BMW E8x/E9x N54
Silicone Turbo Inlet Hose Set
Installation Guide

INTRODUCTION

Turner Motorsport BMW E8x/E9x N54 Silicone Turbo Inlet Hose Set

The new Turner Motorsport N54 silicone turbo inlet hose set is the perfect upgrade for your N54 powered 335i! This kit replaces the small, restrictive OEM turbo inlets with much larger diameter silicone hoses. These new silicone turbo inlets boast significantly better air flow, as well as significantly higher resistance to pressure and heat when compared to the flimsy stock plastic turbo inlet pipes.

Installation can be a bit of a challenge, there isn't a lot of room to work around these inlets so take your time, be careful, and be patient. We'll walk you through the entire procedure step-by-step, so let's get started!

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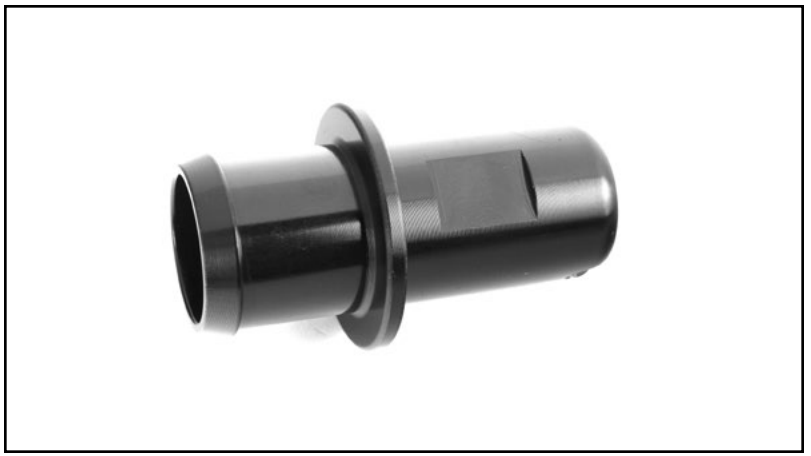
KIT CONTENTS

Front Turbo Inlet Hose w/clamps - **QTY 1**
(Available in 44mm or 50mm ID)



Twist Lock Connector - **QTY 2**
(Connects the crankcase breather pipes to the new silicone turbo inlet hoses)

Rear Turbo Inlet Hose w/clamps - **QTY 1**
(Available in 44mm or 50mm ID)

OPTIONAL: N54 Plug Kit
(For vehicles w/ aftermarket atmospheric blow-off-valves)

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.

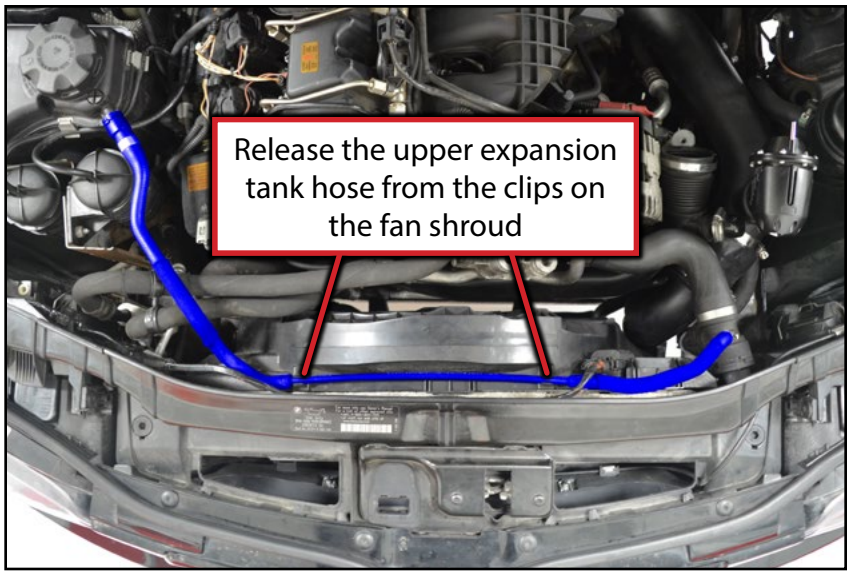
REMOVING THE ORIGINAL FRONT TURBO INLET

Step 1:

Remove the intake system, air box, rain tray, engine cover (all highlighted in **GREEN** in the photo), and catch can (if equipped). Disconnect the twist-lock connector on the diverter valve pipe (not shown).

Step 2: Flat Blade Screwdriver

Release the upper expansion tank hose (highlighted in **BLUE**) from the clips along the top of the fan shroud.



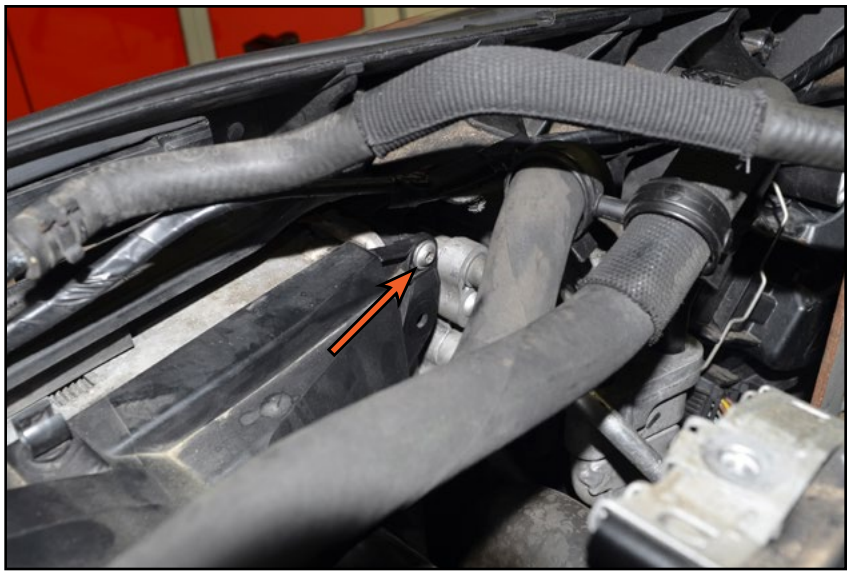
REMOVING THE ORIGINAL FRONT TURBO INLET

Step 3: Flat Head Screwdriver

Disconnect the fan shroud electrical connector (LH photo), then release the wiring harness clips from the core support (RH photo).

Step 4: T25 Torx

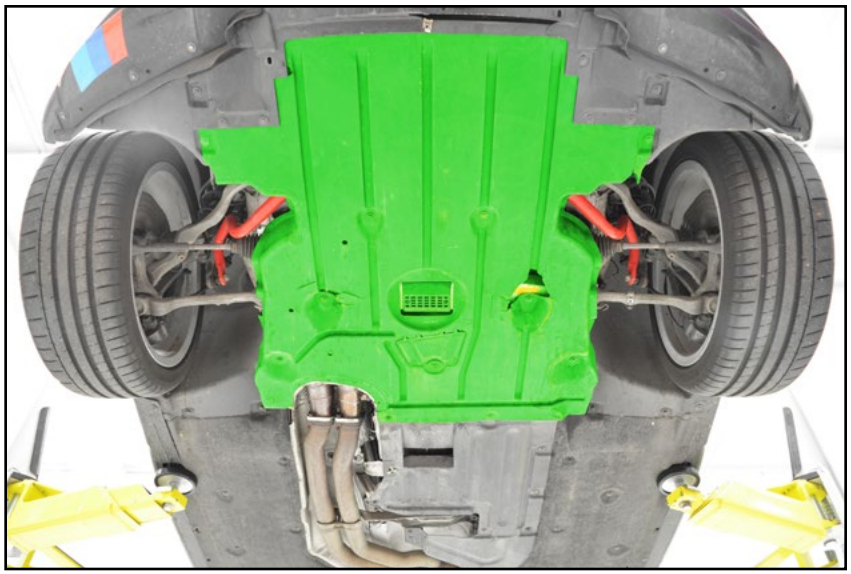
Remove the screw from the upper RH corner of the fan shroud.



