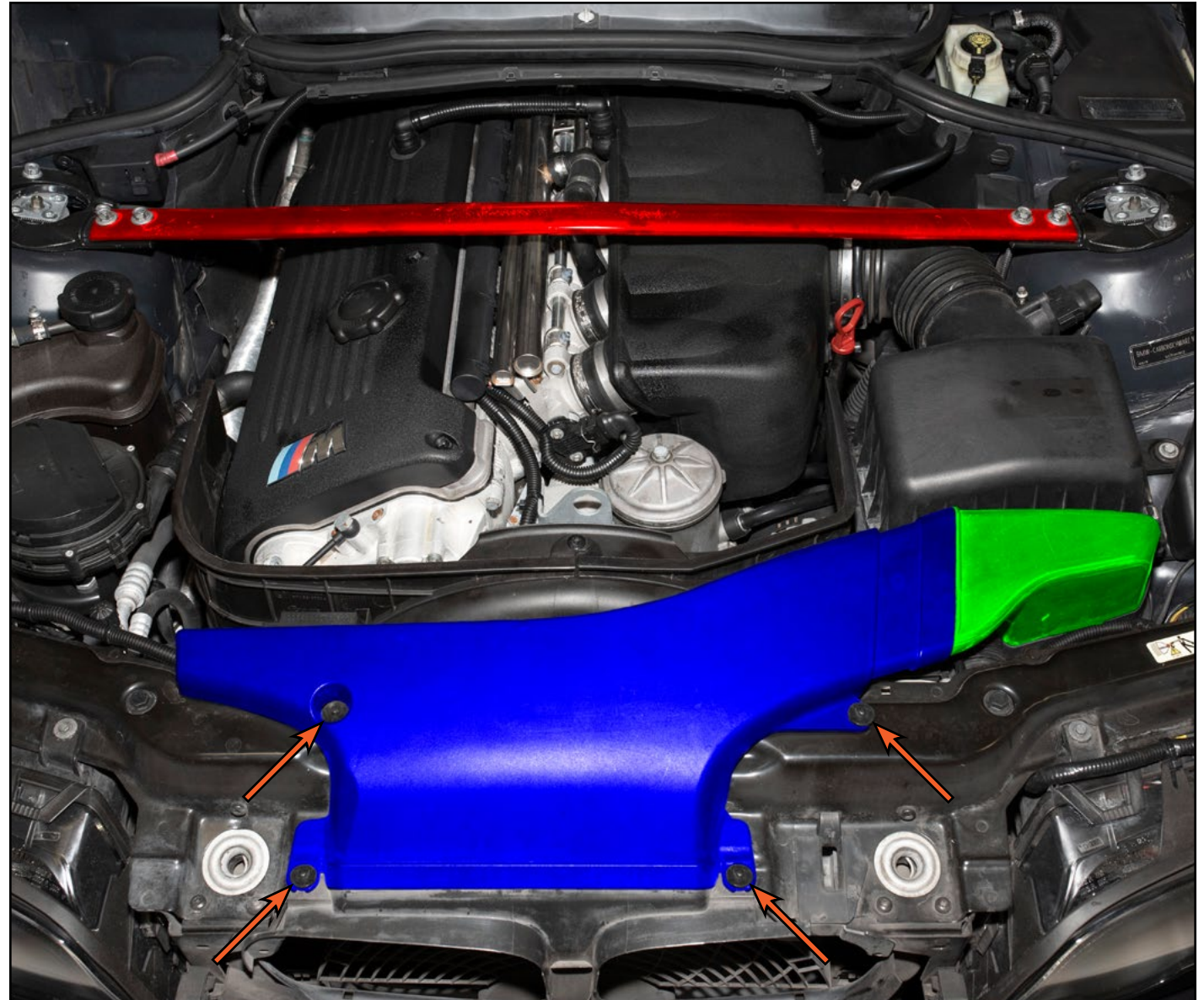
Step 1:

Disconnect the negative (-) battery terminal (not shown).

Remove the four 13mm nuts which secure the strut tower brace (highlighted in **RED** in the photo on the right).

Remove the plastic push rivets (arrows) which secure the intake air duct (highlighted in **BLUE**) into place. Needle nose pliers work really well for these clips, especially the one recessed inside the scoop.

Lift the inlet duct (highlighted in **GREEN**) upward to remove it from the air filter housing.



REMOVING THE STOCK INTAKE SYSTEM

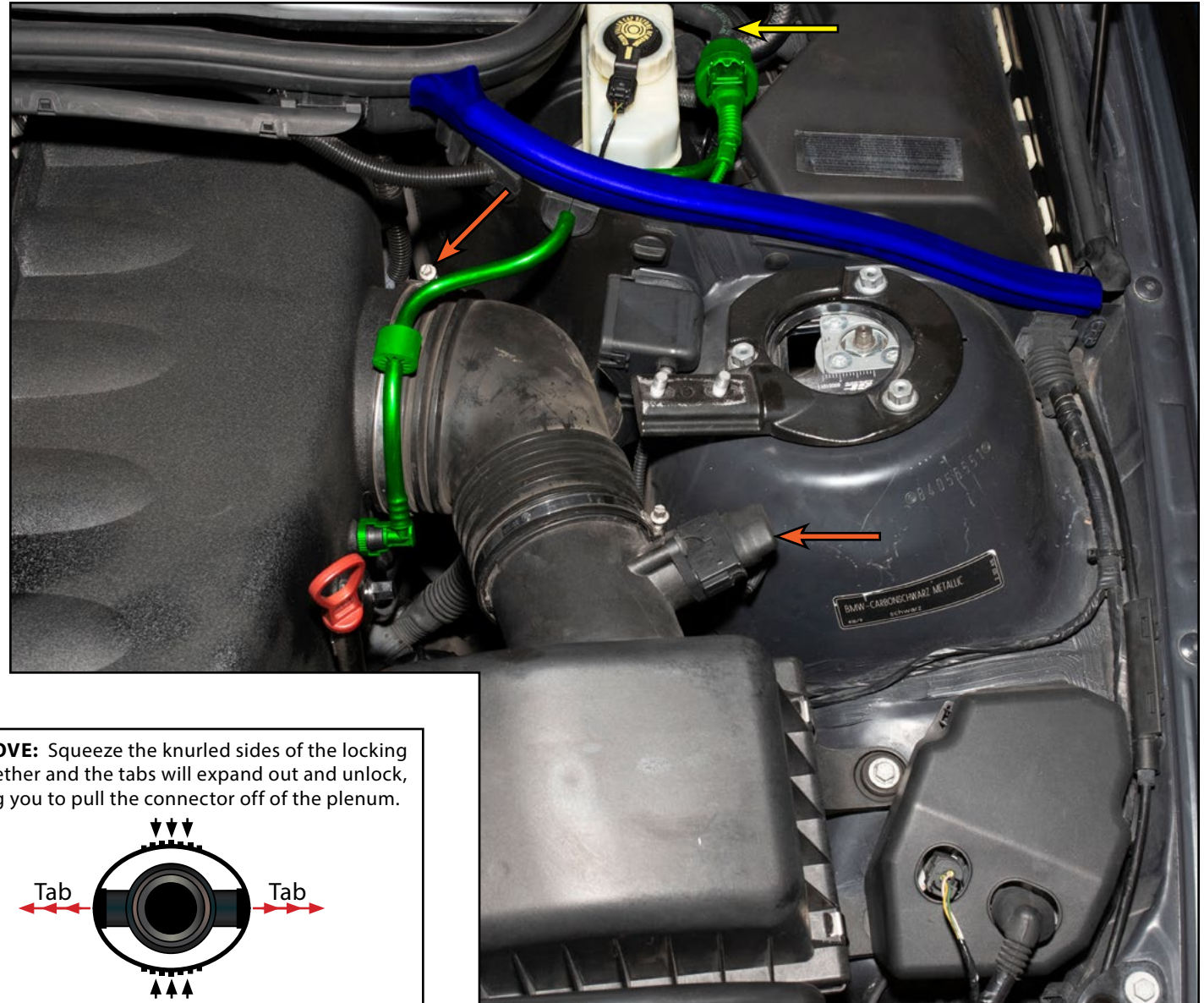
Step 2:

Disconnect the air shut off pipe (highlighted in **GREEN** in the photo on the right) from the stock plenum as described in the illustrations below.

