

SOHO MOTORSPORTS SINGLE TURBO KIT (NISSAN 370Z/ INFINITI G37)



Technical Support:

704-839-0435

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PLEASE CONSULT A PROFESSIONAL MECHANIC OR CONTACT SOHO MOTORSPORTS FOR MORE INFORMATION IF YOU HAVE ANY QUESTIONS REGARDING THE INSTALLATION OR VARIOUS COMPONENTS INCLUDED IN THIS KIT

Additional Items Needed to be Purchased Prior to Installation:

- *5 x 0.8 tap*
- *18 – 22-gauge butt connectors*
- Zip ties.
- Vacuum Hose
- Safety wire
- 10mm socket / 10mm wrench
- 12mm socket / 12mm wrench
- 14mm 12-point thin wall spark plug socket.
- 17mm socket
- ¼" vacuum hose

Parts Inventory: *Please check the corresponding circle after item has been located*

- 1- GRT-TBO-490 (Garret G35- 900 / 1050 Reverse Rotation w/ 1.01 Housing)



- 1- 12859 (SOHO Motorsports Intercooler 24" x 8" x 3.5')



- 2- TS-0506 (Turbosmart Hypergate 40 w/ 7 psi spring)



- 2- TS-0204 (Turbosmart Race port Blow Off Valve, Black)



- 1- VHR_SMCO_AT (SM Crossover Piper (AT))



- 1- VHR_SMCO_MT (SM Crossover Pipe MT)



- 1- VHR_SMDPCB (SM Downpipe to Crossover Adapter Pipe)



- 2- VHR_SMDP_DTAT (SM Dump tube) ***1 for Automatic Transmissions***



- 1- VHR_SMUP1_S1 (SM Up-pipe #1/ Stage 1)



- 1- VHR_SMDP1_S2 (SM Downpipe #1 / Stage 2)



- 1- VHR_SMDP2 (SM Downpipe #2)



- 1- VHR_SMCP1_S2 (SM Charge pipe #1)



- 1- VHR_SMIC_DS1 (SM Charge pipe Intercooler Pipe/ Drivers Side #1)



- 1- VHR_SMIC_DS2 (SM Charge pipe Intercooler Pipe/ Drivers Side #2)



- 1- VHR_SMIC_PS1 (SM Charge pipe Intercooler Pipe/ Passenger Side #1)



- 1- VHR_SMIC_PS2 (SM Charge pipe Intercooler Pipe/ Passenger Side #2)



- 1- VHR_SMIP_S1 (SM Intake Pipe/ Stage 1)



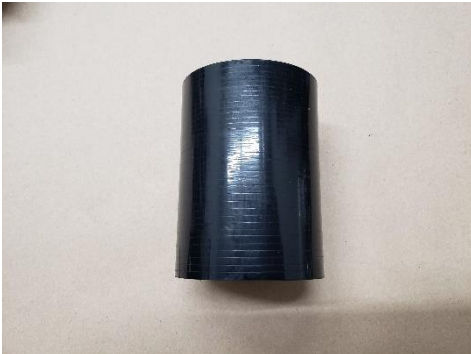
- 1- R40B-250/300 (SOHO Motorsports 2.5" to 3.0" Reducer Coupler)



- 2- C40B-250 (SOHO Motorsports 2.5" Coupler)



- 3- SM_255_C (SOHO Motorsports 2.5" Coupler/ 4" length)



- 2- SM_275_45C (SOHO Motorsports 2.75" 45 Degree Coupler)



- 1- SM_IC_STG1 (SOHO Motorsports Intake Coupler)



- 11- SM_25_TB (SOHO Motorsports 2.50" T-bolt clamp)



- 4- SM_275_TB (SOHO Motorsports 2.75" T-bolt clamp)



- 2- SM_300_TB (SOHO Motorsports 3.00" T-bolt clamp)



- 1- SM_400_TB (SOHO Motorsports 4.00" T-bolt clamp)



- 1- SM_300_VB (SOHO Motorsports 3.00" V-band Clamp)



- 1- CLCCLA048 (Downpipe clamp)



- 1- SM_250_VB (SOHO Motorsports 2.50" V-band Clamp)



- 1- VHR_SMFL (SOHO Motorsports Oil Feed Line)



- 1- VHR_SMDL (SOHO Motorsports Oil Drain Line 45 degree to straight)



- 1- VHR_SMCL1 (SOHO Motorsports Coolant Line (-6 90 degree to 120 degree))



- 1- VHR_SMCL2 (SOHO Motorsports Coolant Line (-6 45 degree to straight))



- 1- SM_WGF (SOHO Motorsports Wastegate Fitting) *Will need to assembly*



- 1- SM_OPESA (SOHO Motorsports Oil Pressure Sender Assembly Kit)



- 1- SM_PSR_VHR (SOHO Motorsports Power Steering Relocation Bracket)



- 1- SM_OIL_021 (SOHO Motorsports Turbo Coolant Fitting Kit)



- 1- SM_FLA_0101 (SOHO Motorsports Oil Drain Fitting Kit/ Stage 1)



- 1- SM_FLA_010 (SOHO Motorsports Oil Drain Fitting Kit)



- 1- SM_OF_VHR (SOHO Motorsports Oil Feed Fitting)



- 1- SM_2BF (SOHO Motorsports 3" Two Bolt Flange)



- 1- SM_TH_VHR (SOHO Motorsports Turbo Hanger)



- 1- SM_TB_VHRS2 (SOHO Motorsports Stage 2 Turbo Bracket)



- 1- SM_PS_RLP (SOHO Motorsports Power Steering Relocation Pipe)



- 1- SM_HR (DEI 50ft Exhaust Wrap)



- 1- SM_HRT34 (DEI ¾" Heat Reflective Wrap)



- 1- SM_HRT12 (DEI ½" Heat Reflective Wrap)



- 1- Z1_OPS_Kit (Z1 Motorsports Oil Pan Spacer Kit)



- 1- SM_PS_AK (SOHO Motorsports Power Steering Pump Adaptor Pump Kit)



- 1- SM_HPS_L (SOHO Motorsports High Pressure Power Steering Line)



- 1- SM_PSR_F (SOHO Motorsports Power Steering Rack Fitting)



- 1- SM_PSR_L (SOHO Motorsports Power Steering Reservoir Line)



- 1-SM_PS_P (Power Steering Pump (370z) **For G37 Models**)



- 1- SM_PS_PK (SOHO Motorsports Power Steering Pump Bracket (370Z) **G37 Models**)



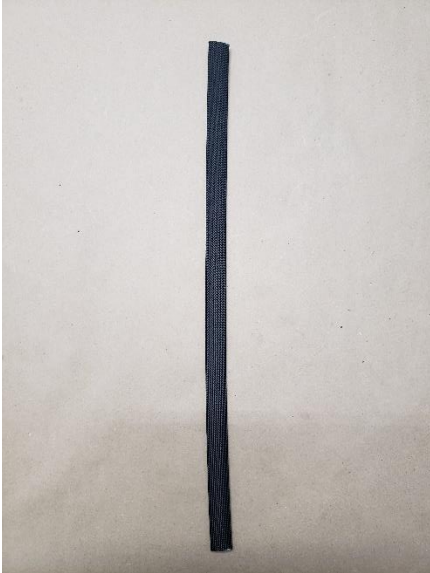
- 2- SM_TK_B (SOHO Motorsports Turbo Drain Bolts)



- 1- SM_FP_HW (SOHO Motorsports Fuel Cover Heat Wrap)



- 1- SM_PS_HW (SOHO Motorsports Power Steering Heat Wrap)



- 1- SM_AT_LK (SOHO Motorsports Auto Trans Line Kit)



- 2- SM_PCV_F (SOHO Motorsports PCV Breather Filter)



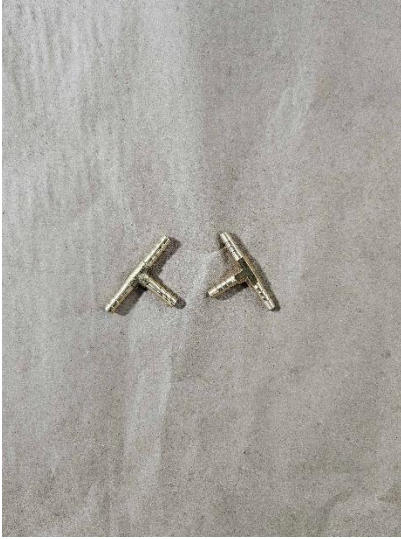
- 1- id1050.48.14.14.6 (Injector Dynamics 1050cc Injectors)



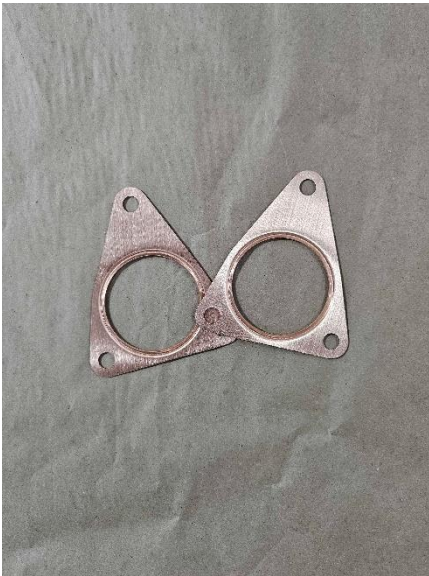
- 1 – SPLFRH (SPAL Relay Kit)



- 2 – 14BT (1/4" Brass Tee Fittings)



- 2 – ZSPG (Z Speed Gaskets)



- 1- RU2820KN (Intake Filter)



- 1- SM_OPS_A (SOHO Motorsports Oil Pan Spacer Adapter)



Single Turbo Kit Installation Procedures:

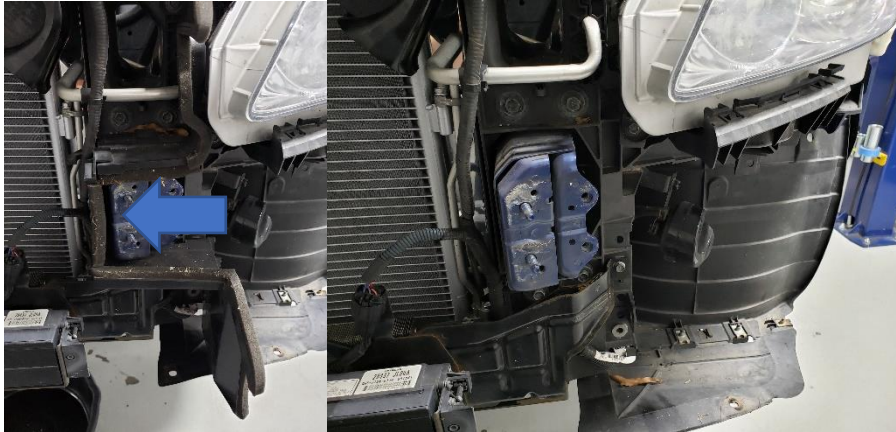
1. Disconnect the negative terminal of the battery, using a 10mm socket or wrench. (**10 mm**)



2. Drain coolant, oil and power steering fluids.
3. Remove stock intakes or aftermarket intakes.



4. Remove the front bumper and remove plastic trims along the frame horns.



5. Remove the top bolt and plastic clips that hold plastic intake duct into place on both sides as seen below. Passenger side will have harness clip that will need to be removed prior to removing plastic intakes.



If you have aftermarket intakes, you can skip this step as this has already been done.

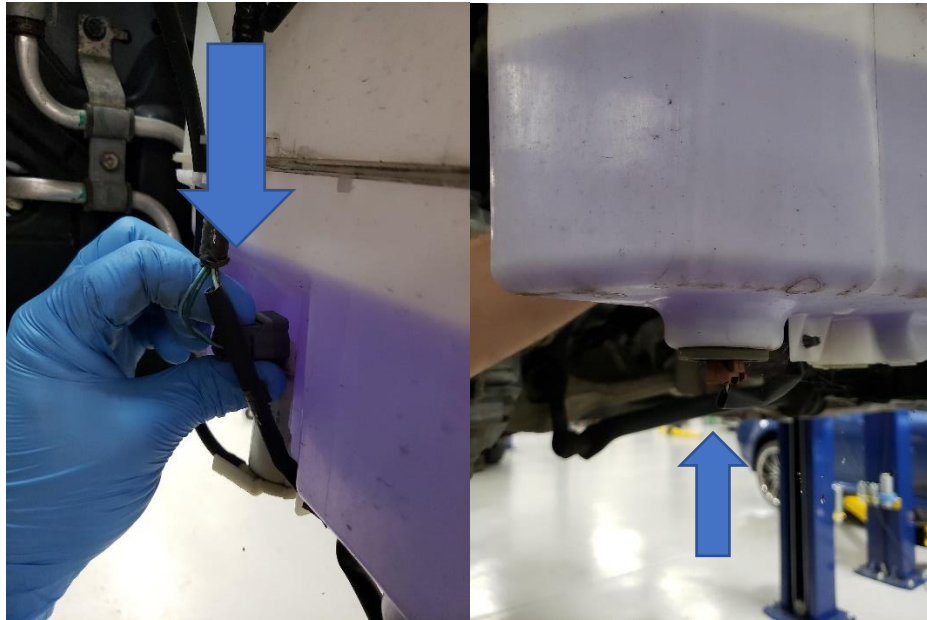
6. Proceed to remove both front two wheels.