REMOVING THE ORIGINAL FRONT TURBO INLET

Step 5: 8mm Socket & Ratchet

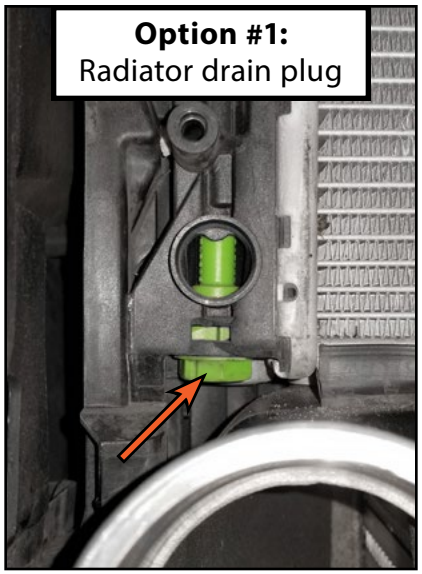
Remove the belly pan from the vehicle (highlighted in **GREEN**).

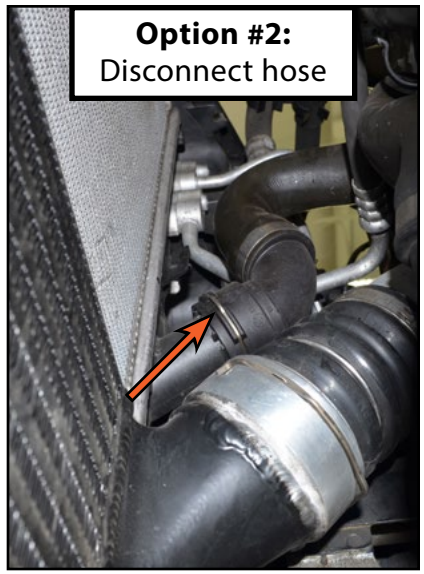


Step 6:

Now it's time to drain the coolant from the system. While we don't need to drain the entire system, we need to drain enough of it to remove the stock expansion tank and the hoses without making a mess.

Some models may have a drain plug on the radiator (shown in the LH photo), while others will require you to disconnect the lower radiator hose in order to drain the coolant (shown in the RH photo).





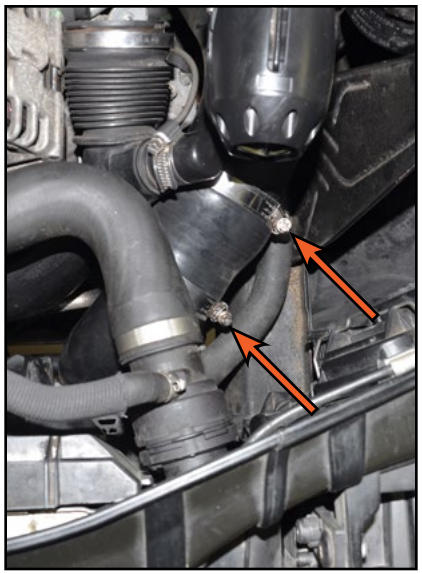
REMOVING THE ORIGINAL FRONT TURBO INLET

Step 7: Flat Blade Screwdriver or Hose Pick

Disconnect the intercooler outlet coupler from the intercooler (LH photo), then slide it out as shown (RH photo).

Step 8: Flat Blade Screwdriver or Hose Pick

Loosen the hose clamps on the intercooler outlet pipe (LH photo), then release the clip on throttle body charge pipe. Disconnect the MAP sensor, then remove the throttle body charge pipe from the vehicle (RH photo).



TECH TIP

If necessary, you can remove the upper radiator hose in order to gain additional clearance for the next step.

REMOVING THE ORIGINAL FRONT TURBO INLET

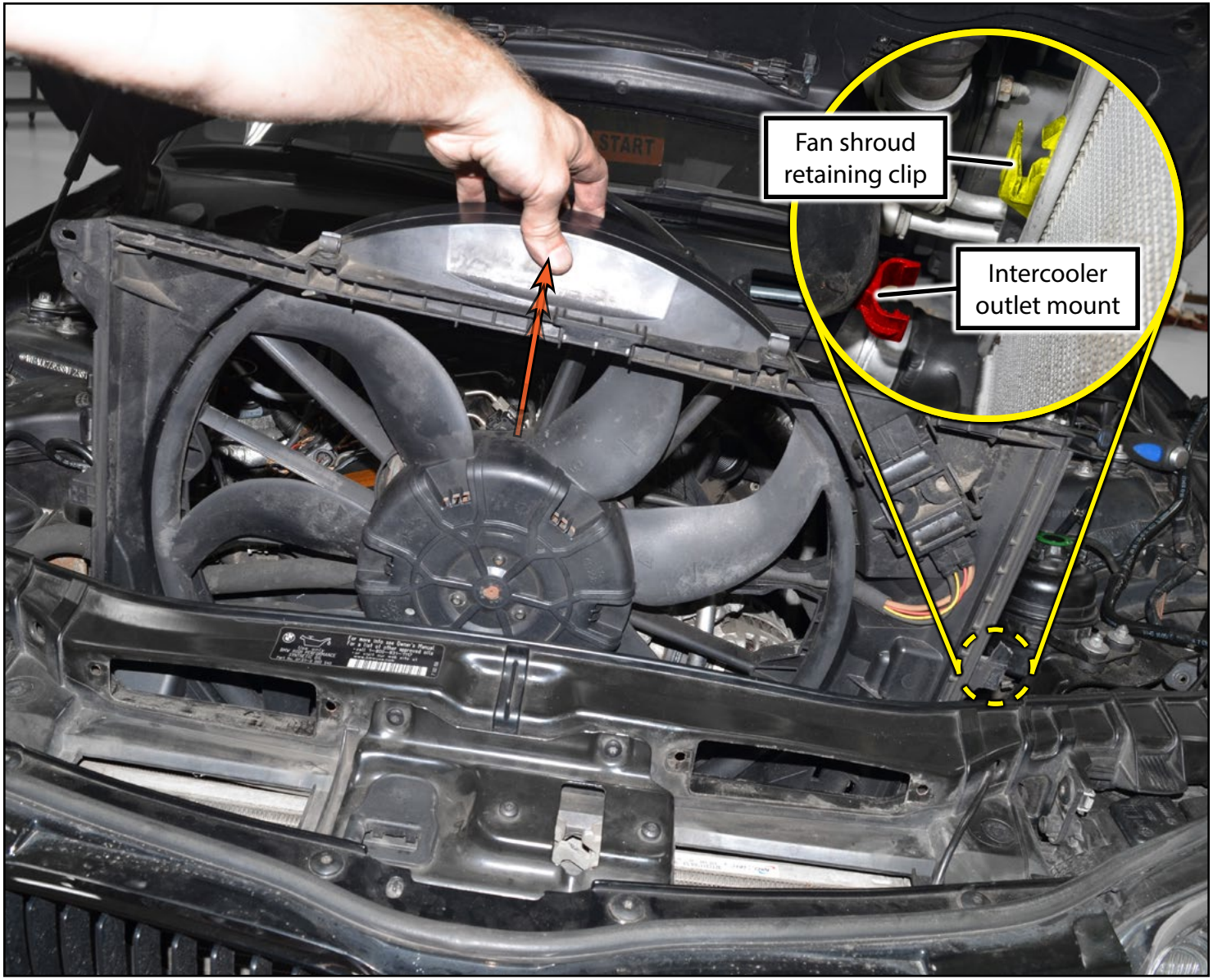
Step 9:

Now it's time to remove the fan shroud, this part takes a bit of patience.

There is a single tab on the LH (driver's) side of the fan shroud which locks into a slot on the radiator (highlighted in **YELLOW** in the inset photo). You want to **CAREFULLY** pry on the tab with a screwdriver while you start to lift the fan shroud upward. This tab can be quite brittle, so be gentle.

There is also a rubber bushing on the fan shroud which slides into the intercooler outlet mount (highlighted in **RED** in the inset photo). Be careful not to break off the mount or the bushing.