Release the electrical connector from the air shut off valve, then remove the valve from the rubber hose (**YELLOW** arrow).

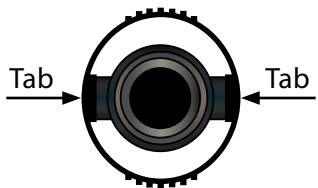
Lift the cowl seal upward (highlighted in **BLUE**), then remove the air shut off valve assembly from the vehicle.

Loosen the hose clamp which secures the coupler to the plenum, then disconnect the MAF sensor (**ORANGE** arrows).

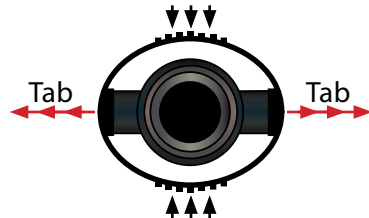


NORMAL INSTALLED STATE:

The tabs keep the hose "locked" onto the fitting.



TO REMOVE: Squeeze the knurled sides of the locking ring together and the tabs will expand out and unlock, allowing you to pull the connector off of the plenum.



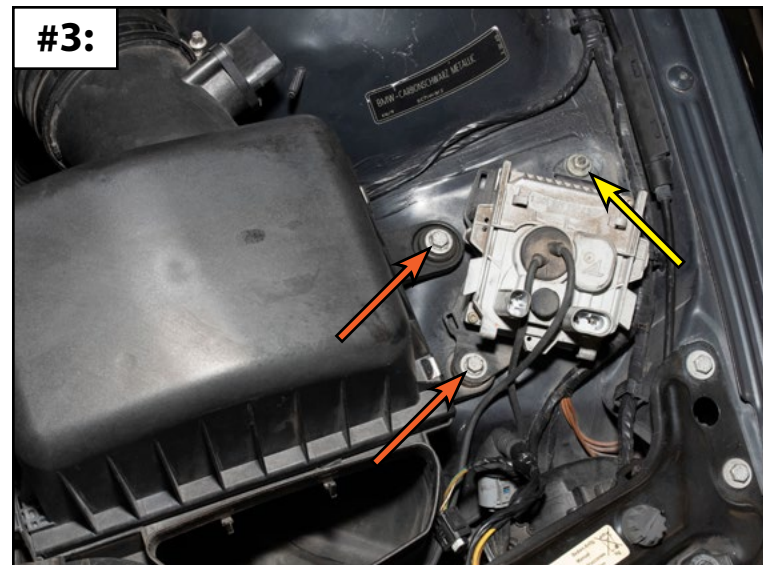
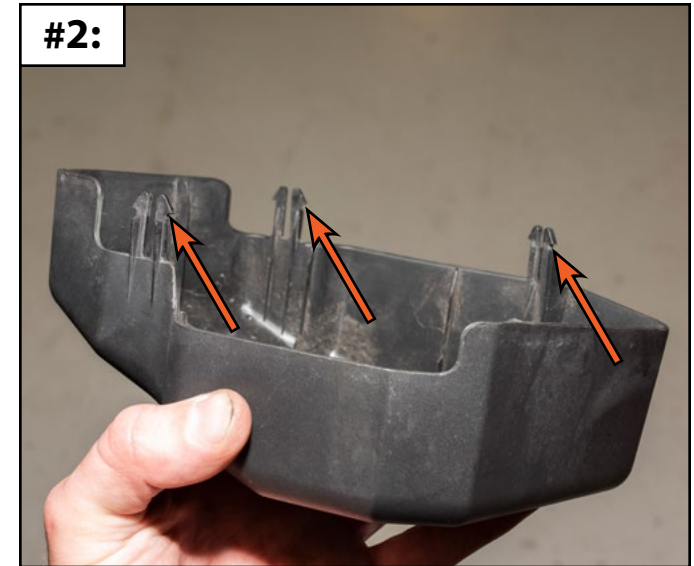
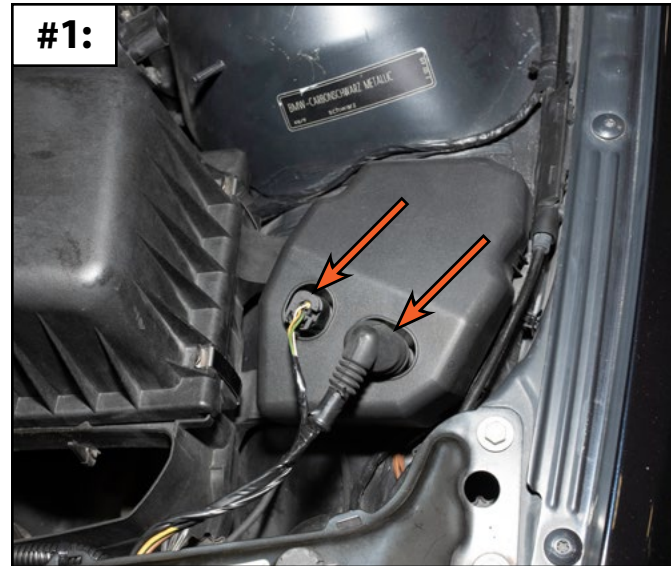
REMOVING THE STOCK INTAKE SYSTEM

Step 3:

Release the harness connectors from the LH xenon ballast, located just in front of the LH strut tower (**ORANGE** arrows in **photo #1**).

Release the clips which secure the plastic cover onto the LH xenon ballast (**ORANGE** arrows in **photo #2**). These clips can be tricky to see, let alone reach. Try using a small 90° pick to apply gentle pressure to the clips while you carefully lift upward on the cover.

Remove the two 10mm bolts from the LH xenon ballast (**ORANGE** arrows in **photo #3**), then loosen the 10mm nut (**YELLOW** arrow in **photo #3**). Swing the ballast out of the way to make room for the air filter housing to be removed.