7. Remove the passenger front fender liner and proceed to removing the windshield washer reservoir.



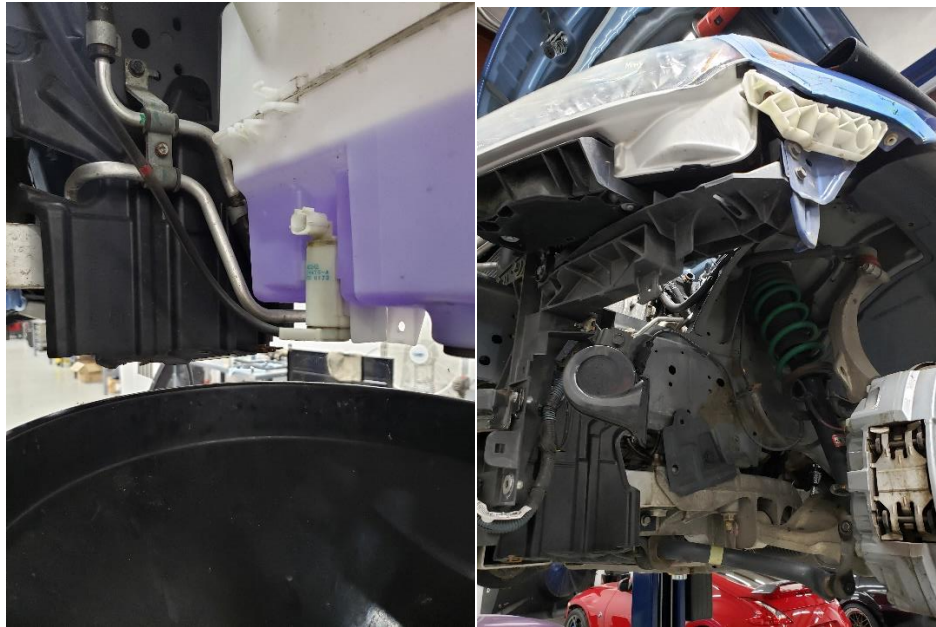
8. Unplug both harnesses on the windshield washer reservoir, one on the back and one on the bottom as seen in the picture below.



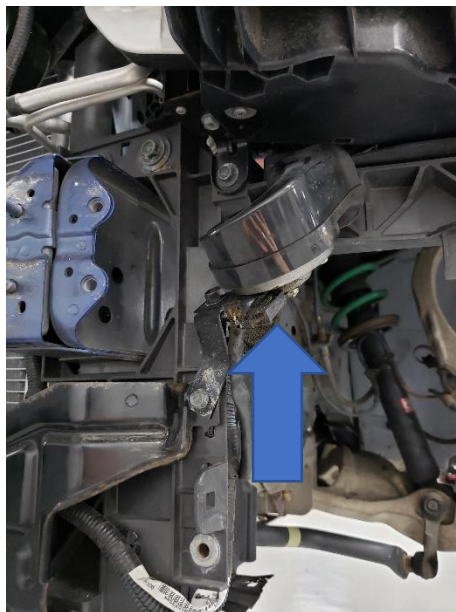
9. Using the zip ties provided, zip tie the windshield washer harness to the main headlight housing and away from the tire.



10. Remove the line connected to the windshield washer reservoir and allow the fluid to drain, while the fluid is draining remove the driver's side front fender liner.



11. Once the fender liner has been removed, relocate the horn as shown below.



12. After all the fluid has drained from the windshield washer reservoir, remove the washer reservoir.

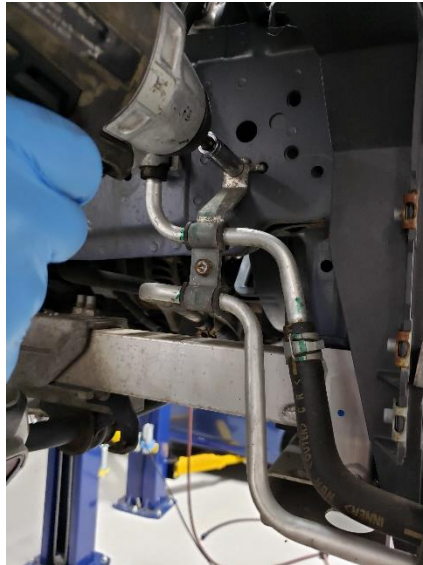
13. Remove the three bolted plastic covers on each side of the frame horn as seen below.



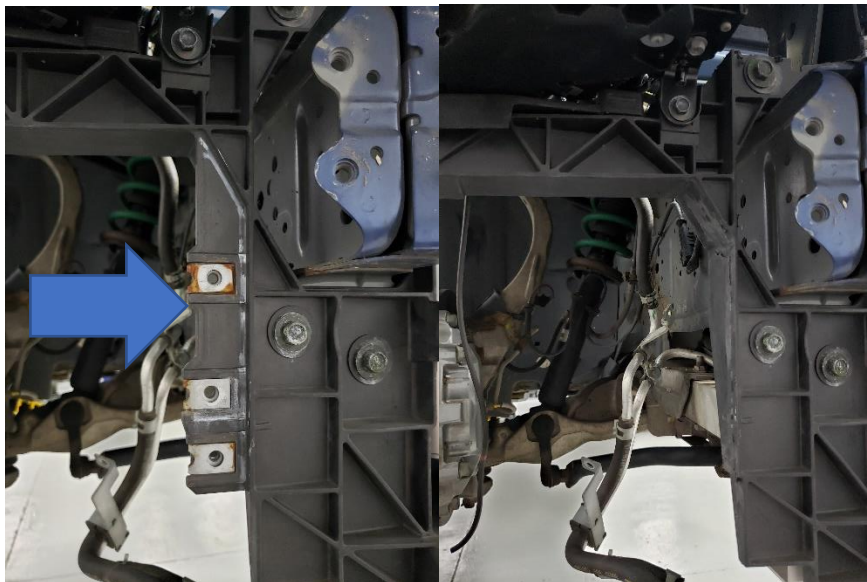
14. Remove the large plastic cover behind the power steering lines as seen below.



- Using a 10 mm socket remove the power steering line bracket and unhook the power steering cooler lines from the radiator support.



- Using a marker, outline the plastic section as seen below and trim area that is outlined as seen below.



17. Raise the vehicle up and proceed to remove the exhaust, y-pipe and catalytic converters.



18. Remove the passenger side heat shield.



19. For the 370z you will need to reverse the bolt orientation on the subframe so that the lower downpipe can clear. *This bolt is oriented correctly on the G37 models.*

20. Remove the harness ground and manifold heat shield located on the passenger side of the vehicle.



21. Remove the lower heat shield located on the manifold which can be seen below.



22. Remove the fuel line bracket and green clip as seen in the photo below.

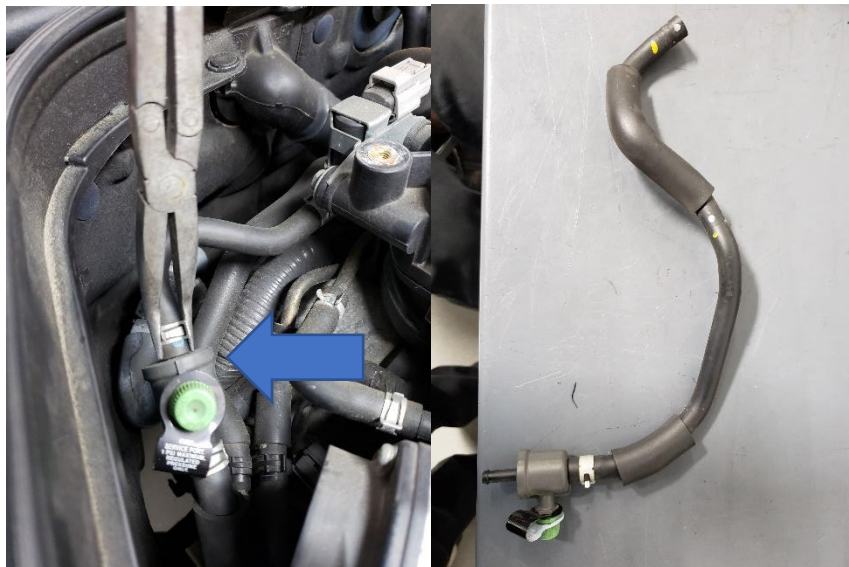


23. Proceed to unhook the fuel line via the green clip on the line, at this point, you will start to leak fuel, make sure you have a drain bucket underneath the vehicle to catch the fuel as you remove the line.

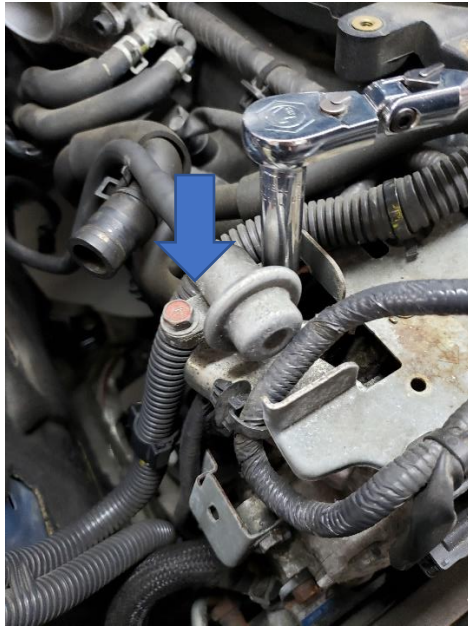


Be aware that fuel is pressurized and to have a towel over or near the line as you are removing the line

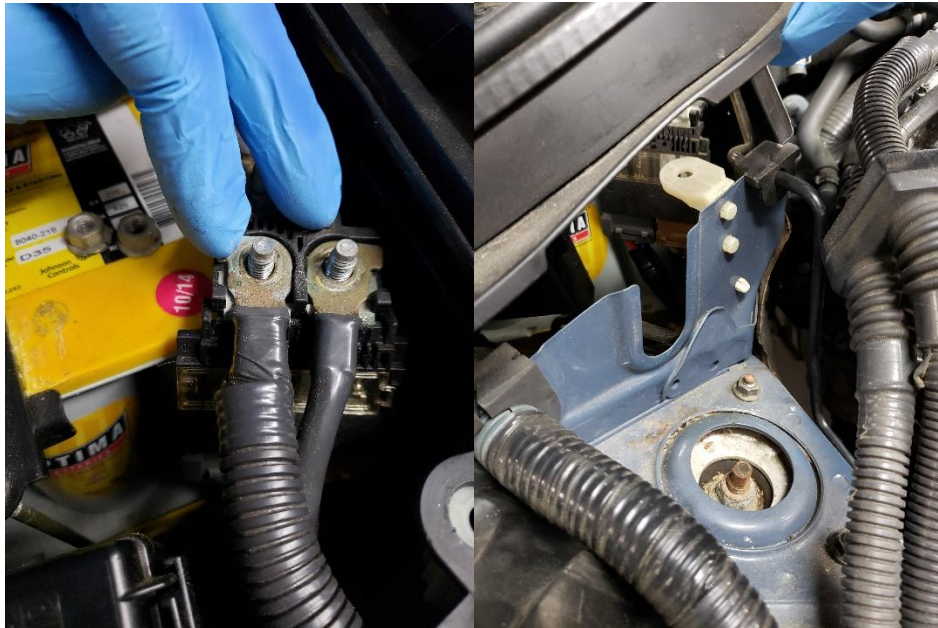
24. Move to the top of the engine bay and disconnect the evap line near the passenger side throttle body so that you can wrap it in heat protective material further along the instructions.



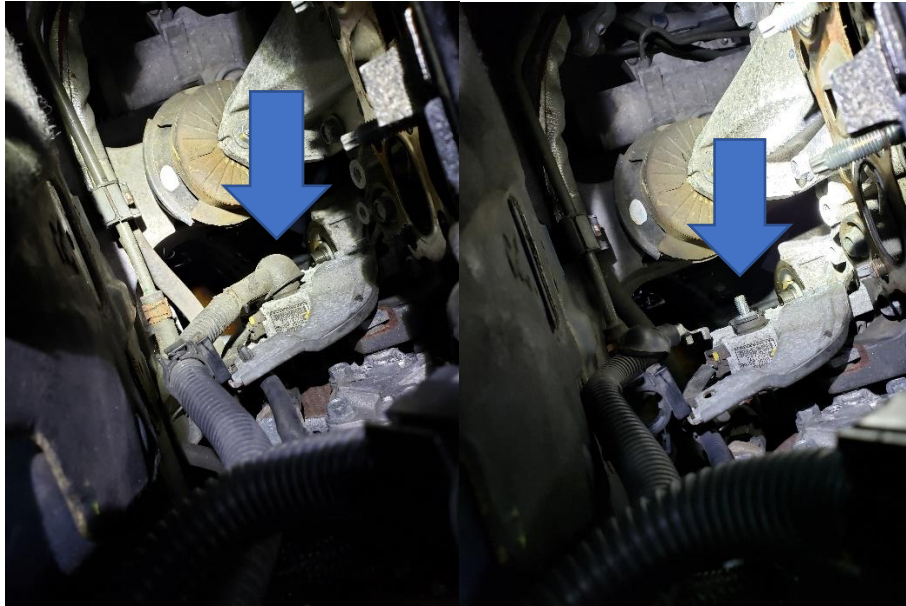
25. With the evap line removed, begin to remove the two (**10 mm**) bolts that hold the stock fuel pressure regulator on top of the engine and remove the fuel line.