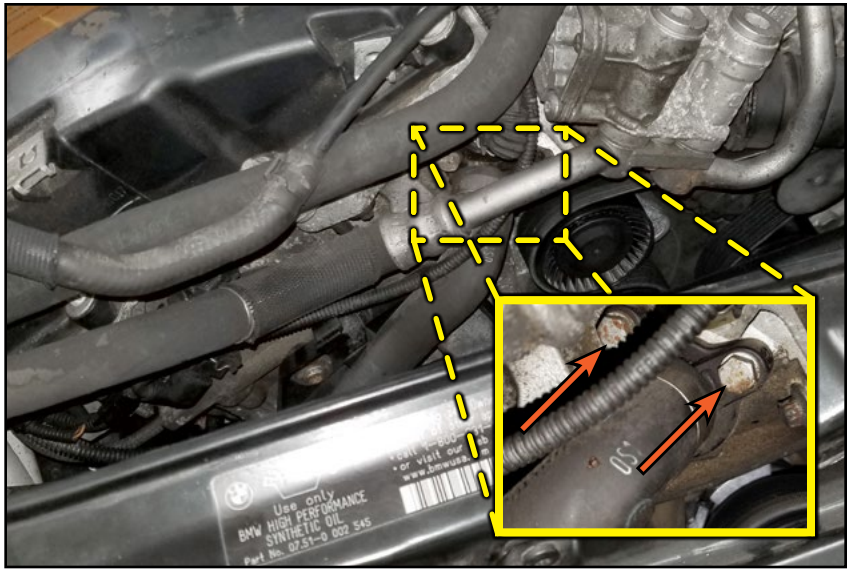
Lift the fan shroud out of the engine bay and set it aside.



REMOVING THE ORIGINAL FRONT TURBO INLET

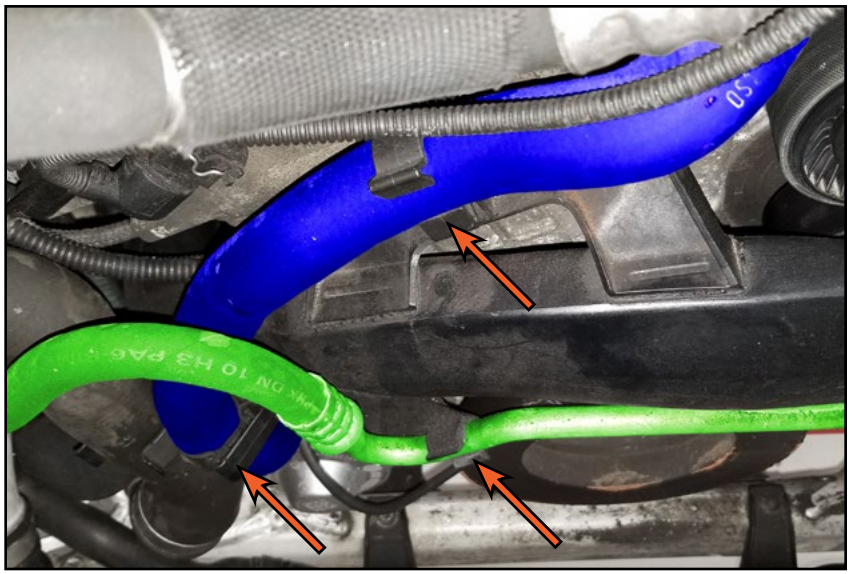
Step 10: 10mm Socket & Ratchet

Remove the bolts from the coolant hose on the front of the engine. This hose can remain connected below, but this flange needs to be pulled out of the engine to remove the front turbo inlet.



Step 11:

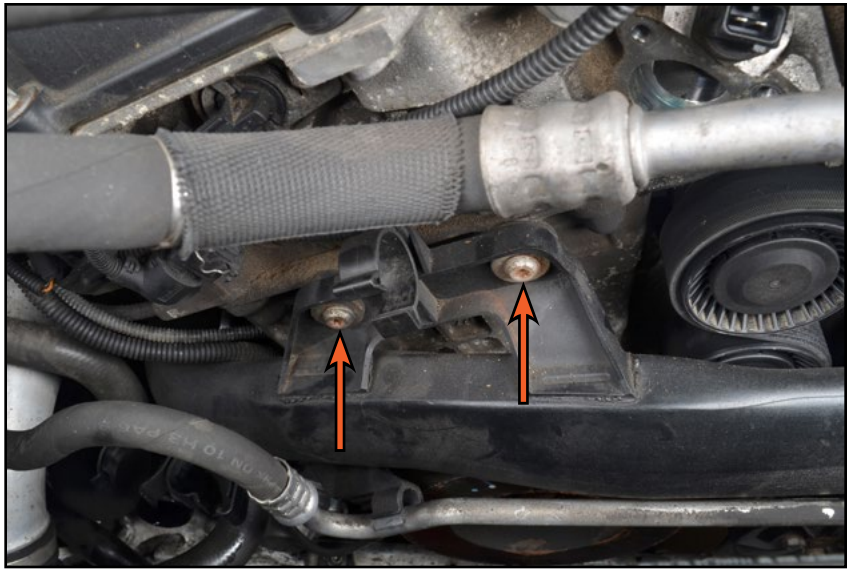
Pull the coolant hose (highlighted in **BLUE**) and the A/C line (highlighted in **GREEN**) out of the clips (arrows) in the front turbo inlet.



REMOVING THE ORIGINAL FRONT TURBO INLET

Step 12: T30 Torx

Remove the two bolts (arrows) which secure the front turbo inlet to the engine.



Step 13: Flat Blade Screwdriver or Hose Pick

Lift on the clip in the upper radiator hose fitting, then pull the hose off of the radiator.

REMOVING THE ORIGINAL FRONT TURBO INLET

Step 14:

Working from below, pull the front turbo inlet off of the turbo.

Step 15:

Working from above, remove the front turbo inlet from the engine. This takes a little patience and twisting, but it will come out as shown in the photo.