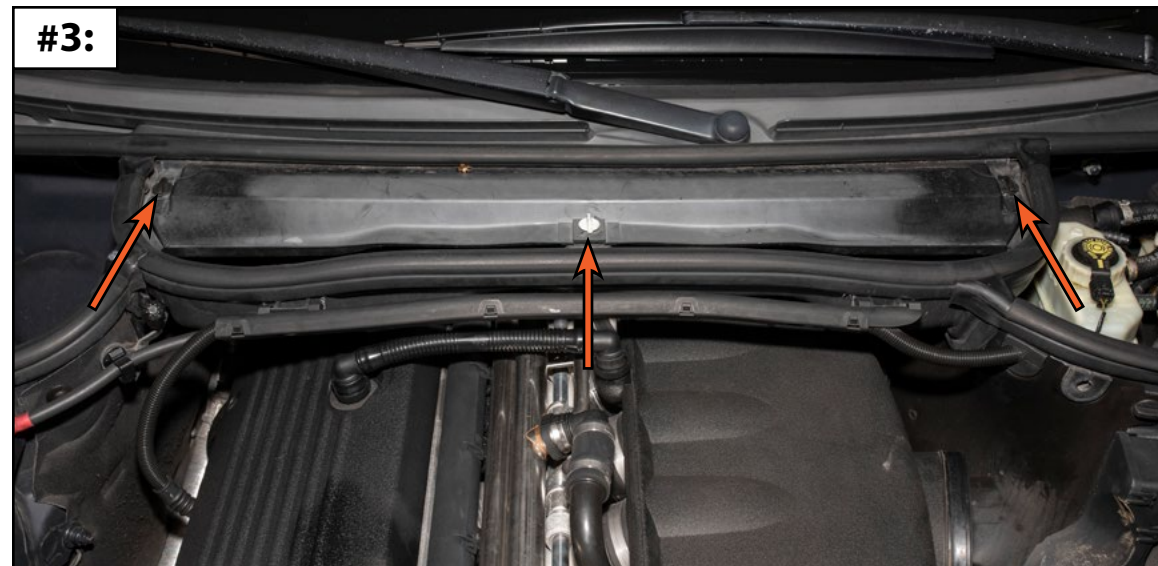
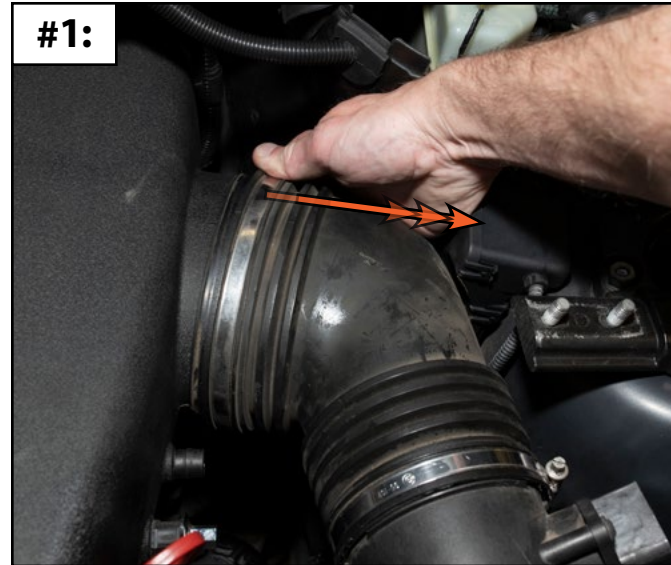
REMOVING THE STOCK INTAKE SYSTEM

Step 4:

Pull the flex coupler off of the stock plenum (**photo #1**).

Lift the air filter housing out of the engine bay as shown (**photo #2**).

Loosen the three $\frac{1}{4}$ turn fasteners on the cabin filter housing cover (arrows in **photo #3**), then remove the cover and the cabin filter beneath it (not shown).

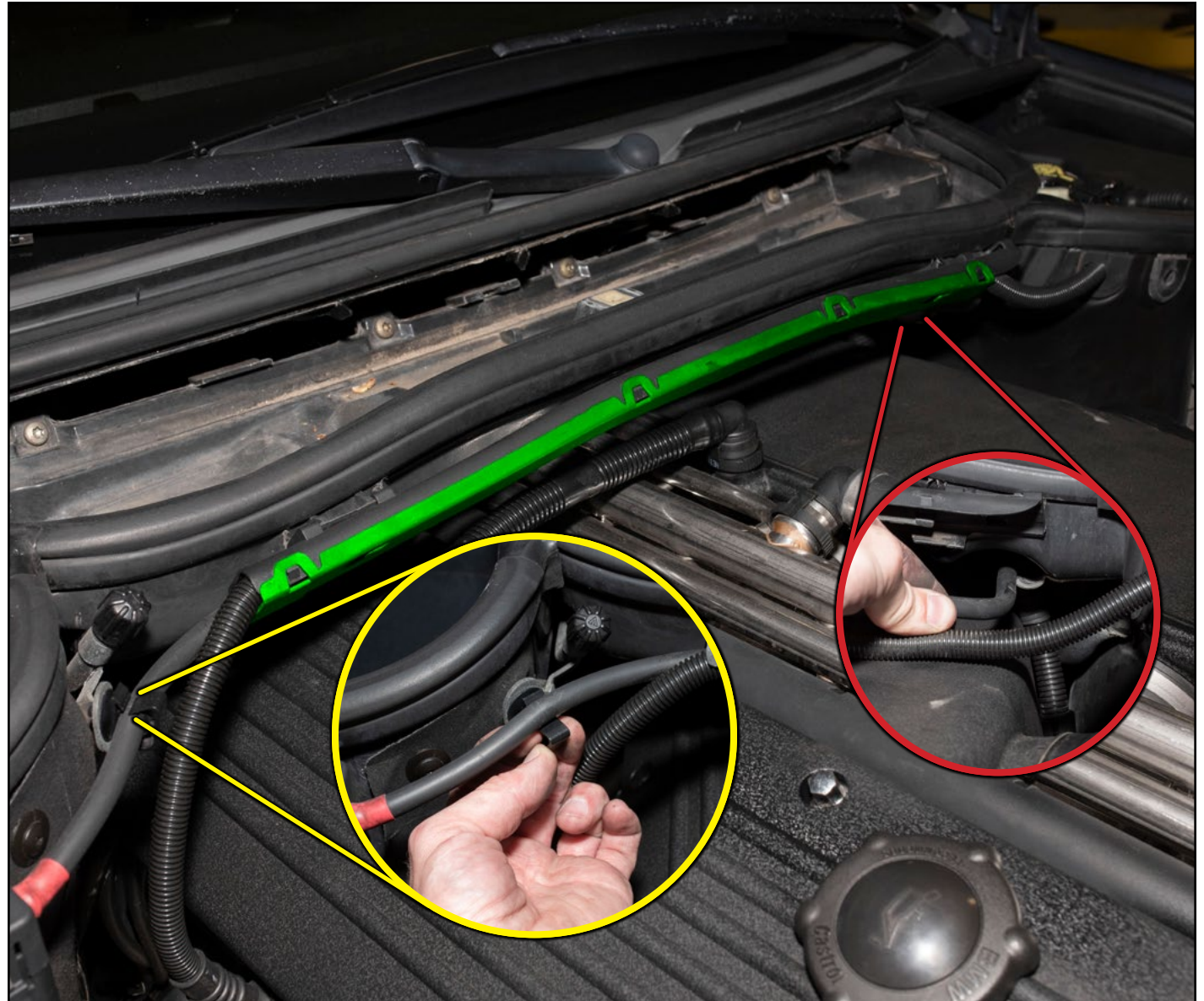


REMOVING THE STOCK INTAKE SYSTEM

Step 5:

Remove the cable channel cover (highlighted in **GREEN** in the photo on the right) by releasing all of the clips and pulling it off.

Release the two cables from the channel (not shown), then release the power cable from the RH strut tower (**YELLOW** inset photo), and pull the cable free from the support bracket located underneath the cabin filter housing on the LH side (**RED** inset photo).



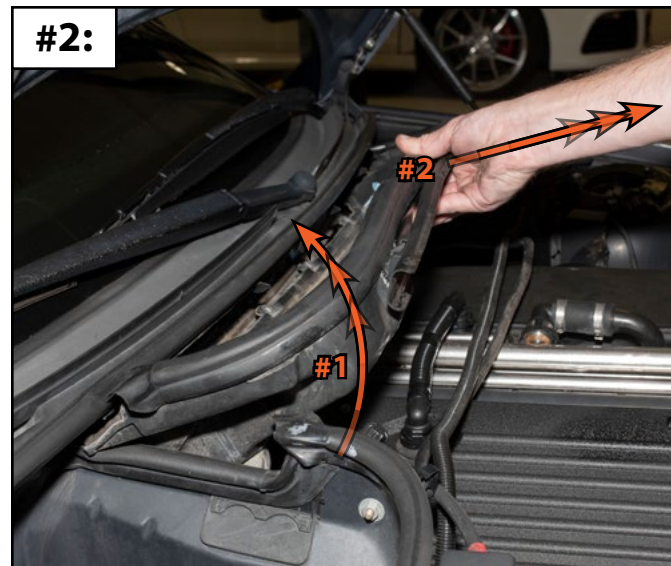
REMOVING THE STOCK INTAKE SYSTEM

Step 6:

Remove the four T30 screws which secure the cabin filter housing into place (arrows in **photo #1**). It's a good idea to stuff some paper towels into the drain holes inside the housing, this way if you drop any of the screws they won't fall and get lost down behind the engine.