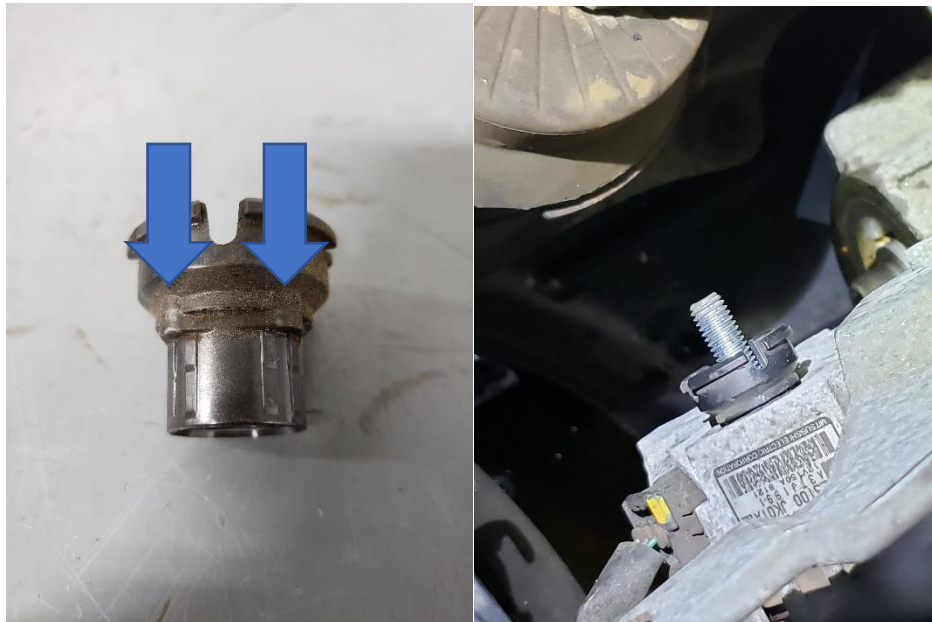
26. Remove the two nuts that hold the two positive battery cables to the battery and slowly route the two wires into the engine bay as seen below.



27. Remove the alternator primary (**12 mm**) nut on the back of the alternator followed by the secondary nut and the plastic housing.



28. You will need to modify the plastic housing that sits in the alternator assembly by sanding down the rounded corners on the plastic housing as seen below. You will need to test fit the plastic housing after sanding down the corners to ensure that it will fully turn in the alternator once installed as seen below.



29. Remove the clips that hold the wiring harness to the chassis, be careful when removing the clips to not break them, as the clip on the left will be reused.



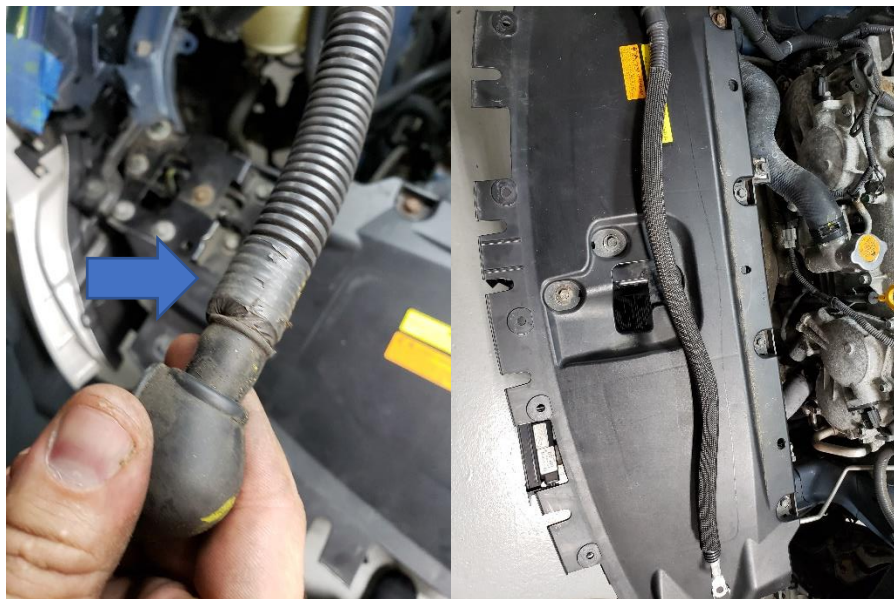
30. Once the clips have been removed, remove the zip tie in the larger of the two clips as it will be used again to hold the harnesses to the chassis.



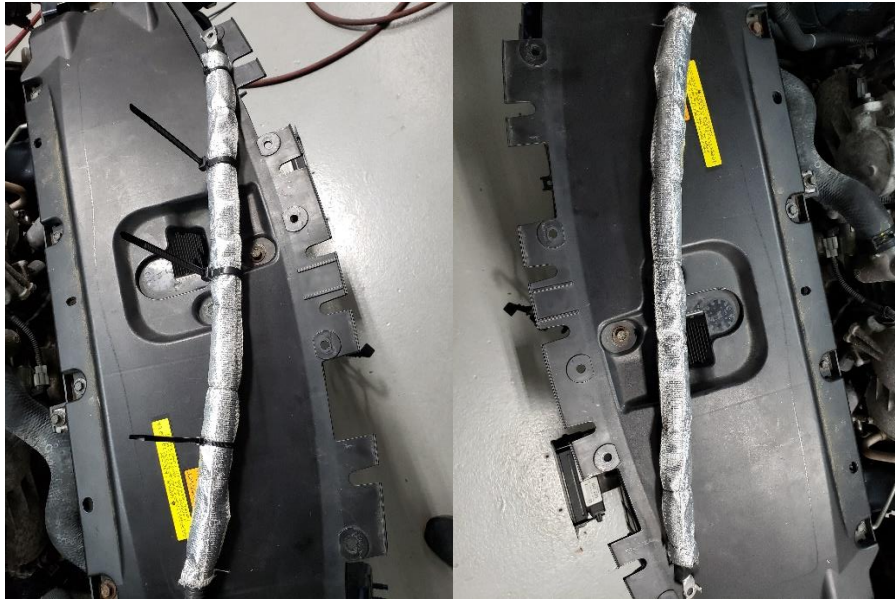
31. Remove the tape that is holding the two harnesses together as shown below.



32. Locate the alternator wire and remove the black tape that is holding the alternator boot onto the heat shield. Once the black alternator boot has been removed, you will need to install the black heat sleeve provided onto the OEM harness and heat shield.



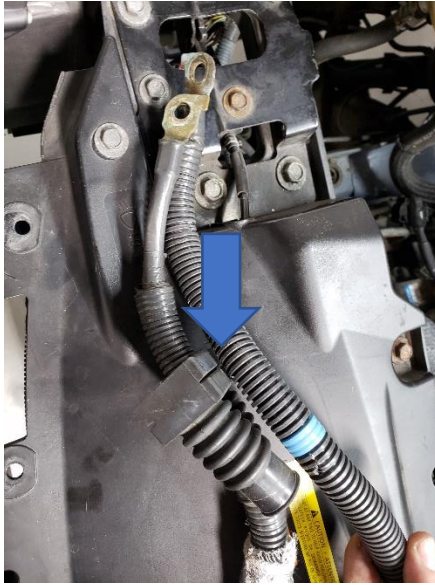
33. After the black heat sleeve has been installed onto the harness, you will need to install the reflective heat sleeve over the same harness and secure it with either safety wire or zip ties.



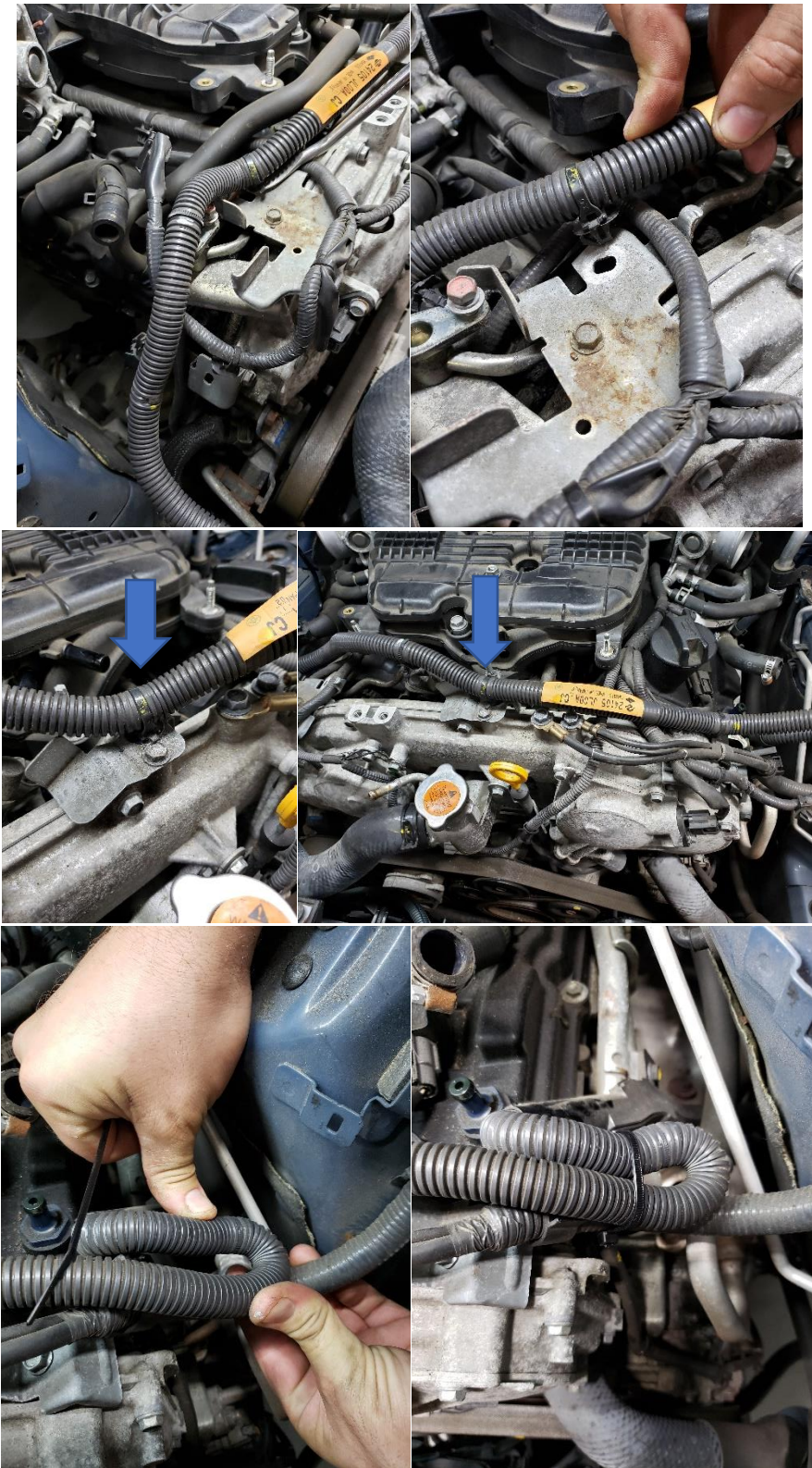
34. Once completed, move this wire to the side as you will need it further in the installation.



35. Remove the starter cable from the dual rubber grommet that is holding the alternator wire as pictured below.



36. Slide the starter cable to the right along the engine harness bracket on the front of the motor as seen below and zip tie the excess cable to the chassis harness located on the driver's side.



37. Install an 11.5" black heat sleeve section over the starter cable first, followed by a 12" reflective heat sleeve section over the black heat sleeve and safety wire or zip tie it secure.