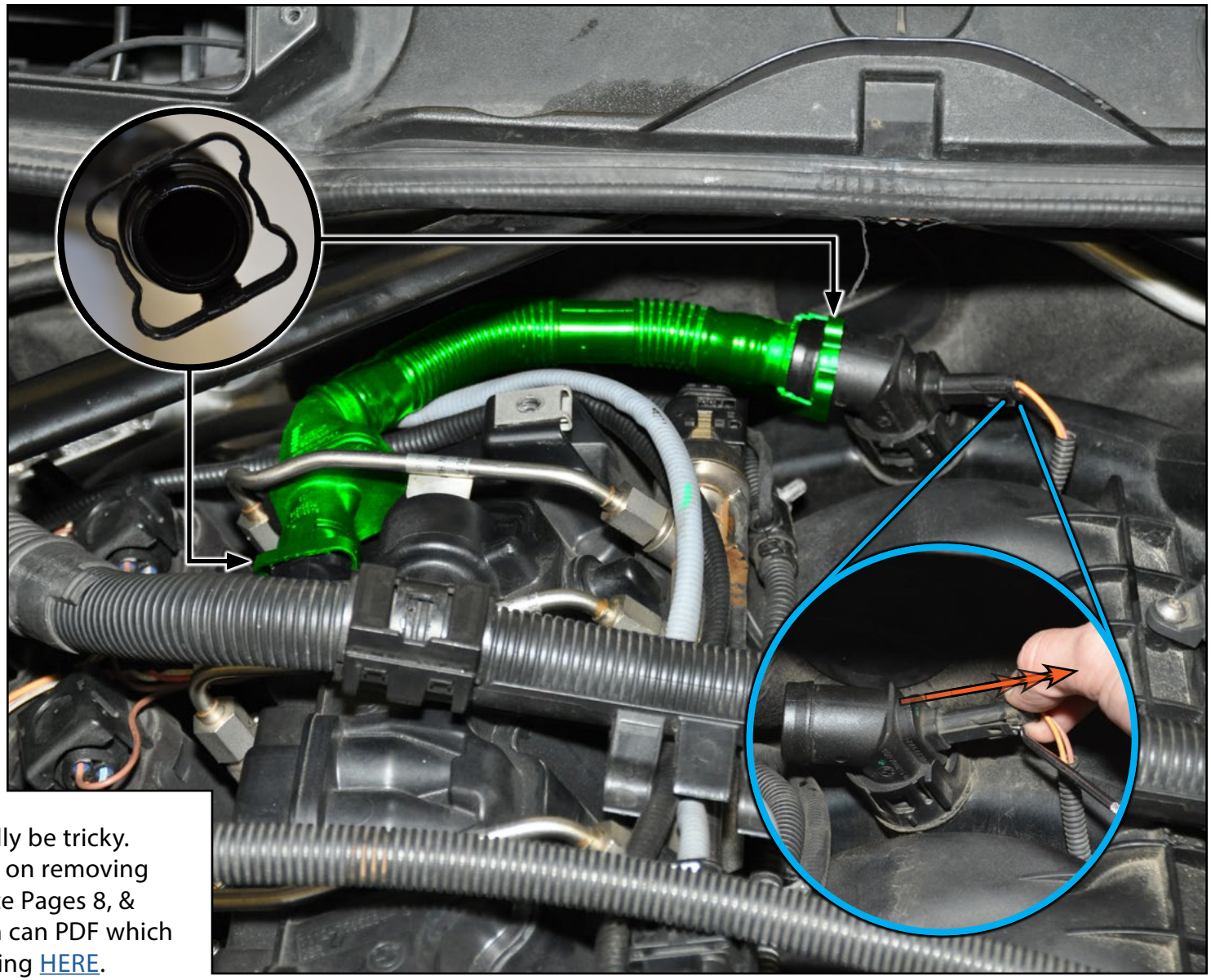
REMOVING THE ORIGINAL REAR TURBO INLET

Step 1:

Moving to the back of the engine, remove the crank vent hose between the valve cover and the intake tube (highlighted in **GREEN** in the photo). These are a little tricky at times, due to the self locking fittings on the end. You'll have to use a pick and gently work around the perimeter of each fitting to release it.

Disconnect the electrical connector from the rear turbo inlet (shown in the **BLUE** inset photo).

Disconnect the twist-lock connector on the diverter valve pipe (not shown).



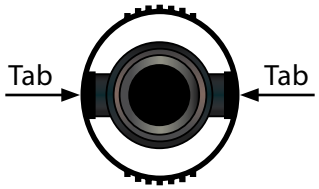
These fittings can really be tricky. For more information on removing them, please reference Pages 8, & 11-13 of our N54 catch can PDF which can be found by clicking HERE.

REMOVING THE ORIGINAL REAR TURBO INLET

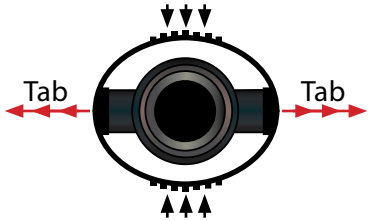
Step 2:

Disconnect the brake booster vacuum line **FRONT** connection by squeezing the two retaining tabs together and pulling up on the line.

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 air box.



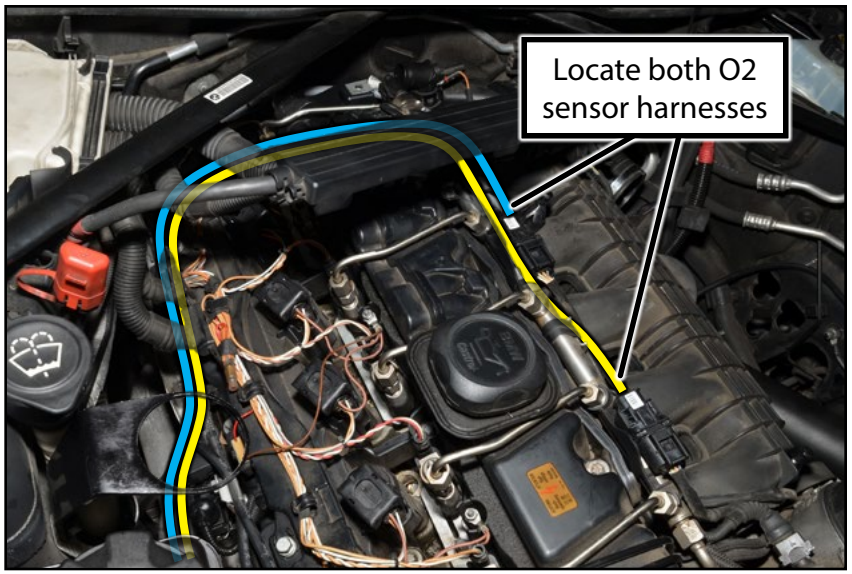
Step 3:

Disconnect the brake booster vacuum line **REAR** connection by depressing the white locking tab inward while pulling it outward.

REMOVING THE ORIGINAL REAR TURBO INLET

Step 4:

Locate the upstream oxygen sensor harnesses and connectors. Familiarize yourself with how they are routed around the back side of the engine, we will want to replicate this routing when we are reassembling later on.



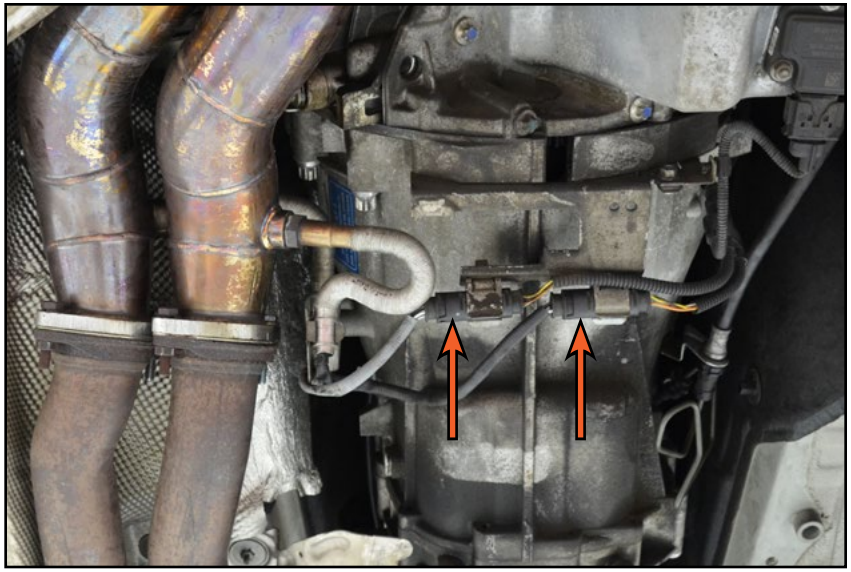
Step 5:

Disconnect both upstream oxygen sensor harness connectors, then release the harnesses from all of the clips which secure them to the engine.

REMOVING THE ORIGINAL REAR TURBO INLET

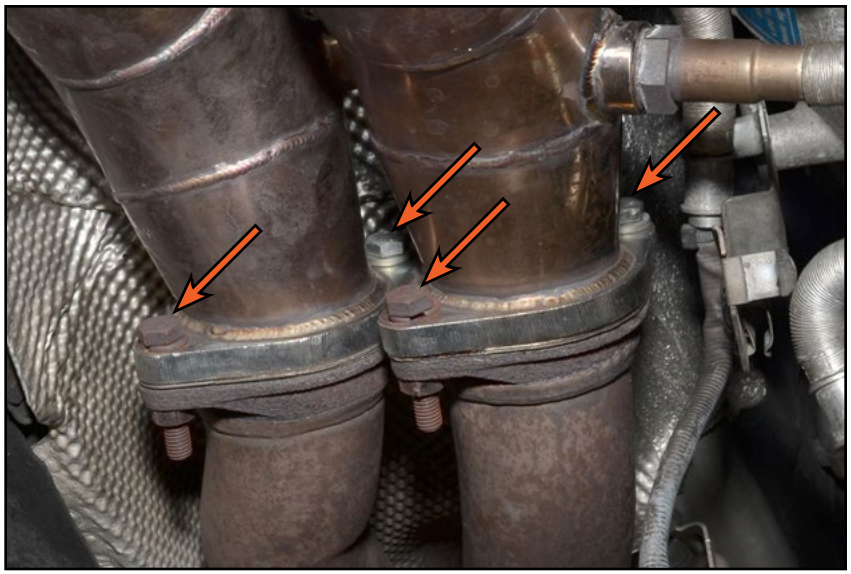
Step 6:

Disconnect both downstream oxygen sensor connectors.



Step 7: 13mm Socket & Ratchet, 13mm Wrench

Disconnect the downpipes from the exhaust system.