Lift the front of the cabin filter housing upward slightly, then pull it toward the front of the vehicle to remove it (**photo #2**).

Remove the stock crankcase vent pipe which runs from the valve cover to the plenum (highlighted in **GREEN** in **photo #3**). Reference the illustrations on [Page 6](#) for this.



REMOVING THE STOCK INTAKE SYSTEM

Step 7:

Remove the 10mm nut which secures the engine oil dipstick tube to the side of the plenum (arrow in the photo on the right).

Release the bracket which secures the starter cable to the side of the plenum by gently pulling outward on the tab while sliding the bracket upward (YELLOW inset photo). This bracket is a bit tough to reach, be careful to not drop it down behind the engine.

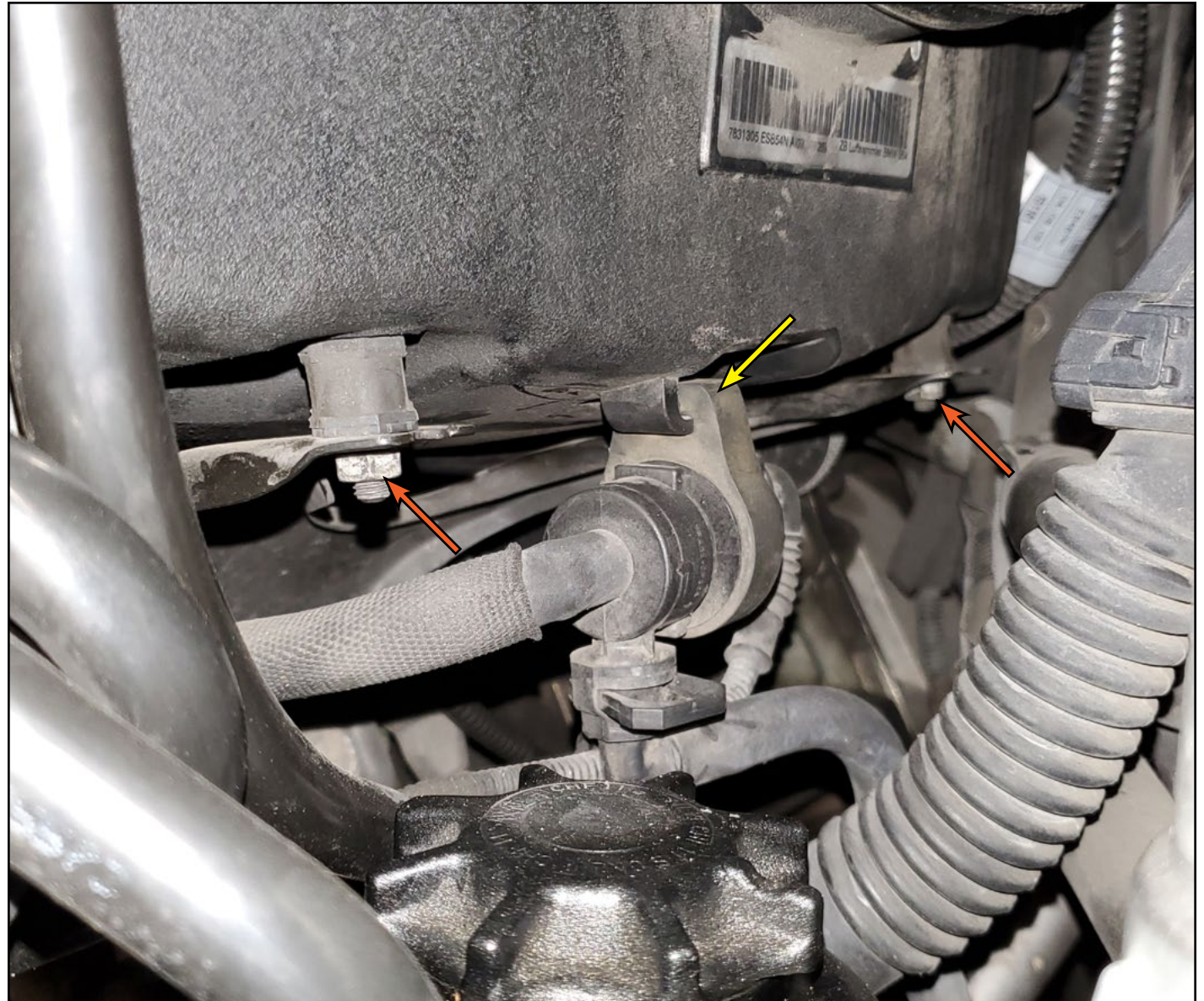


REMOVING THE STOCK INTAKE SYSTEM

Step 8:

Looking underneath the plenum, remove the two 10mm nuts which secure it to the mounting bracket (**ORANGE** arrows in the photo on the right).

Pull the rubber solenoid hanger off of the clip underneath the plenum (**YELLOW** arrow in the photo on the right).