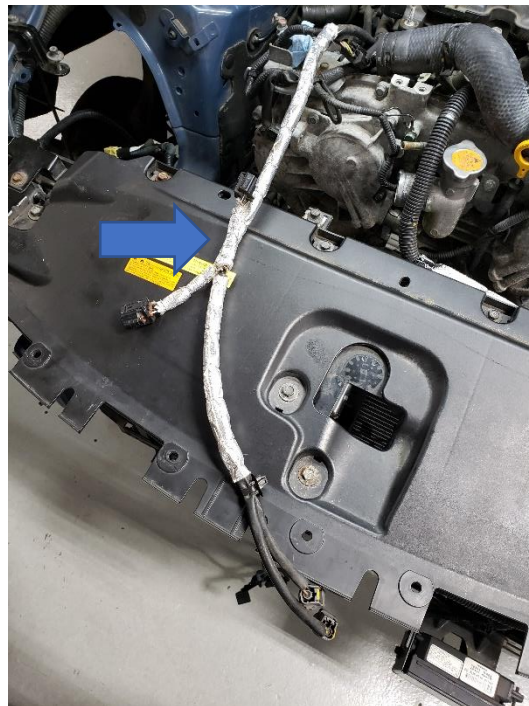
38. Locate the two sensor connectors on the lower passenger side of the engine and disconnect them at this time as seen below.



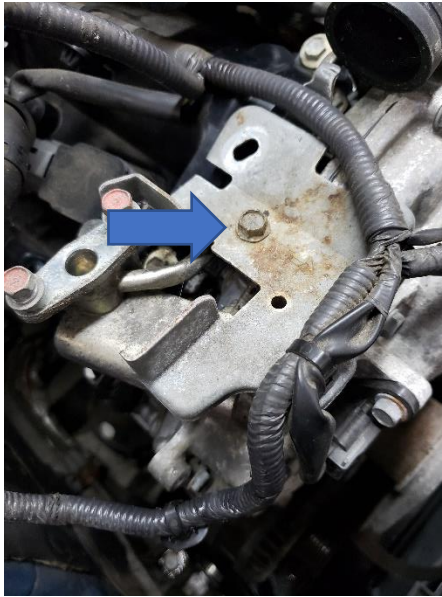
39. Move the smaller harness that has the two connectors up towards the front of the engine as you will now start to install the reflective heat protectant onto this harness.



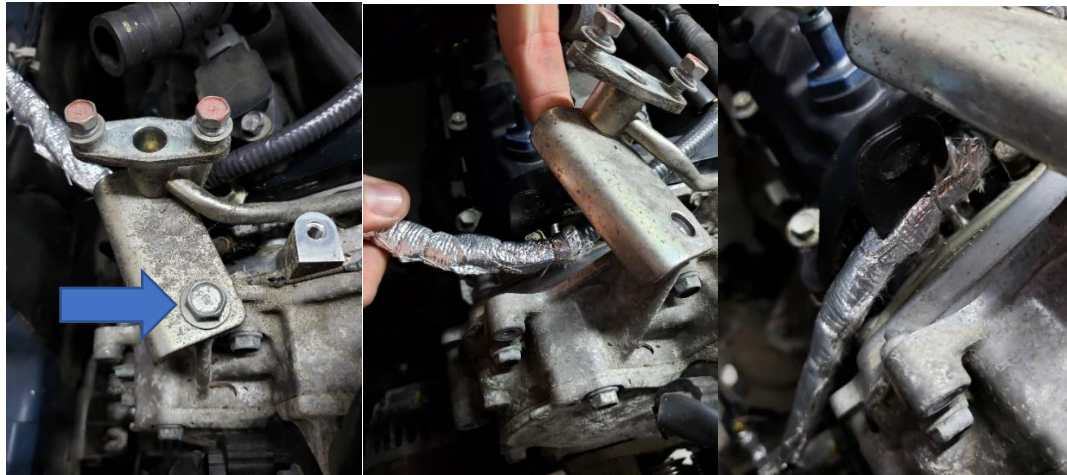
40. Install the reflective heat sleeve over the small harnesses first and then the larger portion of the same harness as seen below. Once heat wrapped, zip tie the power steering sensor connector to the larger portion of the harness as seen below. With this kit, we remove the power steering sensor.



41. Locate the bracket on the top left corner of the engine bay and remove this bracket along with the clip that holds the harness onto it.



42. Loosen the (**12mm**) nut that holds the fuel pressure regulator bracket to the engine and route the small harness that you just finished wrapping underneath it as seen in the picture below.



Note: leave this bolt off as you will need to remove this component when installing the injectors

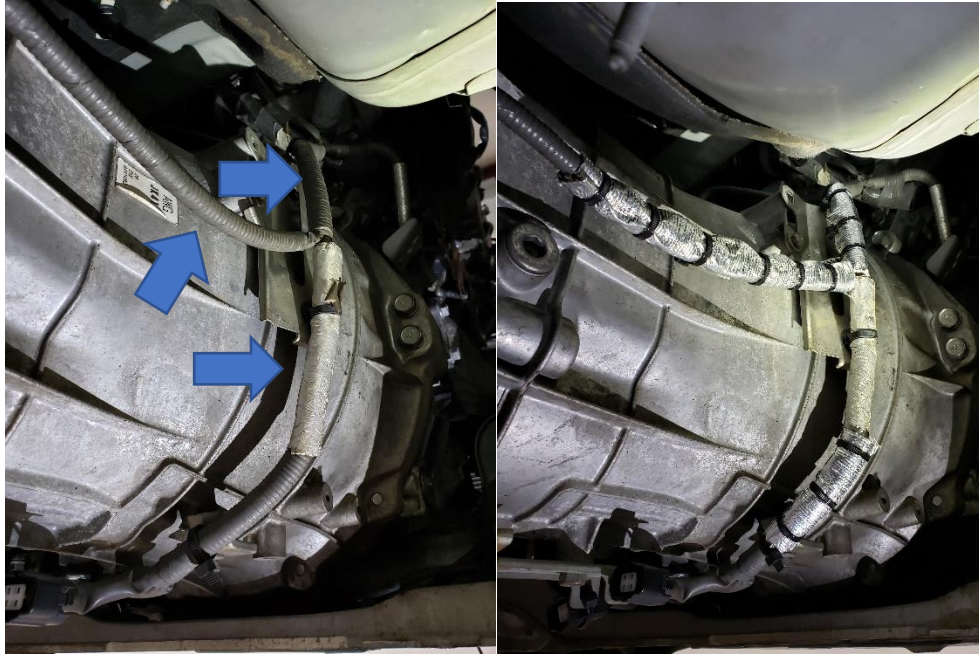
43. Remove the main fuel line that is attached to the fuel pressure regulator and locate the evap line that was removed in step 24 earlier.



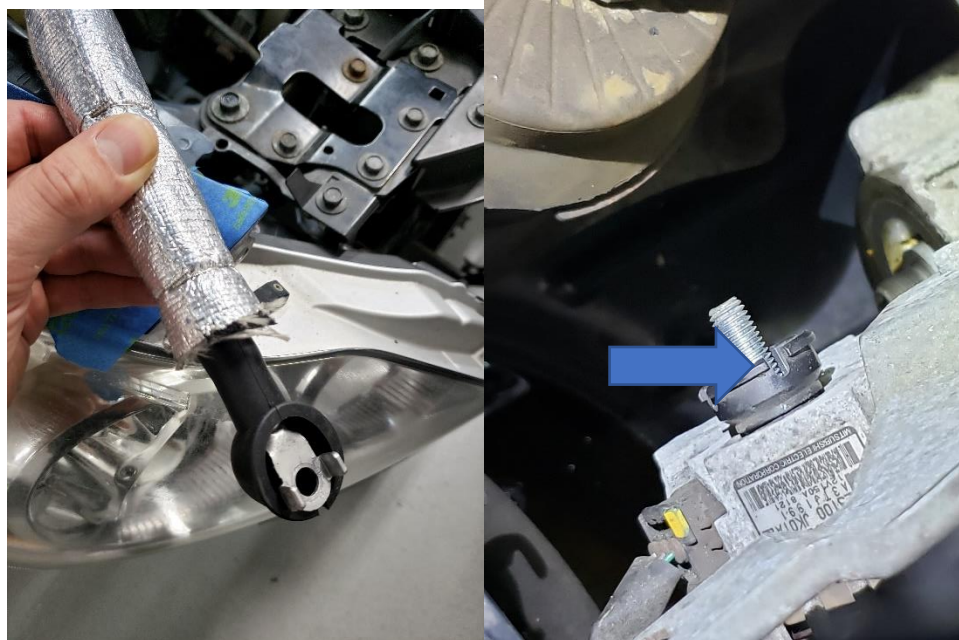
44. You will now wrap these two lines with the black heat sleeve, one will require a 21.5" section and the other will require a 16" section, which can be seen below.



45. You will now need to move to the bottom of the vehicle near the passenger side of the transmission. The three lines that are already heat wrapped will need to be heat wrapped with another layer of heat wrap. You will need to cut out three sections of heat wrap which will include an 8", 5" and 3" section. These sections will then need to be zip tie to the harness as seen below.



46. You will need to go back to the alternator wire at this point and install the plastic housing into the back of the alternator, ensure that the one of the four openings are facing upwards at twelve o'clock to allow the alternator cable to mount flush with the housing.



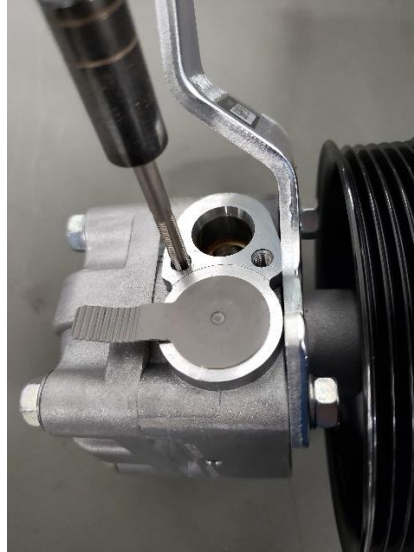
47. Install the alternator wire onto the alternator.
48. At this time, you will need to remove the power steering pump by loosening the tension on the serpentine belt tensioner, removing the belt and then the power steering pump as seen below.



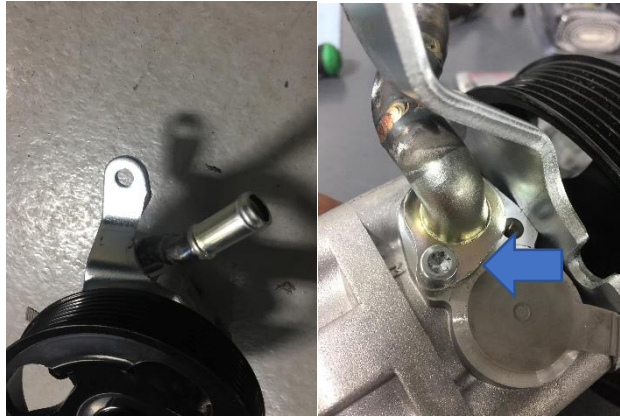
49. With the power steering pump removed, you will need to remove the OEM hard line that is mounted onto the power steering pump and modify the bracket. Modify the bracket along the orange line shown below.



50. Once you have modified the bracket, you will need to tap the non-threaded hole on the power steering pump as seen below with the tap recommended at the beginning of the instruction manual.



51. With the bracket now modified and the hole tapped, you will need to install the SM Power steering relocation pipe as shown below.



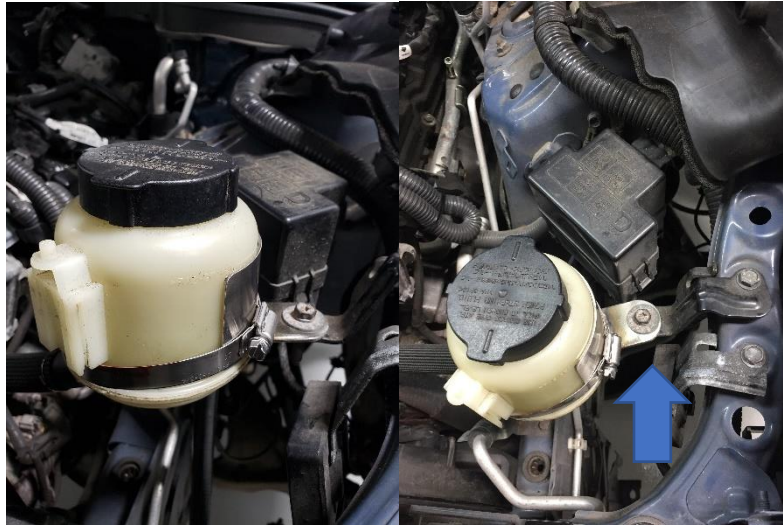
52. Install the Power Steering Pump adaptor kit onto the power steering pump.