Please read this entire page before proceeding

REMOVING THE ORIGINAL REAR TURBO INLET

OPTIONAL:

For our install we ended up removing the subframe swinging so we could capture the best photos possible. However, if you have small hands and a lot of patience you can do this job without having to remove or lower the subframe.

TECH TIP

If you need help with removing or lowering your subframe you can reference our YouTube video by clicking HERE.

REMOVING THE ORIGINAL REAR TURBO INLET

Step 8:

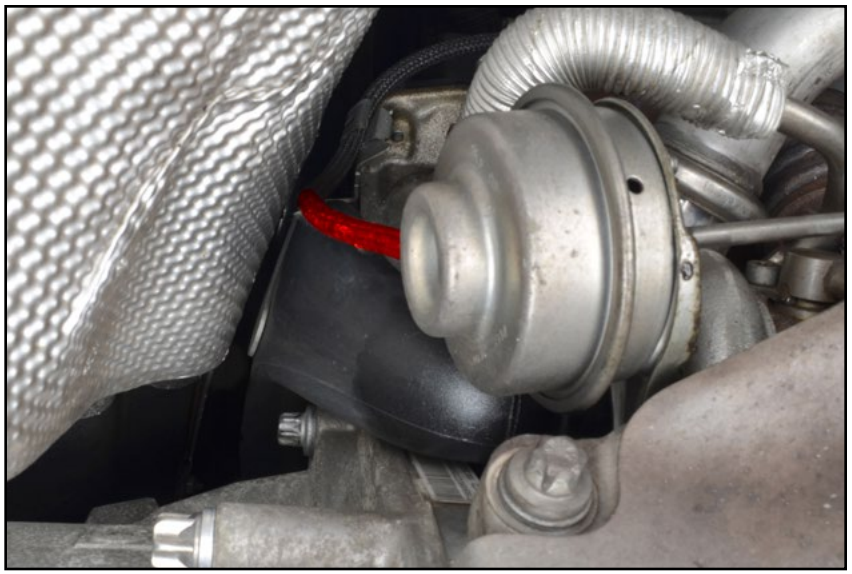
Before we proceed, we would strongly advise you to remove the upstream oxygen sensors from the downpipes. Removing the sensors makes it much easier to remove the downpipes, and it might save you from needing to drop the subframe for clearance.

Once the oxygen sensors have been removed, loosen and remove the two 13mm v-clamp bolts, then remove the downpipes.

REMOVING THE ORIGINAL REAR TURBO INLET

Step 9:

Disconnect the vacuum hose from the rear turbo wastegate (highlighted in **RED**).

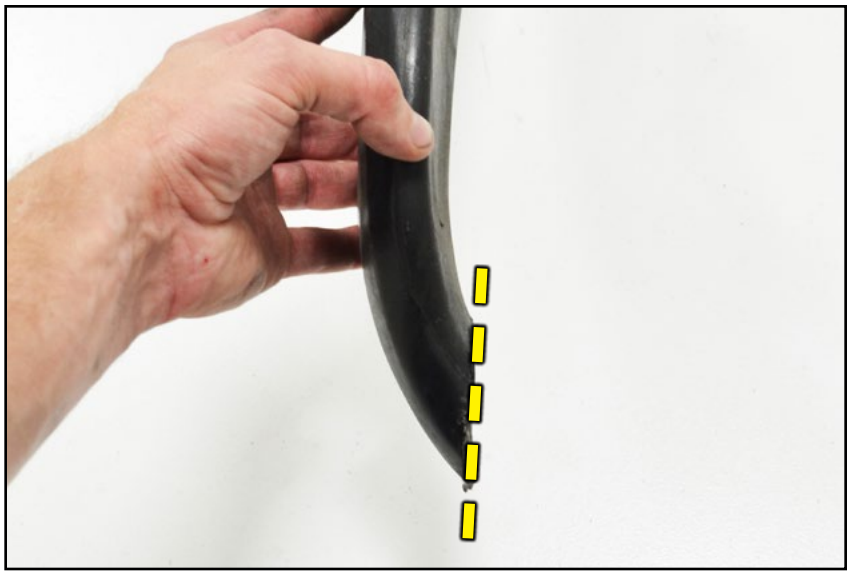


Step 10:

STOP ***DO NOT*** make any cuts until you have read all the way through to the end of Page 20. STOP

Now we're almost ready for the worst part of this job; cutting the rear turbo inlet in order to remove it. There is no way to remove this pipe without cutting it, there simply isn't enough clearance around the engine.

The photo on the right shows what we're going to be trying to accomplish, we want to make our cut nice and straight and make the inlet pipe as thin as possible so we can pull it out from above.



REMOVING THE ORIGINAL REAR TURBO INLET

Step 11:

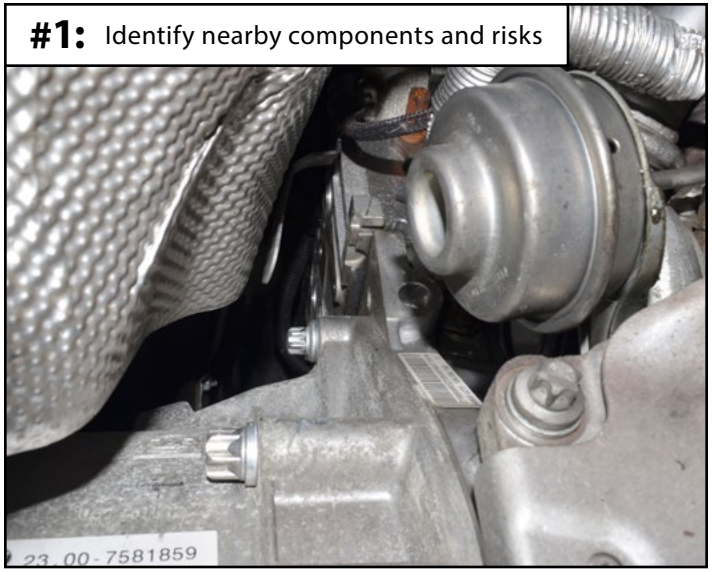
Look closely around the turbo inlet and identify any nearby components which you don't want to cut (**photo #1**).

Carefully make your cut through the rear turbo inlet, make it by hand if at all possible (**photo #2**). If you need to use a reciprocating saw or other power tool ***BE CAREFUL***!

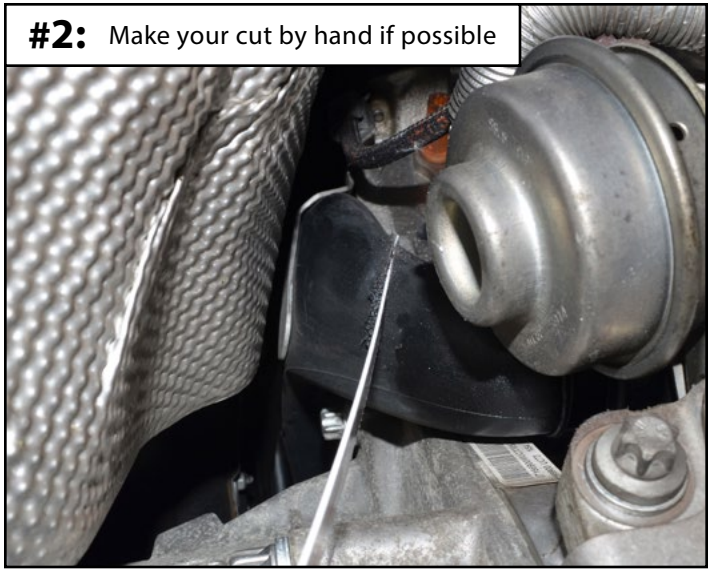
Locate and remove the two T30 screws which secure the rear turbo inlet to the back of the engine (**photo #3**).

Remove the rear turbo inlet from the vehicle (not shown).