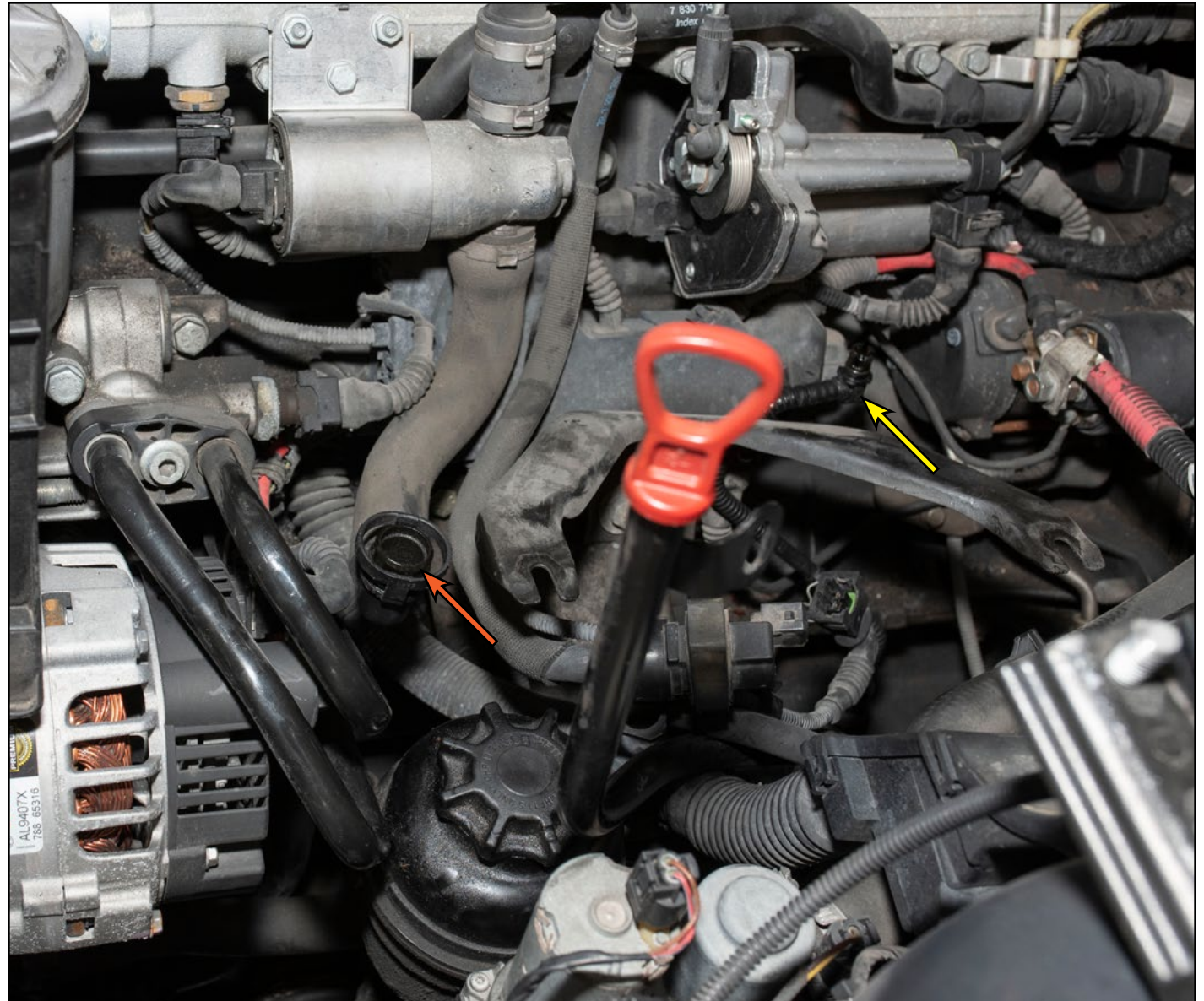


REMOVING THE STOCK INTAKE SYSTEM

Step 9:

Now we need to disconnect the two pipes from the plenum. The photo on the right shows their locations (**ORANGE** and **YELLOW** arrows) with the plenum already removed for maximum visibility.

The small pipe toward the rear is especially tricky to reach. You may be able to reach it from inside the plenum, or if you have small hands you might be able to reach underneath the plenum and pull it free.



REMOVING THE STOCK INTAKE SYSTEM

Step 10:

Release the two hoses from the back side of the plenum (shown in the **YELLOW** inset photo).

The upper hose is easy to reach (represented by a **BLUE** dashed line), the lower hose is a bit more difficult (represented by a **GREEN** dashed line).



REMOVING THE STOCK INTAKE SYSTEM

Step 11: Small Hose Pick or Flat Blade Screwdriver

Now it's time to remove the clamps from the clamps on the throttle body couplers. First, release the clamps (shown in **photo #1**), then pull them off of the couplers (**photo #2**).



REMOVING THE STOCK INTAKE SYSTEM

Step 12:

Now it's time to remove the plenum. Start by firmly grabbing the plenum and pull it off of the throttle bodies slightly (**photo #1**), then lift the plenum upward slightly and pull it the rest of the way off of the throttle bodies (**photo #2**).

Once all six throttle body couplers have been released you can remove the plenum from the engine bay (**photo #3**).





Please read this entire page before proceeding



ENGINE OIL DIPSTICK NOTES

Step 1:

You have a choice to make regarding the engine oil dipstick on your E46 M3:

- You can leave the stock dipstick tube in place, but you would need to modify/bend it slightly in order to make room for the new CSL-style intake system (**photo #1**).
- Or you can install the CSL dipstick. This low profile dipstick is much shorter than the stock unit, but it means that you won't be able to check engine oil without removing the inlet from the new CSL-style plenum (**photo #2**).

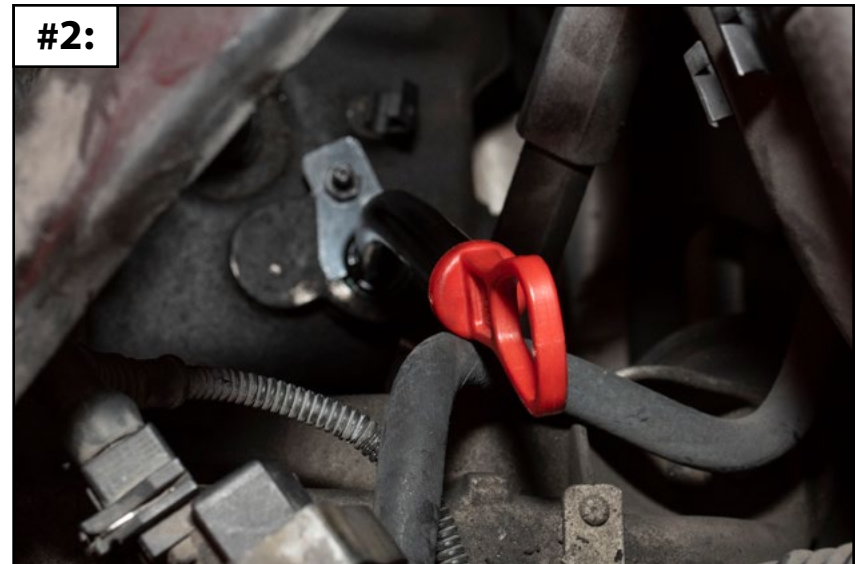


If you are going to modify the stock dipstick:

- Do so now and skip ahead to [Page 20](#).

If you are going to install the CSL dipstick:

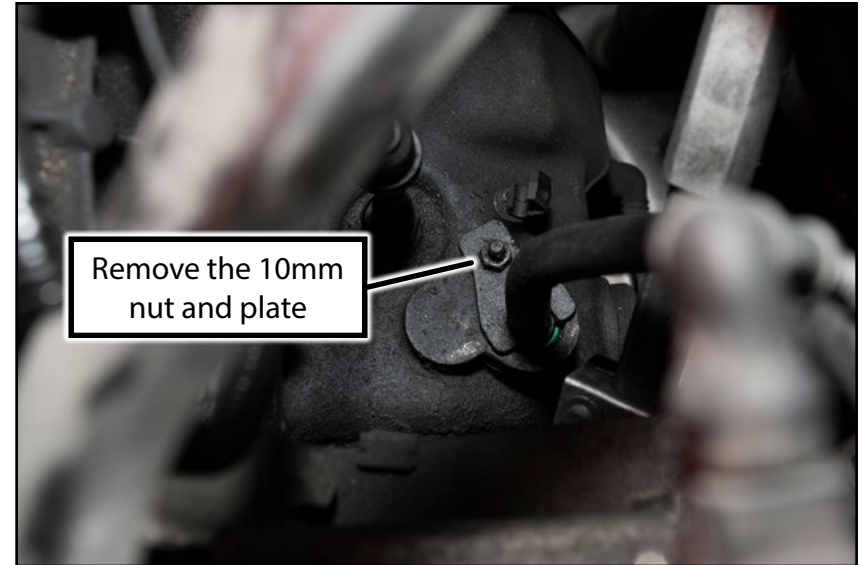
- Please proceed to the next page.