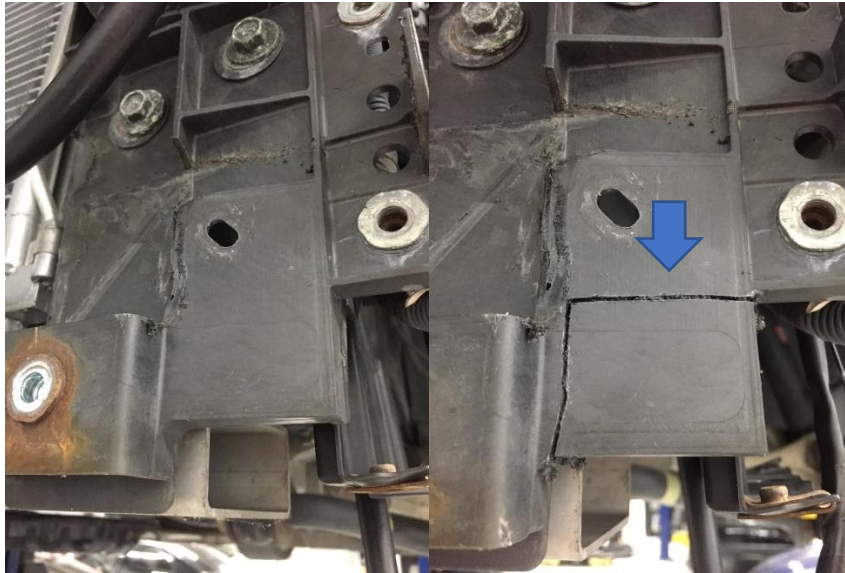
53. With the power steering pump modified and the fittings installed, proceed to installing the power steering pump back into the vehicle.



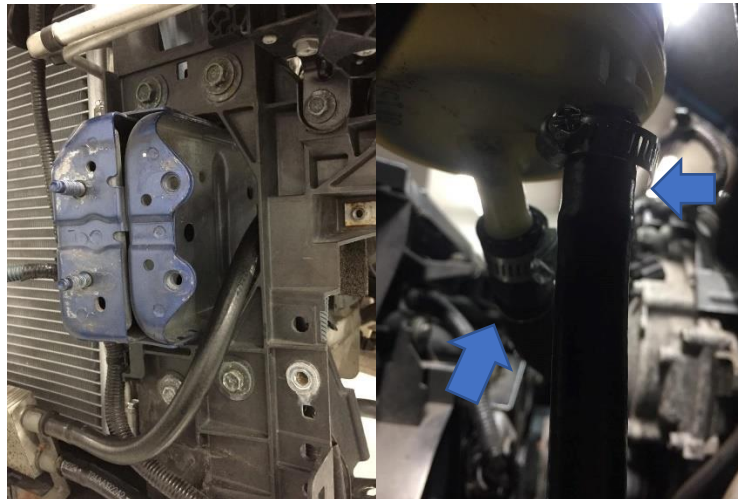
54. Remove the OEM power steering reservoir located on the passenger side and move it to the driver's side using the power steering relocation bracket.



55. Cut an opening in the driver's side radiator support as seen below to allow for proper routing of the power steering hose to the rack.



56. With the power steering pump installed and the power steering reservoir relocated, you will need to run the new power steering lines for the reservoir. The vertical fitting that comes off the power steering reservoir will need to go to the top of fitting for the power steering oil cooler. The diagonal fitting that comes off the power steering reservoir will need to go to the power steering hard line on the power steering pump.



57. You will need to remove the OEM power steering lines that come off the power steering rack and install the power steering rack adaptor fitting.

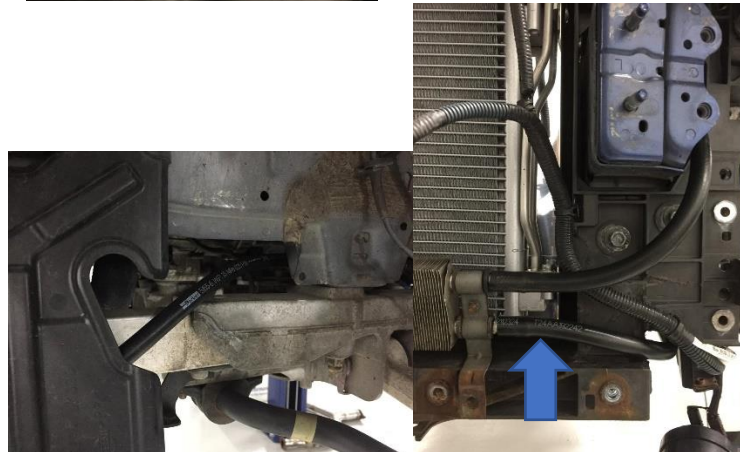
We highly recommend using thread sealant when installing this fitting



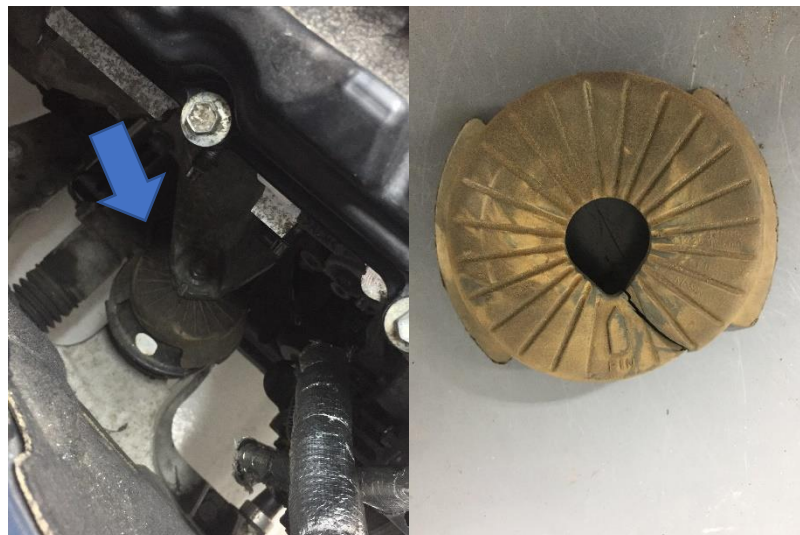
58. Route the high-pressure power steering line from the power steering rack adaptor fitting to the power steering pump adaptor fitting. When routing the line be sure to route the line above the hard line as pictured below and close to the engine as you make your way up to the power steering pump.



59. Route the rubber line next to the AN hard line to the bottom port of the power steering oil cooler, be sure to add a section of black heat sleeve as you get closer to the power steering rack.



60. With the power steering lines routed, locate the rubber mount on the top of the passenger side motor mount and remove it.



61. Locate the black bracket that is located on the passenger side frame rail as seen below, this may require loosening the lower control arm to allow for additional clearance to remove this bracket.

This step is only if you have an Infiniti G37



Fuel Injector and Fuel Pump Install

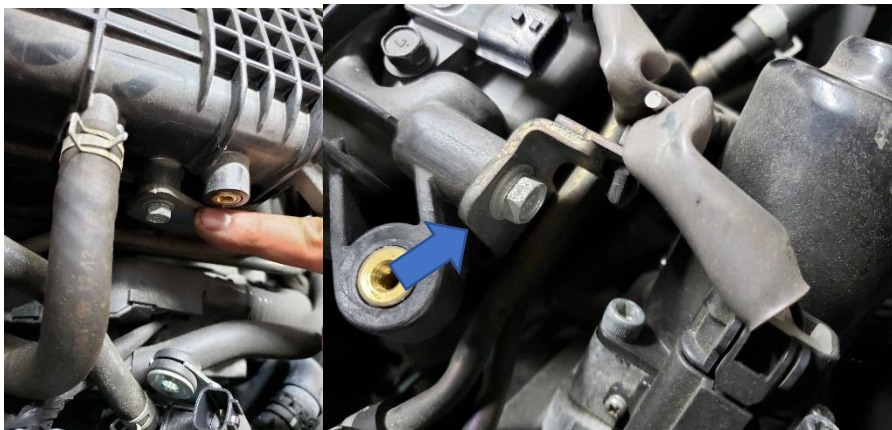
62. Disconnect both throttle body connectors as seen below.



63. Disconnect the map sensor and evap pressure sensor connectors.



64. Remove the two bolts that hold the stock evap lines and vacuum lines as seen below on the back of the throttle bodies.



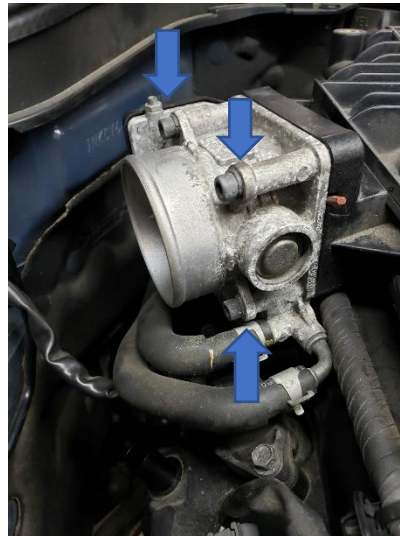
65. Disconnect the two vacuum lines to the manifold that are located on the back of the throttle bodies.



66. Remove the clamp holding the brake booster line found on the back of the manifold.

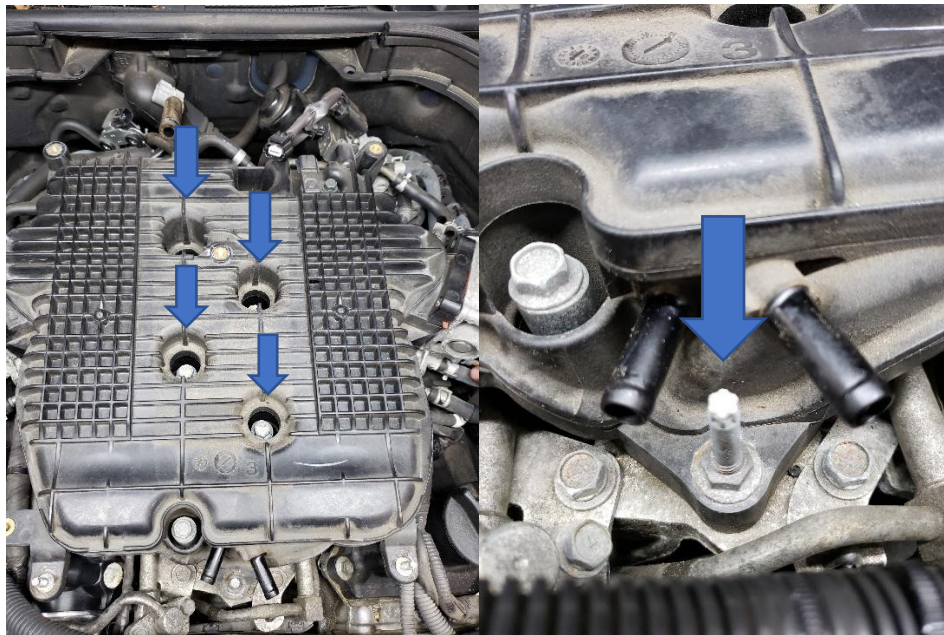


67. Remove the four bolts that hold the throttle bodies to the intake manifold (**H5 socket**)



Make sure to not touch the butterfly on the inside of the throttle body when removing them as damage can occur to the throttle body

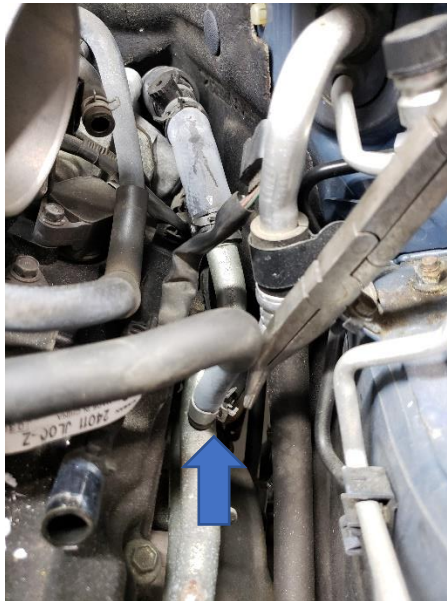
68. Remove the six (**12mm**) bolts that are found on the intake manifold along with the two (**12mm**) nuts that are located on the front and rear of the manifold.



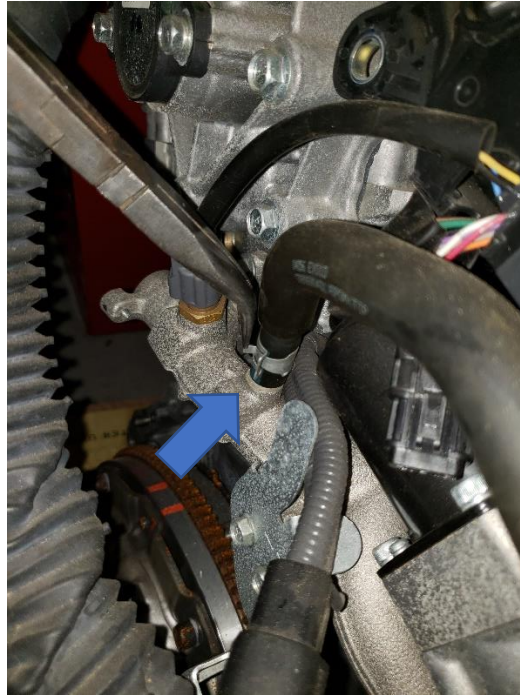
69. Remove the intake manifold and be sure to cover the lower intake manifold to prevent anything from falling into the engine.