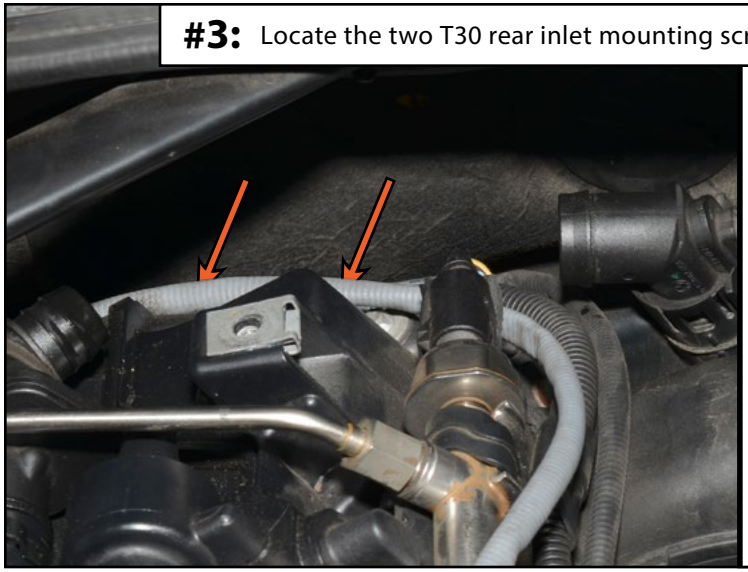
#1: Identify nearby components and risks

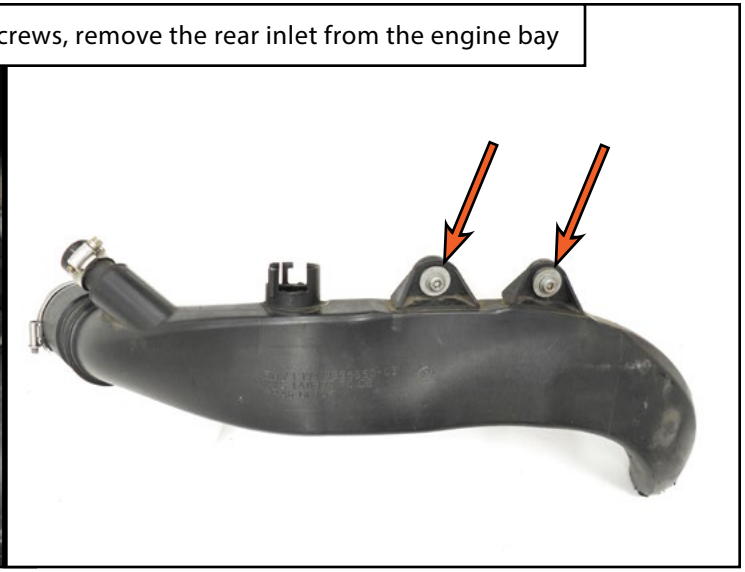


#2: Make your cut by hand if possible



#3: Locate the two T30 rear inlet mounting screws, remove the rear inlet from the engine bay





INSTALLING THE NEW SILICONE REAR TURBO INLET

Step 1:

Working from above, push the rear turbo inlet hose downward behind the engine and toward the rear turbo (**photo #1**).

Next, grab a hold of the hose from below and pull it the rest of the way toward the rear turbo (**photo #2**).

It really helps to have a helper during this step to help get this hose into position. There is very little room to work around the back side of the engine, and the hose is ***MUCH*** larger than the tube it replaces. It's also helpful to coat the outside of the hose with silicone spray lube or Vaseline to make it easier to slide past the engine and firewall.

Don't install the hose onto the turbo inlet just yet, we need to review a few small details before we're ready to do that.

#1:

#2:

INSTALLING THE NEW SILICONE REAR TURBO INLET

Step 2:

Let's take a moment and look at the inlet snout on the rear turbo. If you have stock turbos (I.E.: turbos with stock housings), the snout is ***very*** skinny. This isn't a problem when you're running stock turbo inlet pipes (or silicone hoses), but when you're trying to get a hose clamp to secure a silicone turbo inlet hose it becomes a problem. If the hose clamp is just slightly crooked it will pull the hose off of the snout as you go to tighten it down. You need to be 100% sure that the hose is completely bottomed out on the turbo inlet snout, and the hose clamp needs to be 100% parallel as well.

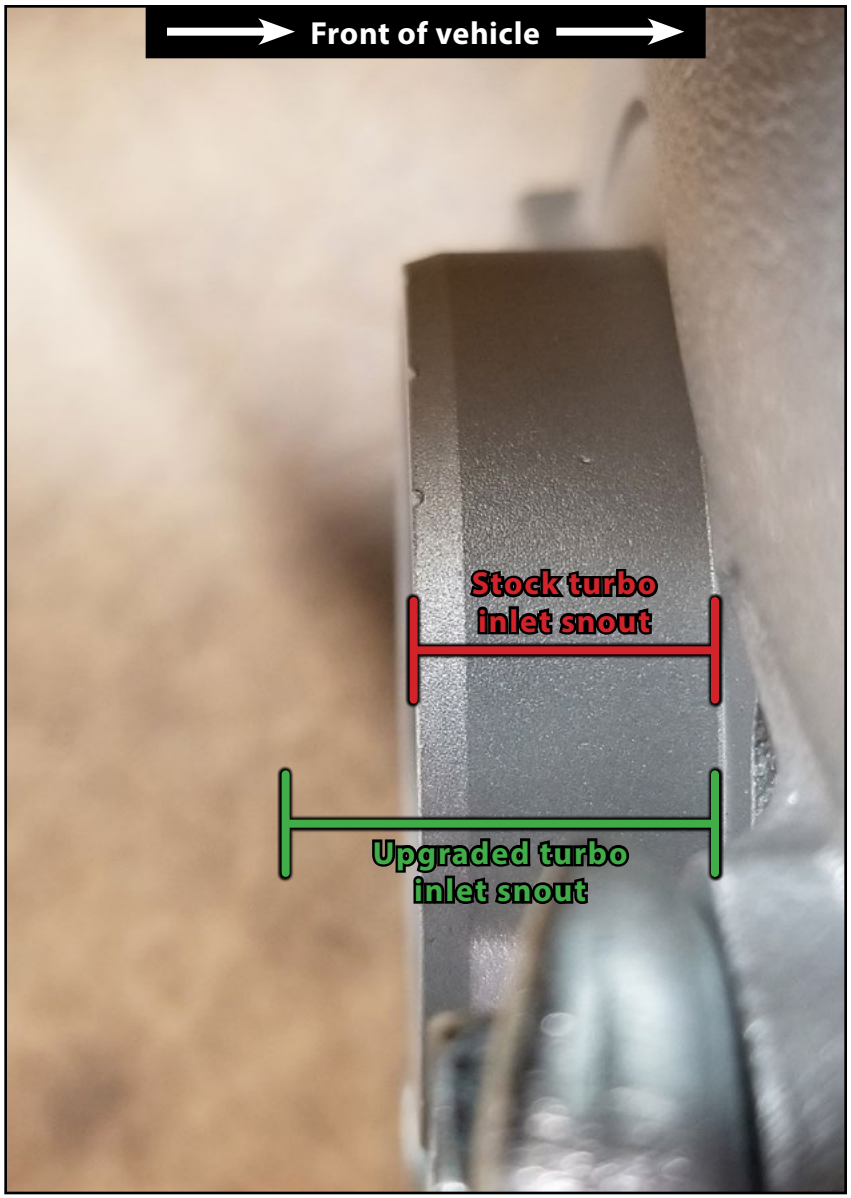
Many aftermarket turbos (or aftermarket turbo housings) use a significantly deeper inlet snout on the rear turbo. These applications are much easier to get the hose clamp to bite onto securely, but there is less clearance between the hose and the bell housing flange.

TECH TIP

We've found that removing the wastegate from the rear turbo will really open up a lot of extra space to work, and it makes it much easier to see whether or not the hose clamp is in position.

TECH TIP

There's very little room to work and fitment is tight, so it's not easy to get this hose routed and connected. A little bit of silicone spray or WD-40 inside the hose will make it much easier to slide it over the inlet snout.