OPTIONAL: CSL ENGINE OIL DIPSTICK INSTALLATION

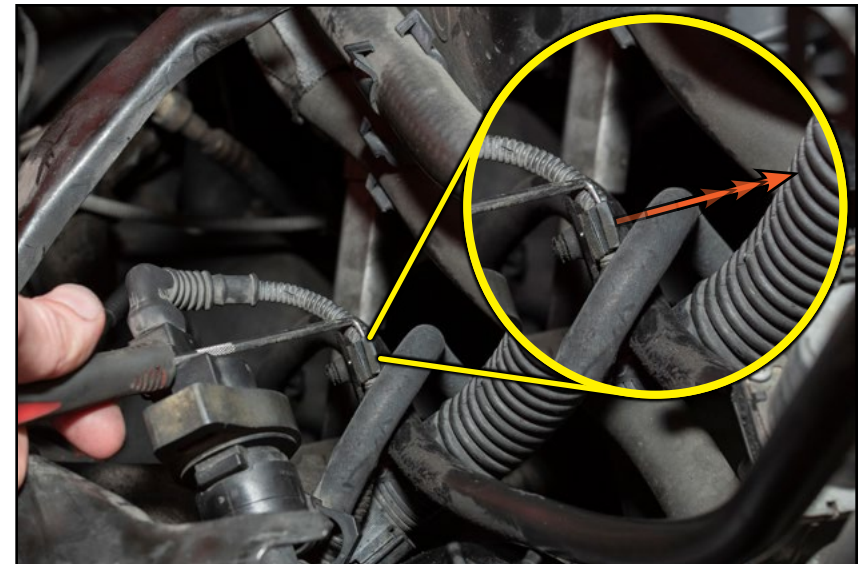
Step 1: 10mm Socket & Ratchet

Remove the nut and plate from the base of the dipstick tube base.



Step 2: Small Pick or Flat Blade Screwdriver

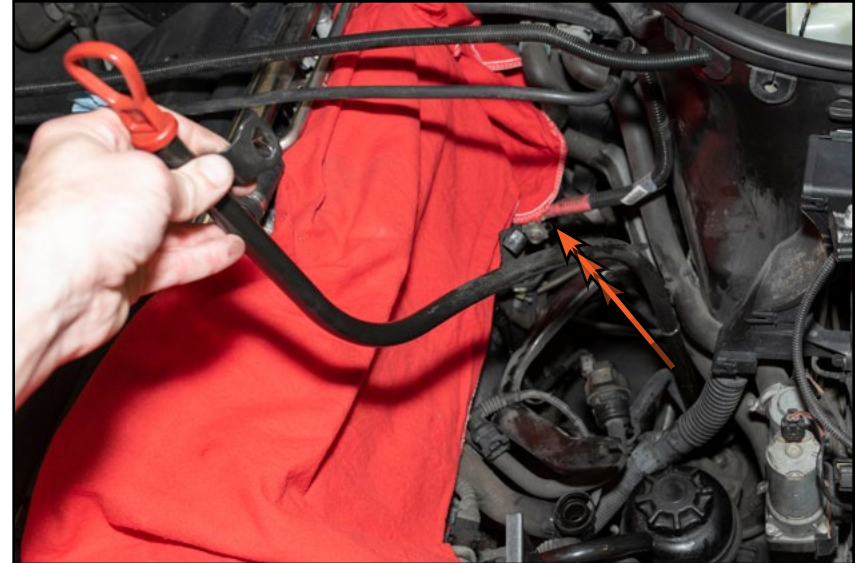
Release the wiring harness from the clip on the dipstick tube.



OPTIONAL: CSL ENGINE OIL DIPSTICK INSTALLATION

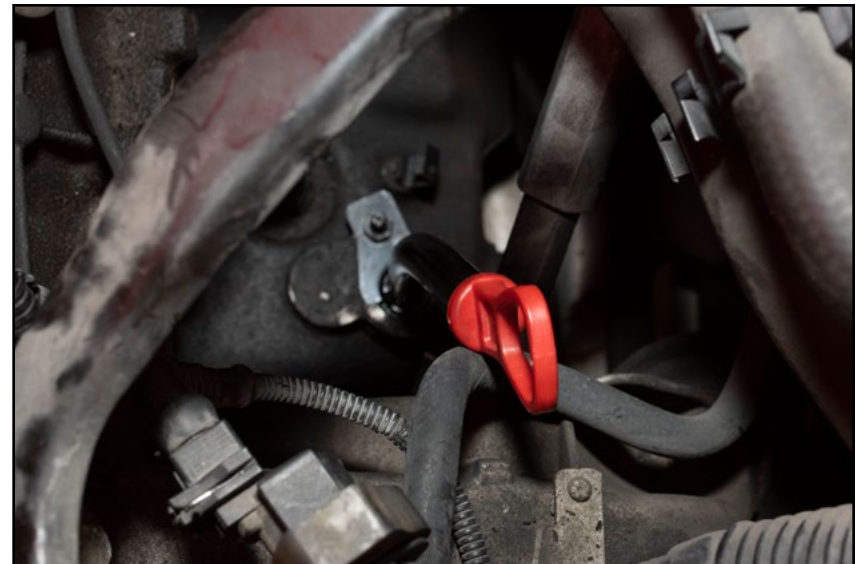
Step 3:

Remove the stock dipstick tube from the engine bay. It's a good idea to wrap a rag or towel around the base to soak up any residual oil.



Step 4: 10mm Socket & Ratchet

Install the new CSL dipstick tube assembly in the reverse order of removal.



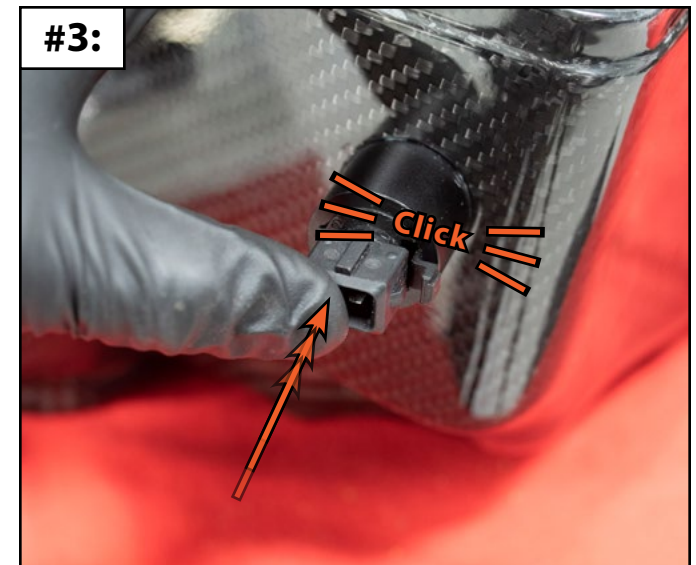
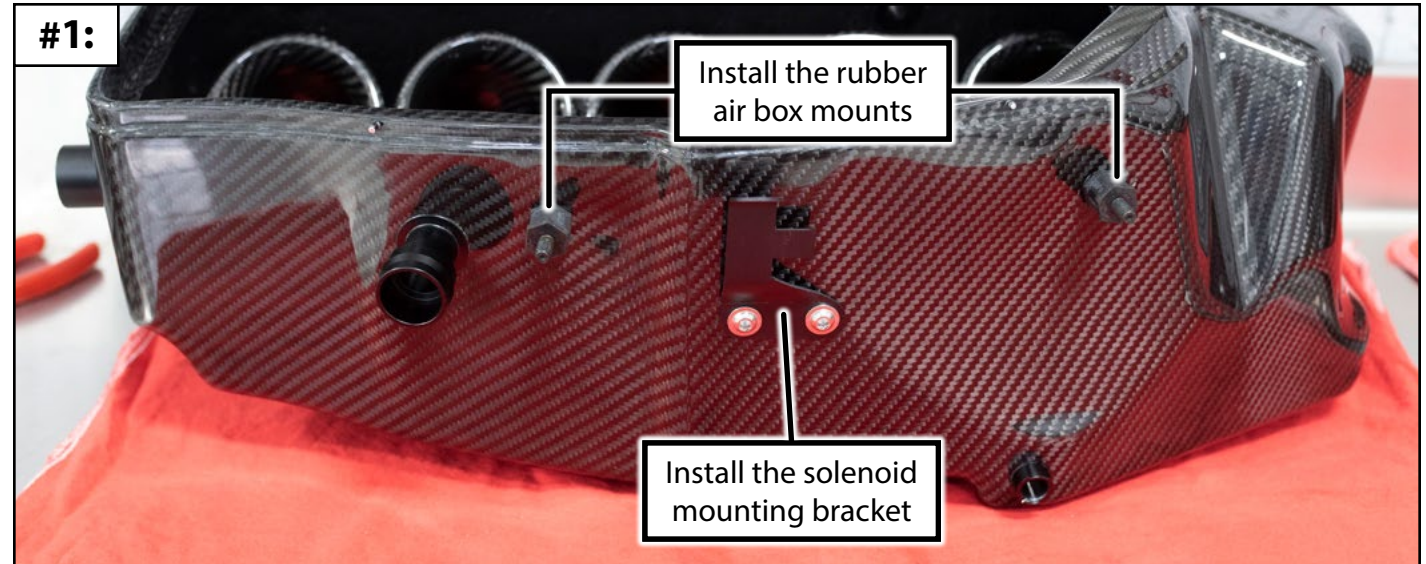
INSTALLING THE NEW CSL-STYLE INTAKE SYSTEM