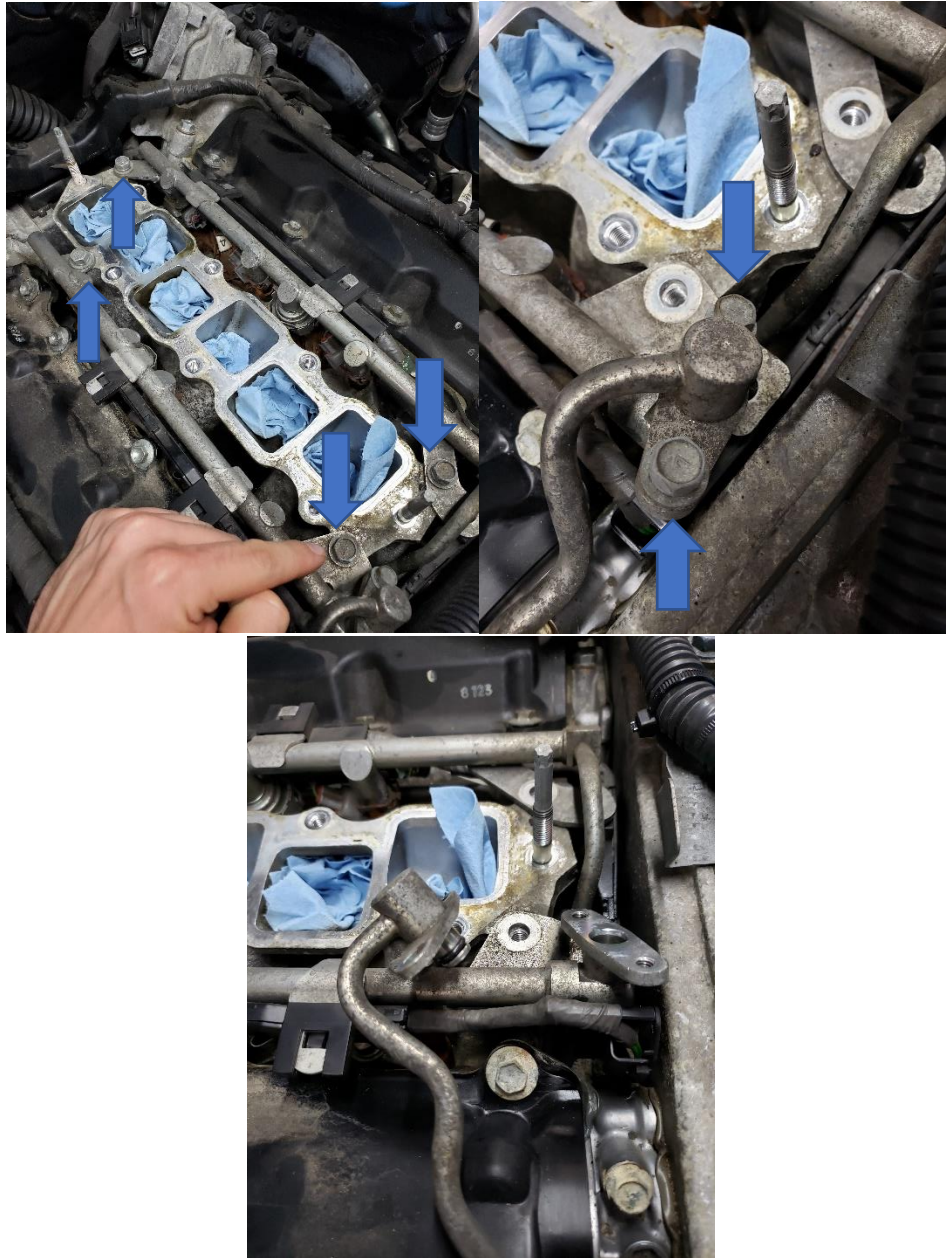
70. With the intake manifold removed, remove the clamp holding the coolant line to the throttle body on the driver's side as seen below.



71. You will now move towards the rear of the engine and remove the coolant line that is mounted in the back of the engine going to the passenger side throttle body.

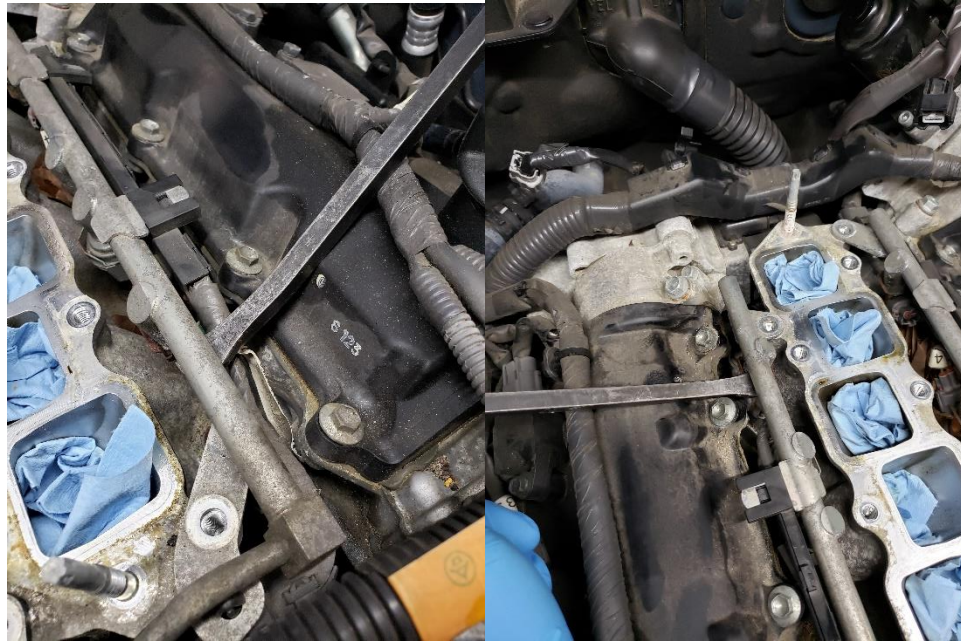


72. Remove the four (**12 mm**) bolts that hold the fuel injector rails along with the two (**10 mm**) bolts that hold the other end of the hard line for the OEM stock fuel pressure regulator.



Note: When removing the hard line, be careful to not damage the black o ring

73. Move the OEM fuel pressure regulator hard line component to the side and use a prybar to slightly apply pressure onto the fuel rails to aid in removal as seen below.

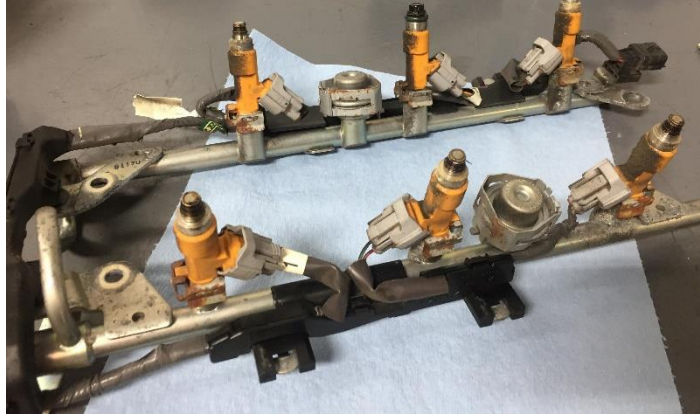


74. Slowly pull out the fuel rails as you will need to disconnect the rear connector to the injector harness as seen below.



75. Once you have removed the fuel rails, please check inside the fuel injector holes on the lower intake manifold to see if any of the o rings may still be in the manifold.
76. Place the fuel rail on a table and begin the process of replacing the fuel injectors with the new ID 1050cc injectors provided.

****We advise that safety glasses are worn for the next few steps****



77. Remove the clip that is located on the bottom of the stock fuel injectors as seen below, gently apply pressure onto the fuel injector to remove them.

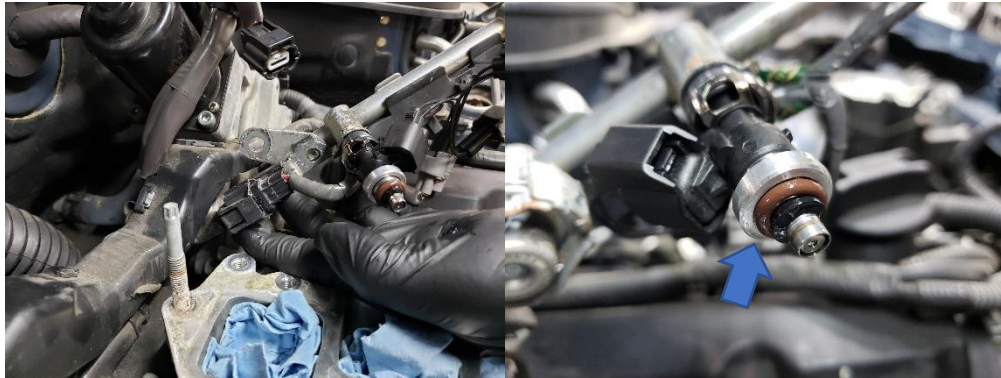


78. Prior to installing the new injectors onto the fuel rail along with the injector dynamic clips, be sure to lubricate the black o-ring on the injectors.

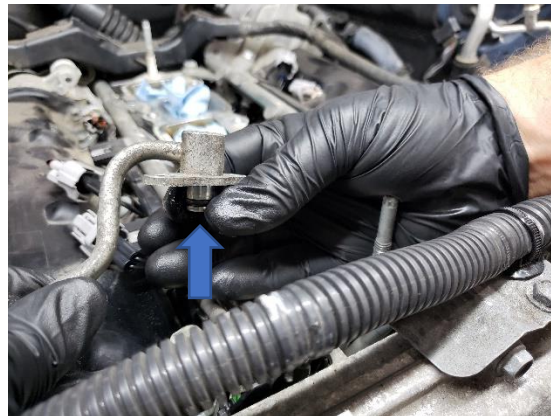


****Be sure to orient the connector 180 degrees away from the metal tab on the fuel rail****

79. At this time install the fuel rail along with the new injectors back into the car, make sure that you have lubricated the brown o ring on the end of the injectors and that you have not crossed any of the connectors in the fuel injector harness.



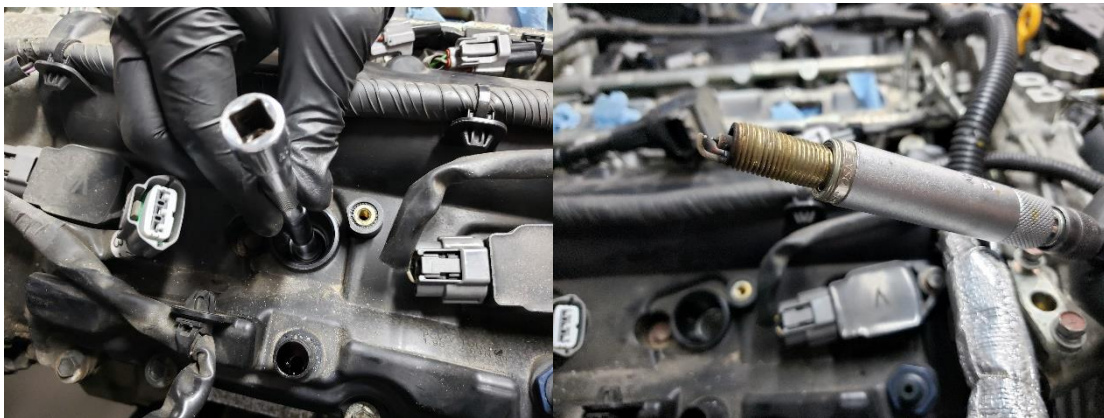
80. With the fuel injectors and fuel rail installed, proceed to installing the fuel hard line as seen below using the two 10mm and one 12mm bolt. Please lubricate the o-ring on the one end of the hard line and check that the o ring is not torn.



81. The stage one/ two will not come with spark plugs, If you are planning to replace the spark plugs, now is a good time.
82. Remove the ignition coil connector and using a (10mm) socket, remove the bolt that holds the ignition coil down.



83. Remove the ignition coil and use a 12 point thin wall 14mm spark plug socket to remove the spark plugs.



84. Install the new spark plugs and install the coils back into their original location.

Fuel Pump

85. Locate the fuel pump location, in the G37 it is going to be underneath the rear seat on the passenger side. For the Nissan 370z the fuel pump is also going to be located on the passenger side behind the seat.



86. Once you have located the fuel pump, rotate the black tabs that hold the fuel pump cover clockwise and remove the fuel pump cover.