INSTALLING THE NEW SILICONE REAR TURBO INLET

Step 3:

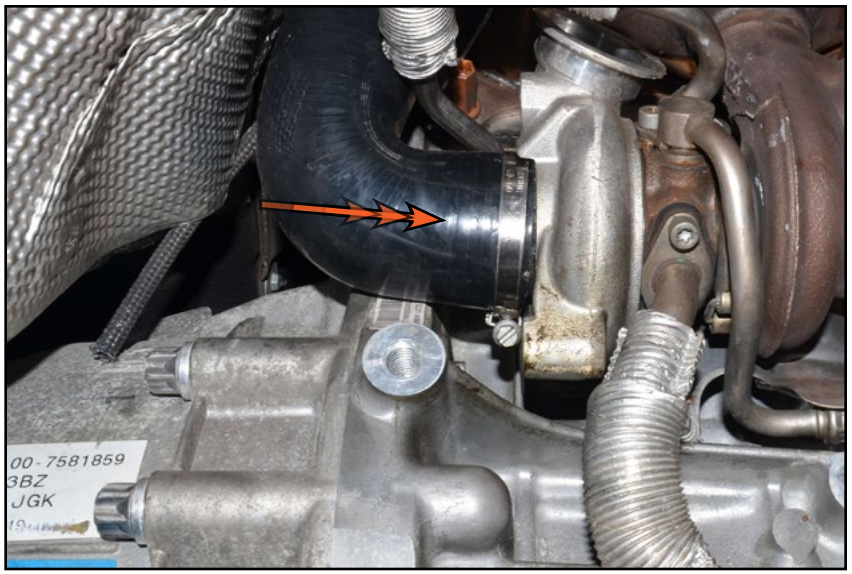
Slide the smaller hose clamp over the turbo inlet snout (reference the photo on the right).

Step 4:

Push the rear turbo inlet hose into position (reference the photo on the right).

As we reviewed on the previous page, a stock rear turbo will have a very skinny inlet snout. You need to be 100% sure that the hose is completely bottomed out on the turbo inlet snout. Removing the rear turbo wastegate really opens a lot of space to work.

Leave the hose clamp on the rear turbo inlet hose slightly loose for now, we'll come back and fully tighten it a little bit later on.

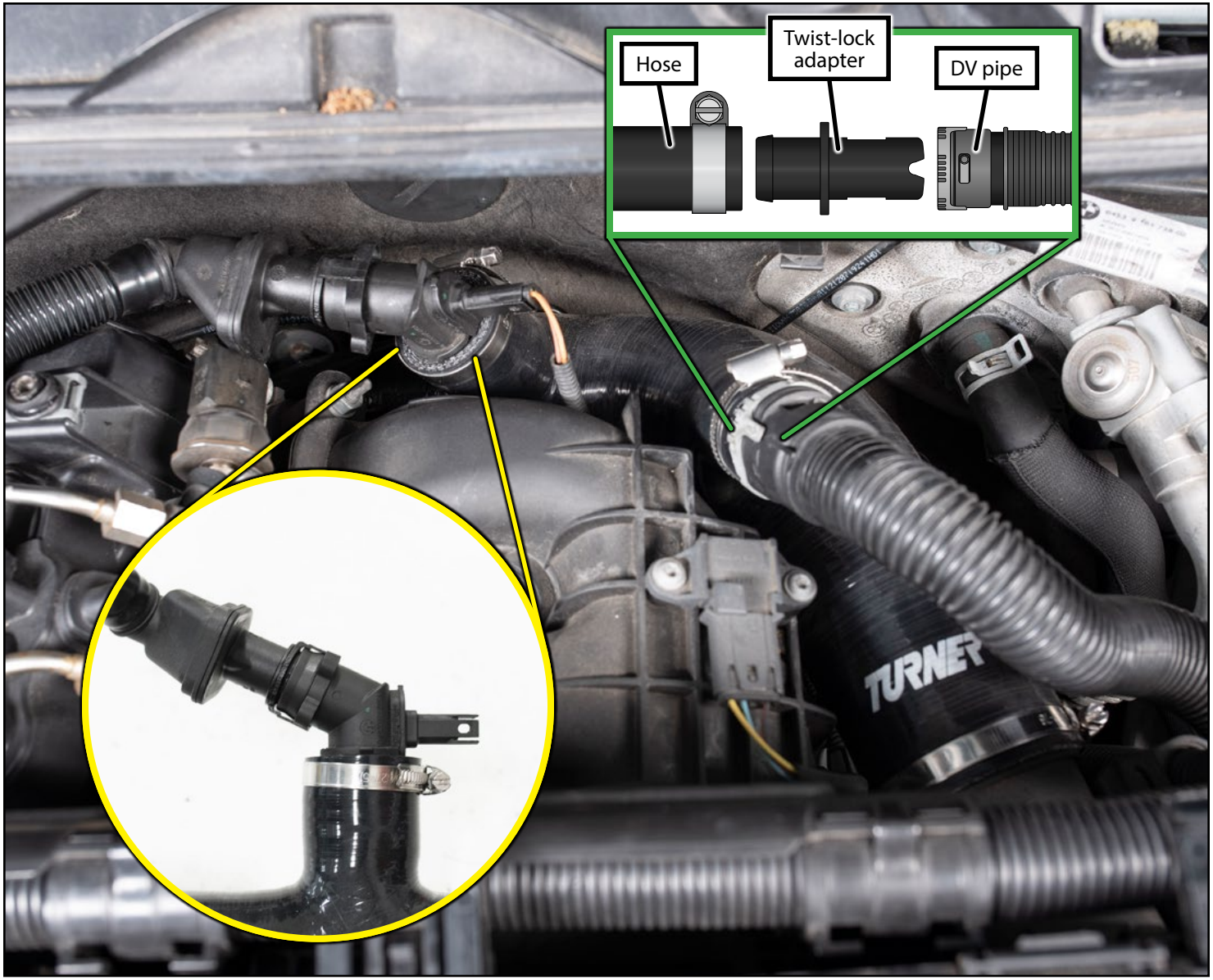


INSTALLING THE NEW SILICONE REAR TURBO INLET

Step 5:

Insert the crankcase breather pipe fitting into the new silicone turbo inlet, then tighten the hose clamp to secure it in place (**YELLOW** inset photo).

Connect the diverter valve pipe to the turbo inlet hose using the twist-lock adapter (**GREEN** inset photo). If you have an aftermarket atmospheric blow-off valve, install the applicable plug into the silicone turbo inlet (not shown).



INSTALLING THE NEW SILICONE FRONT TURBO INLET

Step 1:

Working from above, push the front turbo inlet hose downward along the front side of the engine and toward the front turbo.

Be sure to follow the same routing path as the stock turbo inlet.

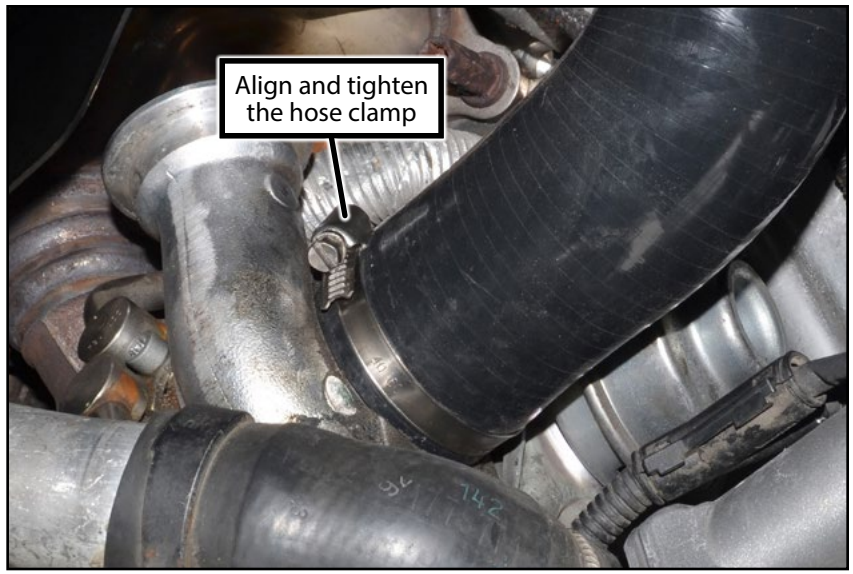
INSTALLING THE NEW SILICONE FRONT TURBO INLET

Step 2:

Install the front turbo inlet hose onto the turbo in the same manner as we did the rear inlet. Remember to slide the small hose clamp over the turbo inlet snout before you push the hose into position.