Step 1:

Install the two rubber air box mounts underneath the new CSL plenum (**photo #1**).

Install the solenoid mounting bracket with the provided hardware (**ORANGE** arrows in **photo #1**).

Line up the new intake air temp sensor with the sensor bore located on the front of the CSL plenum (**photo #2**), then push the sensor into the bore until it "clicks" into place (**photo #3**).



INSTALLING THE NEW CSL-STYLE INTAKE SYSTEM

Step 2:

Install the new silicone couplers onto the throttle bodies, and lay the clamps onto them. It's important to align the clamps in a way which allows for easy access while not interfering with the linkage for the throttle bodies.



INSTALLING THE NEW CSL-STYLE INTAKE SYSTEM

Step 3:

You may find that you need to trim the radiator shroud in order to clear the new CSL plenum and inlet. Now is the best time to do so since the new carbon fiber plenum and inlet haven't been installed yet.

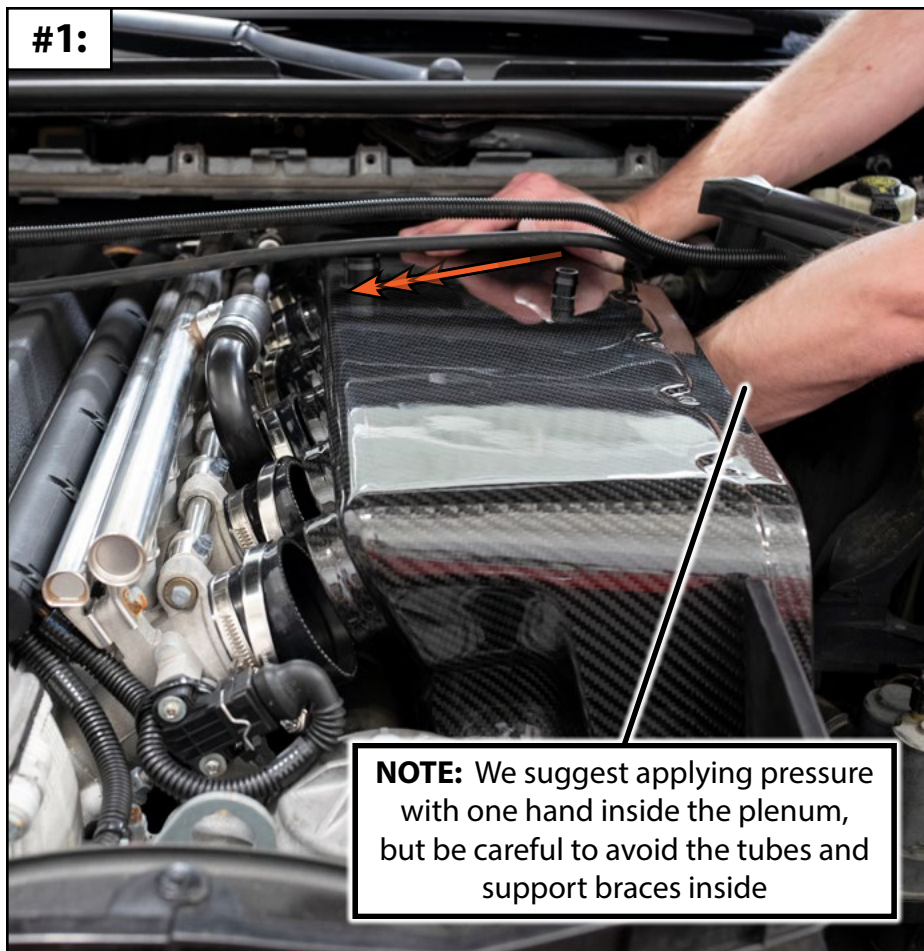


INSTALLING THE NEW CSL-STYLE INTAKE SYSTEM

Step 4:

Carefully guide the plenum into the engine bay and align it with the throttle body couplers.

Next, working from the rear to the front, push the plenum toward the engine until it is fully seated into all of the couplers.



INSTALLING THE NEW CSL-STYLE INTAKE SYSTEM

Step 5:

Tighten all of the throttle body coupler clamps down until they are snug.

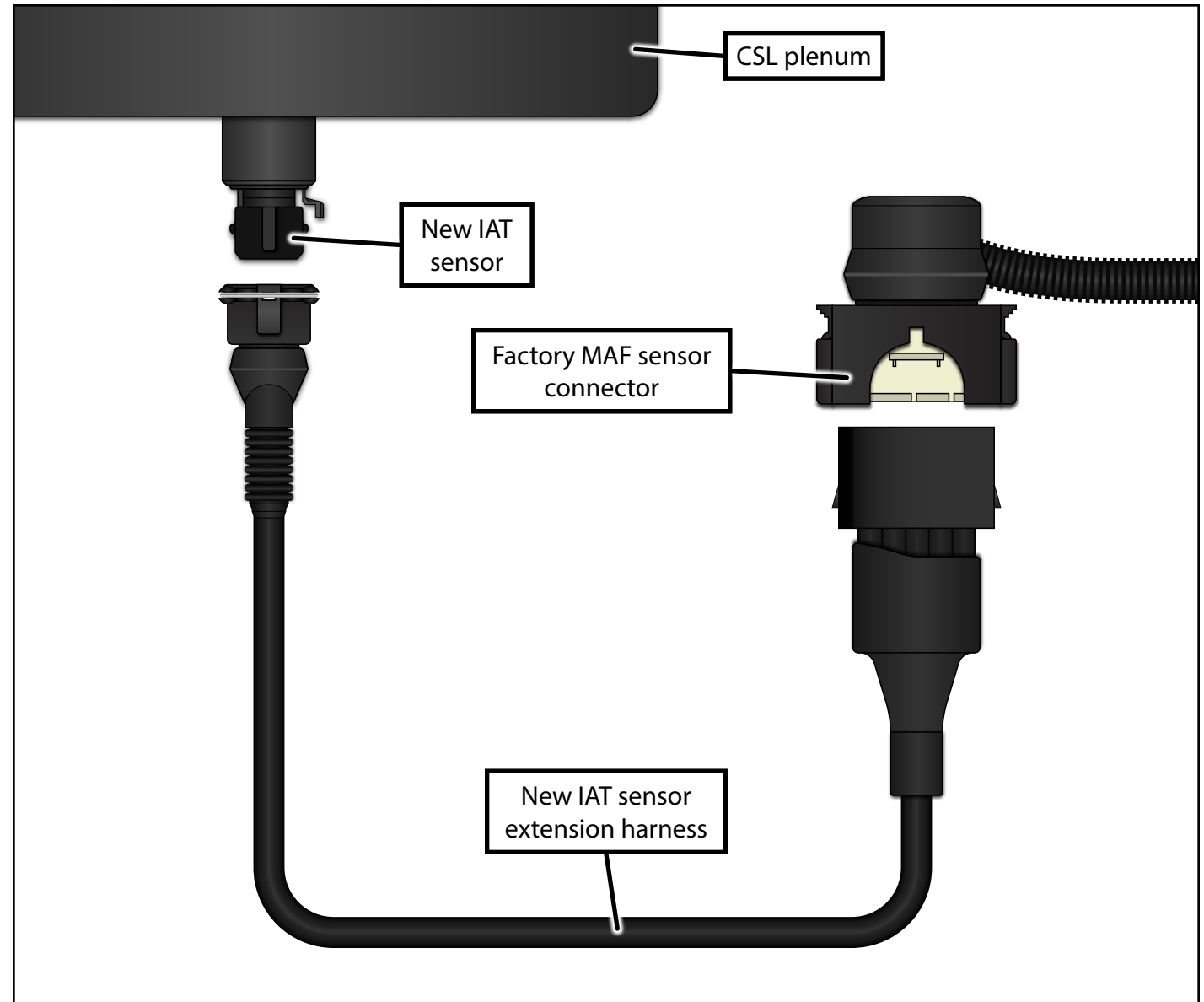
Remember, it's important to align the clamps in a way which allows for easy access, but won't interfere with the throttle body linkage.