87. Pick up the fuel pump cover and locate the main fuel pump connector and remove the connector.



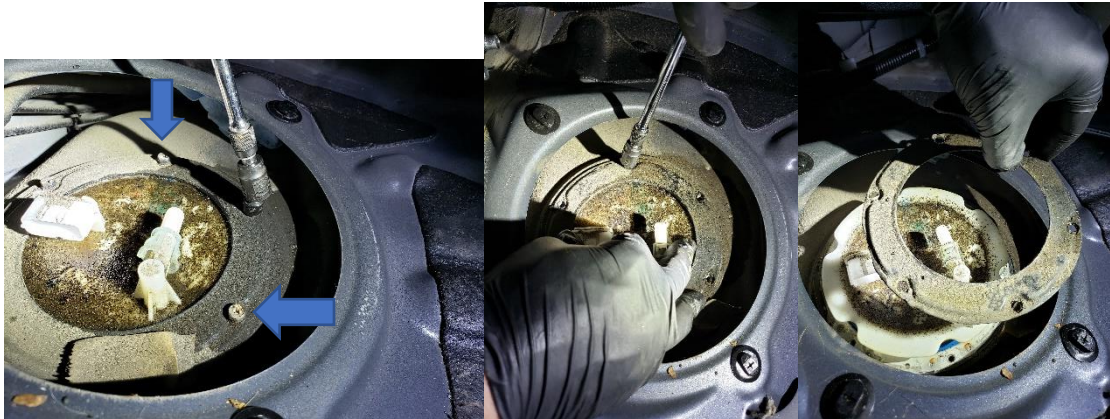
88. Once you have removed the main fuel pump connector, locate the main fuel line, and be sure to have a towel handy as you will need it to catch any residual fuel from removing the fuel line.



89. Pinch the clear tabs, move forward and while still holding the plastic clear tabs move the main fuel line back.



90. Locate the six 8mm bolts that hold the fuel pump bracket to the chassis and begin to remove them. Be careful to hold the fuel pump assembly down when removing the last bolt as the fuel pump assembly will want to push upwards.



91. Begin to remove the fuel pump assembly out of the vehicle, taking caution for the black hose that can get caught on the chassis while removing the fuel pump. Slightly apply pressure to this line while removing the fuel pump assembly in a diagonal manner making sure that the fuel level sensor does not get damaged upon removal.



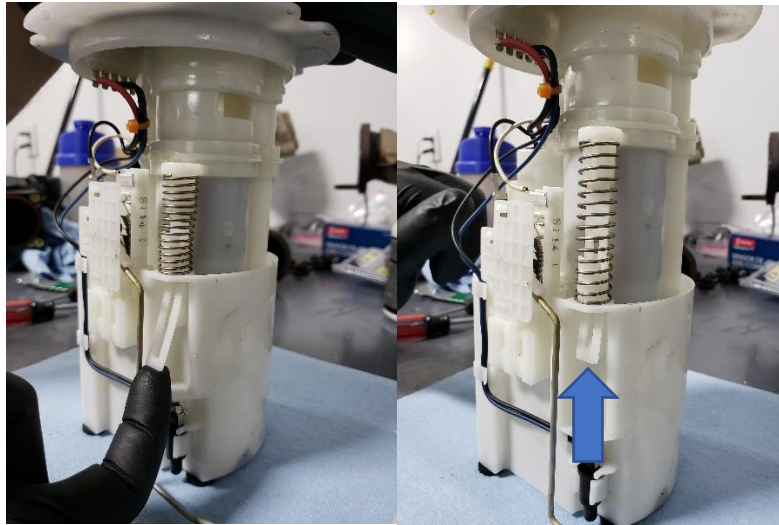
92. With the fuel pump removed out of the chassis, locate the black hose that is on the side of the fuel pump assembly. Remove this black hose by using a screwdriver to slightly press the tabs back and at the same time pulling the line off of the fuel pump assembly.



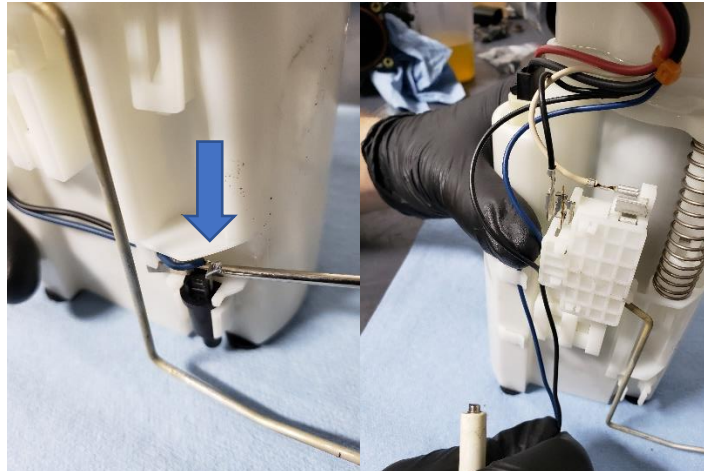
93. Remove the fuel pump assembly out of the vehicle and drain any excess fuel that may remain in the fuel pump assembly.



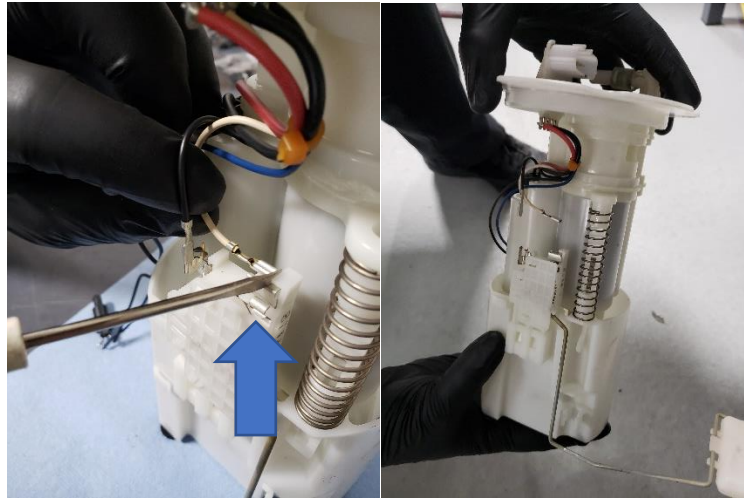
94. Apply pressure to the top of the fuel pump and lift on the lever as shown in the picture below to separate the fuel pump housing. Be careful not to completely remove the fuel pump out of the housing when removing the lever and it will move upwards.



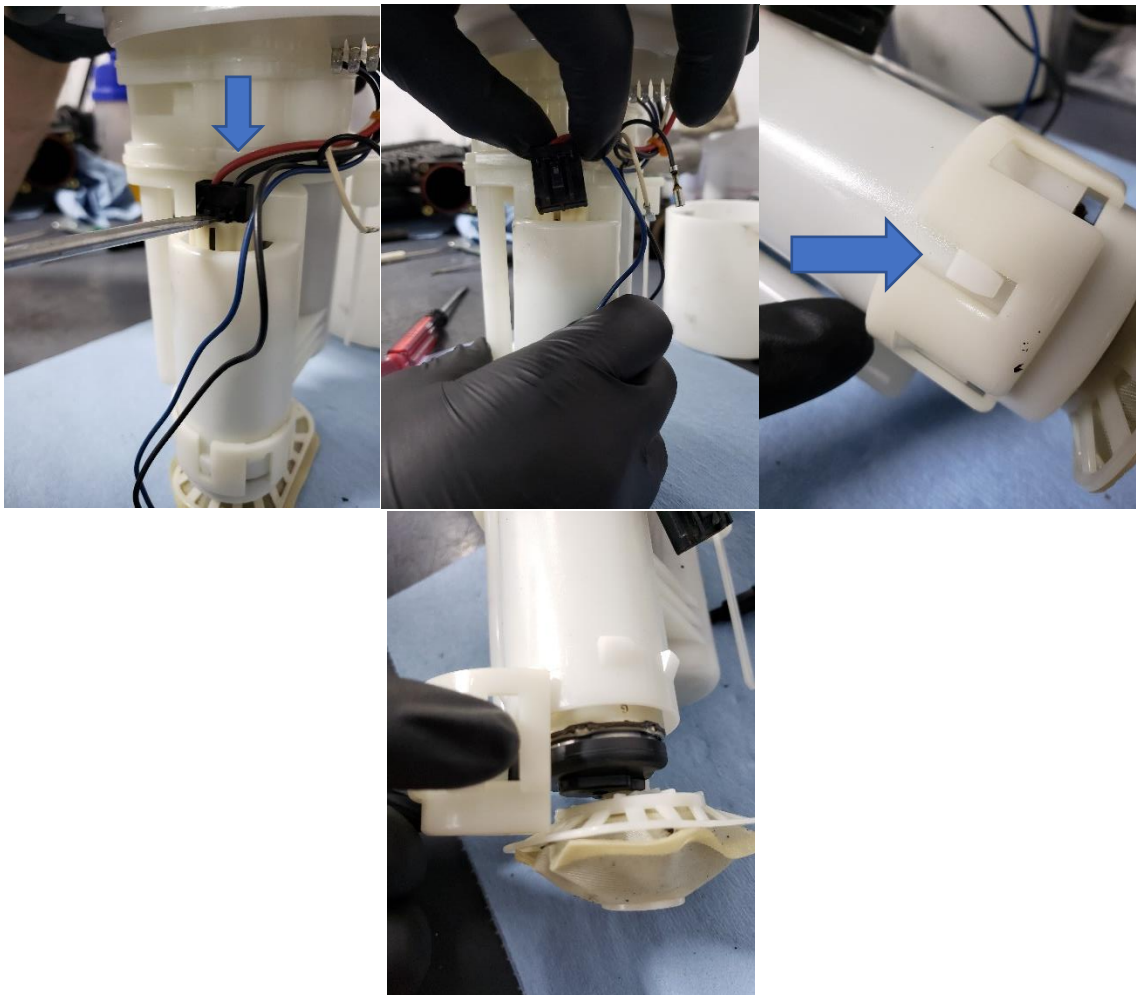
95. Disconnect the fuel temp sensor and harness along the fuel pump housing.



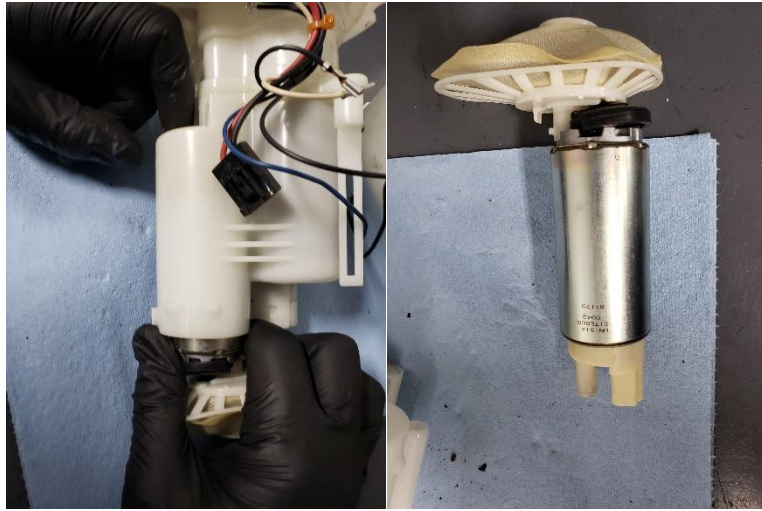
96. Remove the two wire connectors for the fuel level sensor as shown below and separate the fuel pump assembly.



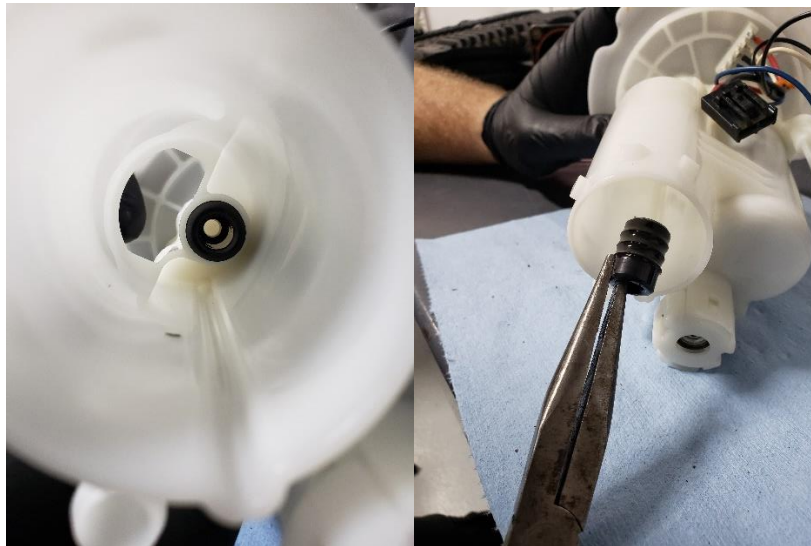
97. Disconnect the fuel pump main connector and the plastic housing underneath the fuel pump as shown below.



98. Press down on the top of the fuel pump as you pull the fuel pump thru the housing.



99. With the fuel pump removed, carefully remove the rubber grommet on the inside of the fuel pump housing.



100. Locate the new fuel pump and proceed to sand down the four tabs on the bottom of the fuel pump to make the fuel pump flush.



101. Install the new fuel pump sock along with the fuel pump star lock as shown below.



102. Remove the plastic cover on the fuel pump inlet and install the black rubber grommet, once these items have been installed onto the fuel pump, install the fuel pump into the stock fuel pump housing.