This inlet snout is much deeper than the one found on the rear turbo, so it will be much easier to get this hose to line up, and the clamp won't be as difficult to align and tighten properly.

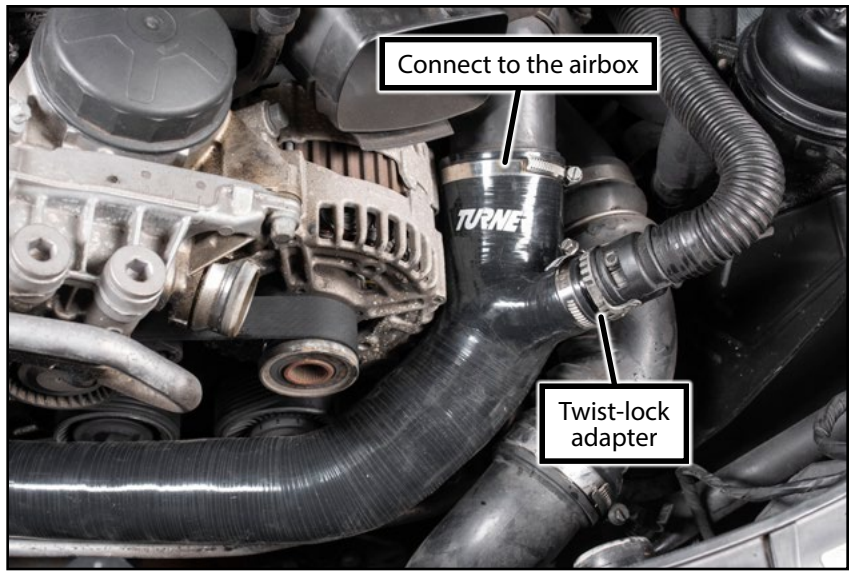
Leave the hose clamp on the front turbo inlet hose slightly loose for now, we'll come back and fully tighten it a little bit later on.



Step 3:

Connect the front turbo inlet hose to the air box and tighten the clamp.

Connect the diverter valve pipe to the turbo inlet hose using the twist-lock adapter. If you have an aftermarket atmospheric blow-off valve, install the applicable plug into the silicone turbo inlet (not shown).



REASSEMBLY PROCEDURE

Step 1:

Reinstall the downpipes and the upstream oxygen sensors (**photo #1**).

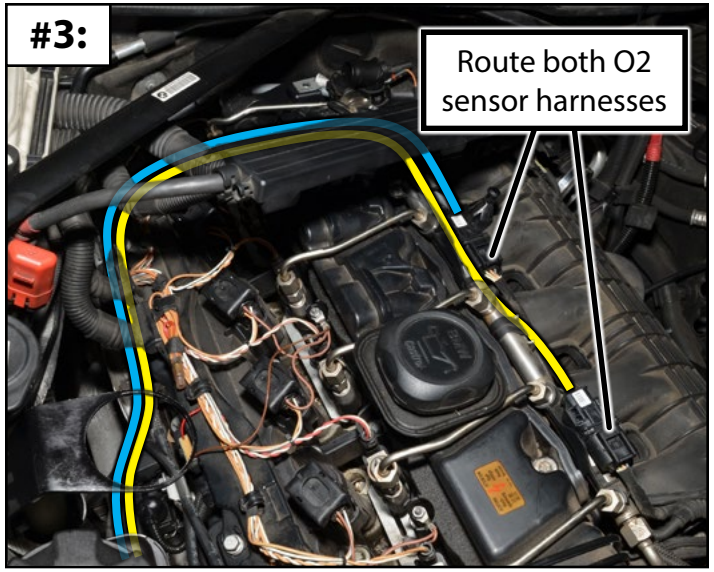
Route the upstream oxygen sensor wiring harnesses up and around the rear inlet hose (highlighted in **GREEN** in **photo #2**). We would suggest using cable ties to secure the harnesses together, and use the rearmost clip on the manifold heat shield to hold the harnesses in place (not shown).

Route the upstream oxygen sensor wiring harnesses around the back side of the engine and reconnect them to the engine wiring harness (**photo #3**).

#1:

#2:

#3:



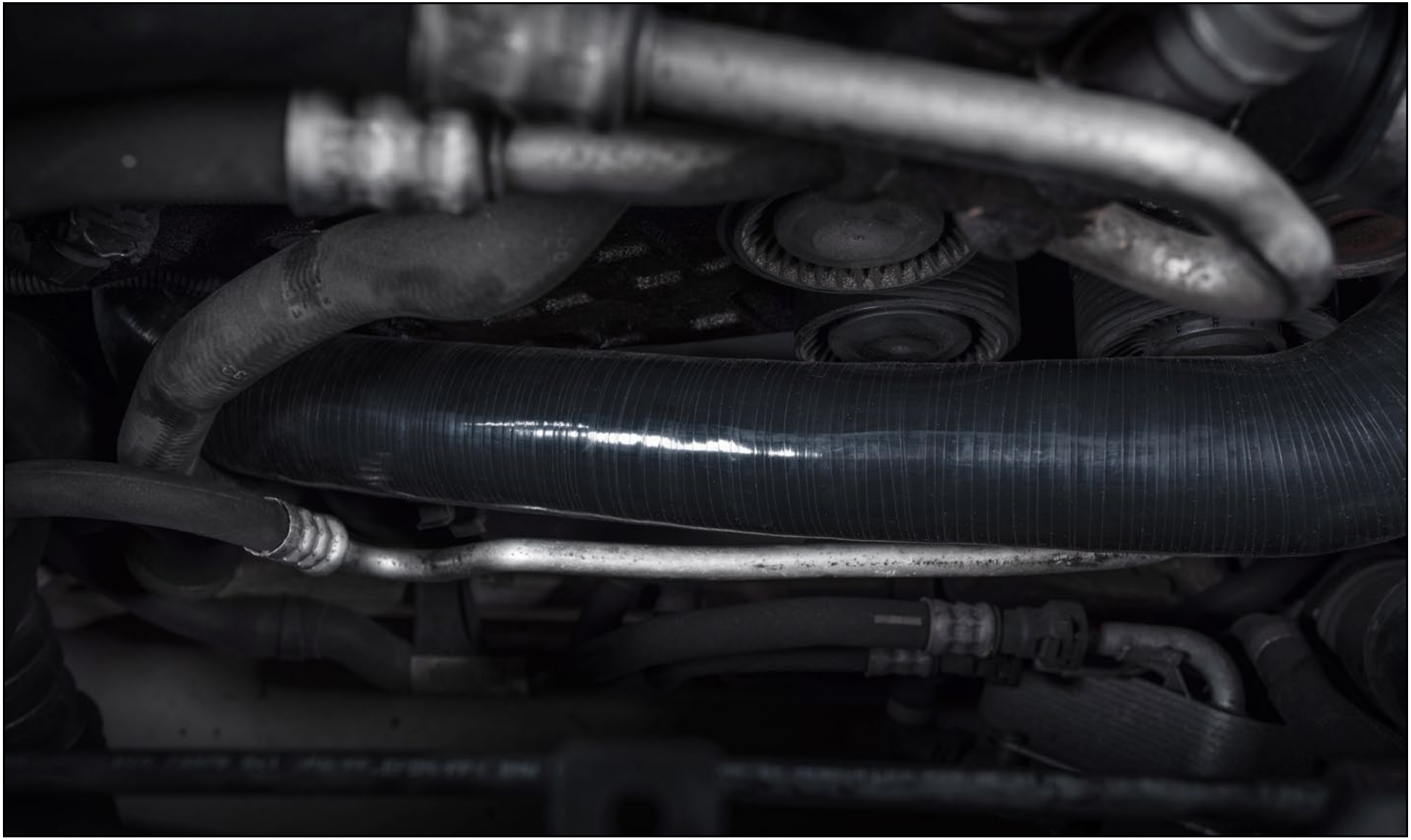
REASSEMBLY PROCEDURE

Step 2:

- [ ] Ensure that all of the hose clamps are tight, don't forget about the clamps on the turbo snouts.

- [ ] Reinstall the rain tray, engine cover, belly pans and any other components in the reverse order of removal.

Your N54 Silicone Turbo Inlet Hose Set 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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