INSTALLING THE NEW CSL-STYLE INTAKE SYSTEM

Step 6:

Install the supplied intake air temp sensor extension harness between the engine harness and the new sensor in the CSL-style plenum.



INSTALLING THE NEW CSL-STYLE INTAKE SYSTEM

Step 7:

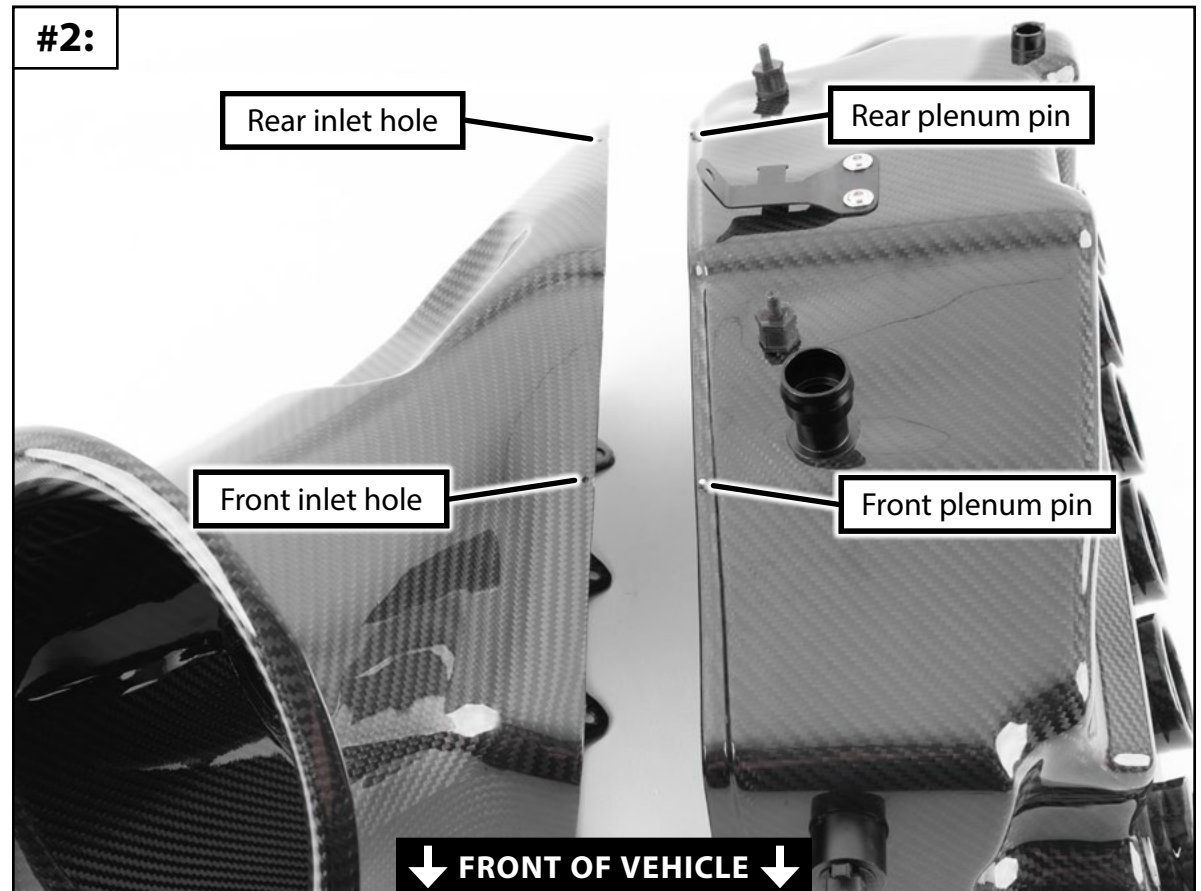
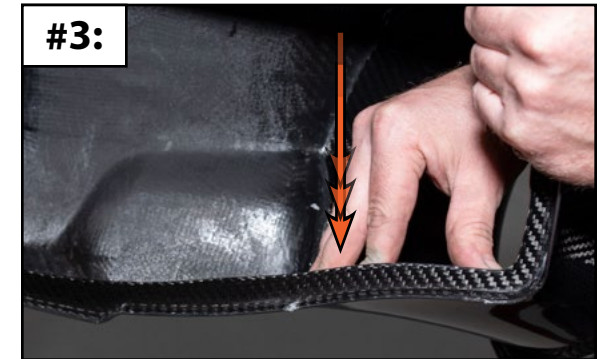
Install the supplied air filter into the plenum. Install the new air shut off valve and crankcase vent pipe into place (highlighted in **GREEN** in the photo on the right).



INSTALLING THE NEW CSL-STYLE INTAKE SYSTEM

Step 8:

Carefully guide the inlet into the engine bay (**photo #1**). Then tilt the inlet towards the LH strut tower as much as possible while you line up the two pins beneath the plenum with the holes below the inlet (**photo #2**). Line up the front pin first by applying downward pressure to the inside of the inlet near the front hole (**photo #3**) and aligning the pin with the hole, then repeat this to line up the rear pin. Proceed to the next page for the next step.



INSTALLING THE NEW CSL-STYLE INTAKE SYSTEM

Step 9:

Once both inlet pins have been seated into the holes in the inlet you can pivot the inlet onto the plenum until the screw holes line up along the top.

It is worth noting that worn engine mounts may make this part difficult. There's limited space surrounding the inlet, if you are having difficulty getting the inlet installed you should try the following:

- Inspect the engine mounts and replace them if they are worn or sagging.
- Adjust the plenum by shifting the rubber air box mounts inward or outward in the mounting bracket. Doing this will tilt the plenum upward or downward in relation to the engine.



INSTALLING THE NEW CSL-STYLE INTAKE SYSTEM

Step 10:

Thread in the provided plenum screws by hand (**ORANGE** arrows), then tighten them down until they make contact with the carbon fiber + 1/8 turn. Over-tightening these screws can damage the carbon fiber.

SMG-equipped vehicles will need to relocate the SMG expansion tank to the LH strut tower (see the **YELLOW** inset photo).



SMG-equipped vehicles only:
Expansion tank relocation kit

Your BMW E46 M3 CSL-Style Intake System installation is complete!



These instructions are provided as a courtesy by Turner Motorsport

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.

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