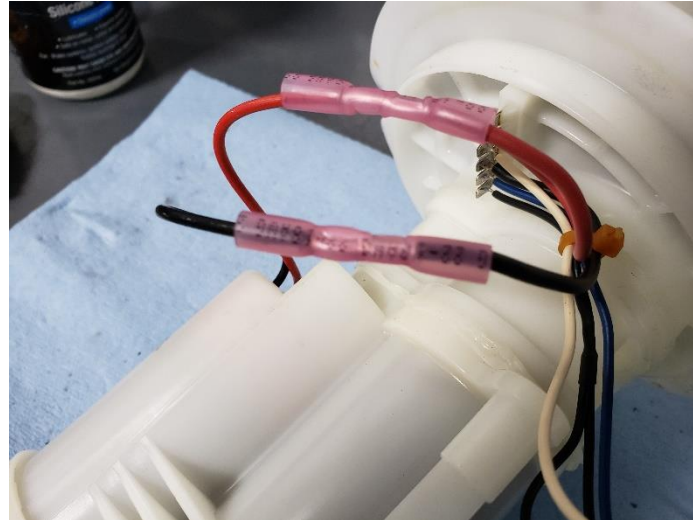
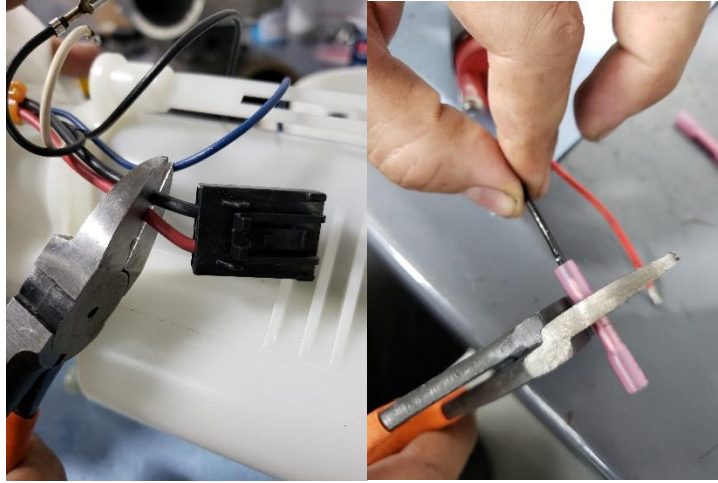


103. Install the plastic cover to the bottom of the fuel pump housing to cover up the fuel pump.

Make sure that you hear the plastic cover click.

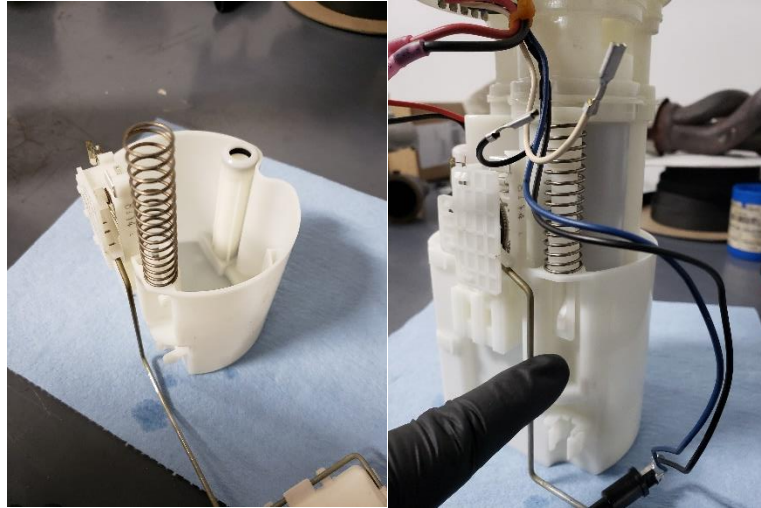


104. Since the new fuel pump does not have an OEM connector you will need to remove the current connector on the new fuel pump and on the OEM fuel pump housing. You will need to join the positive (red wire) from the fuel pump to the red wire of the OEM wiring harness and the negative (black wire) from the fuel pump to the black wire of the OEM wiring harness.

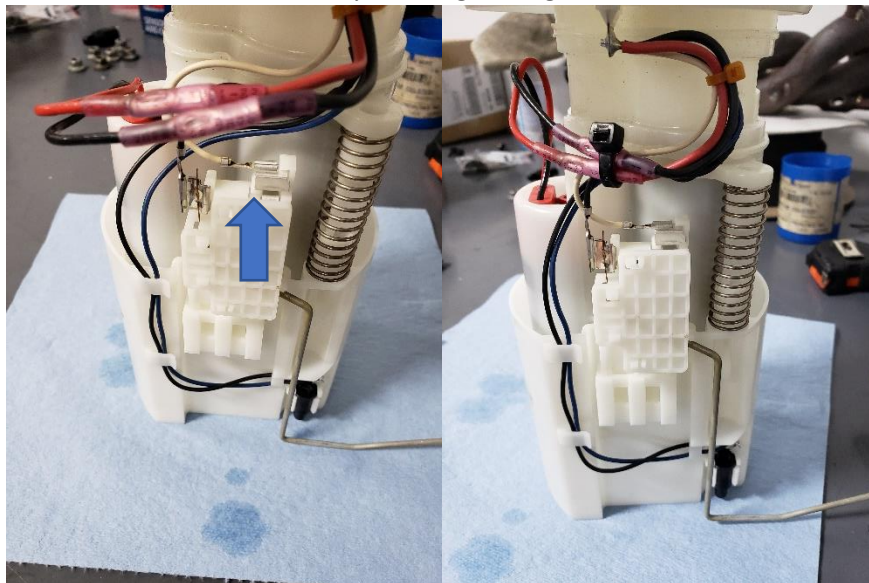


105. With the fuel pump now wired to the OEM fuel pump housing, you will need to clean any residual that may be in the fuel pump bottom housing prior to installing the fuel pump bottom housing.

106. Install the top of the fuel pump housing back to the lower portion of the fuel pump housing, ensure that both springs are in the correct location as seen in the picture.

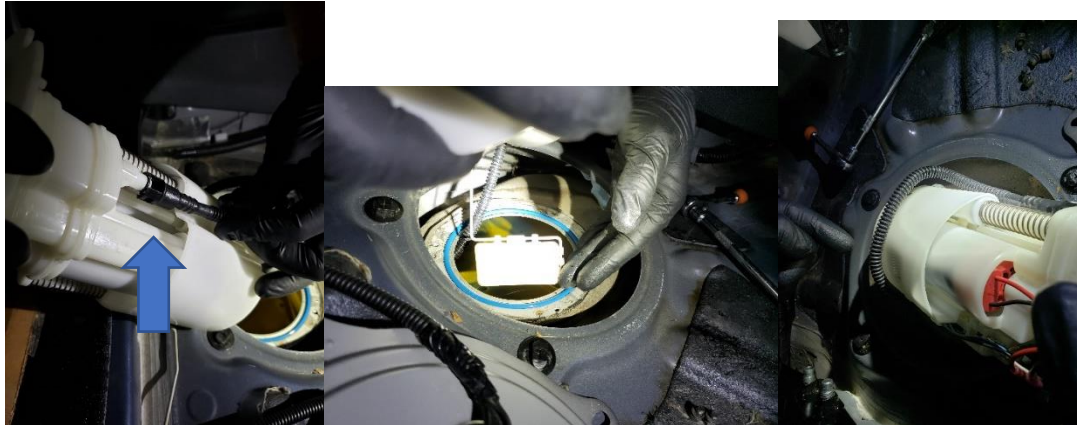


107. With the fuel pump housing now back together, reinstall the fuel pump level harness and position the harnesses out of the way of being damaged.



108. Install the complete fuel pump assembly back into the fuel tank.
109. Connect the black fuel line hose to the fuel tank as seen below and slowly angle the fuel pump assembly into the fuel tank being careful not to damage or bind the fuel pump level sensor.

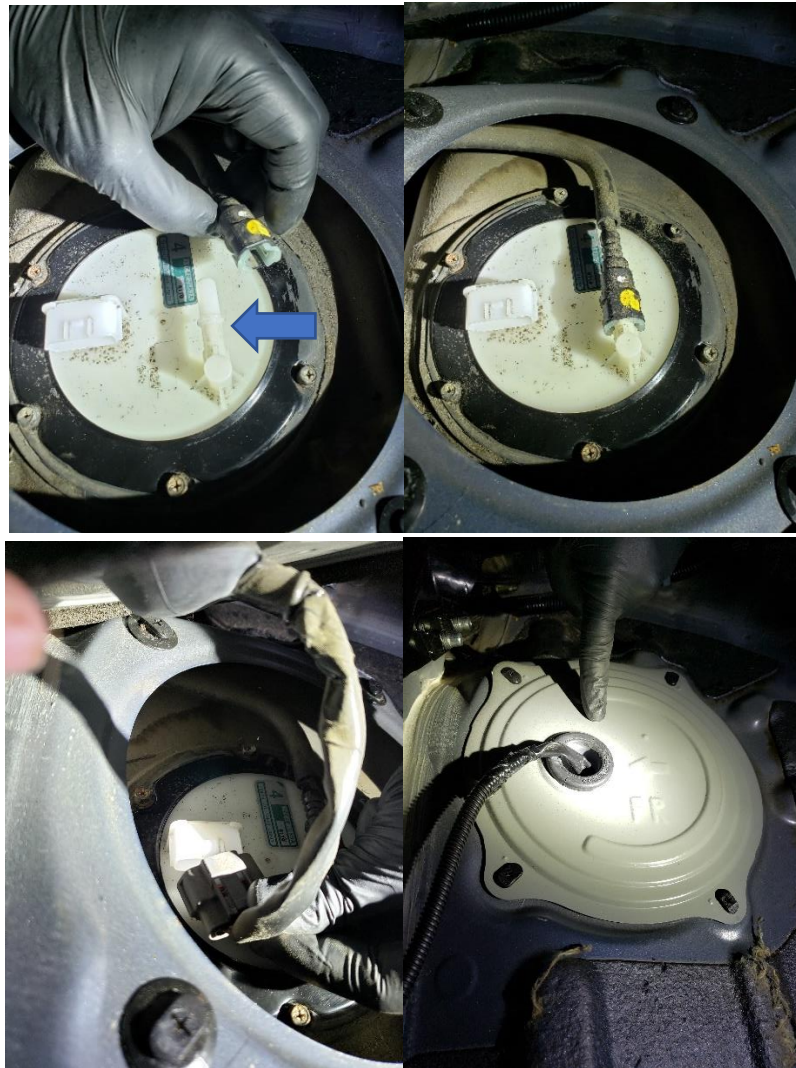
Make sure the black fuel hose that is connected to the fuel pump housing is wrapped around the fuel pump housing when putting the fuel pump in.



110. With the fuel pump installed into the fuel tank, make sure the orientation of the main fuel line on top of the fuel pump housing and the main fuel connector are oriented 180 degrees away from each other.



111. Install the metal housing and the 6 (8mm) bolts on top of the fuel pump housing, followed by attaching the main fuel line and connecting the main fuel pump connector. With everything attached, reinstall the metal cover over the fuel pump assembly.



Oil Pan Spacer

112. Proceed to the lower part of the engine and locate the lower engine oil pan, you will need to remove the six (14 mm) nuts and two (17 mm) bolts that hold the OEM skid plate to the bottom of the car.



113. Unhook the tabs that hold the power steering harness and connector to the secondary OEM skid plate as shown below.



114. Remove the nine (14 mm) bolts that hold the secondary OEM skid plate to the vehicle to aid in the removal of the lower oil pan spacer.



115. Remove nine of the ten (10 mm) bolts that hold the lower oil pan spacer to the engine, leaving the one bolt closest to the oil drain bolt so that the oil pan will not fall.



116. With the bolts removed from the lower oil pan spacer, use a flat head screwdriver and slowly begin to remove the oil pan spacer as seen below.



Caution: You will need to slowly work the screwdriver up and down to remove the oil pan spacer as the RTV that is holding the lower oil pan spacer has hardened over time.

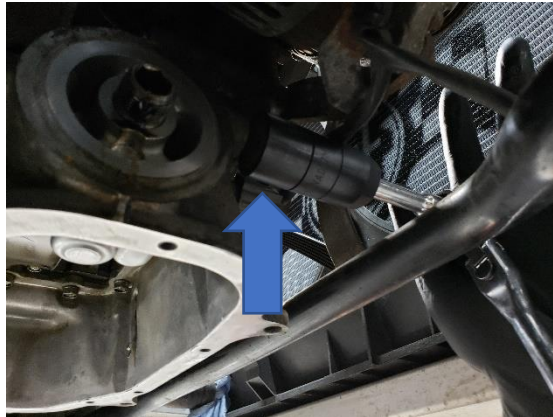
117. With the lower oil pan removed, you will need to remove the old RTV from the lower oil pan spacer and from the bottom of the engine to allow for a clean surface for the new oil pan spacer.



118. Remove the two (12 mm) bolts that hold the oil pick up as you will be adding a spacer to allow the pick-up tube to work properly with the new spacer.



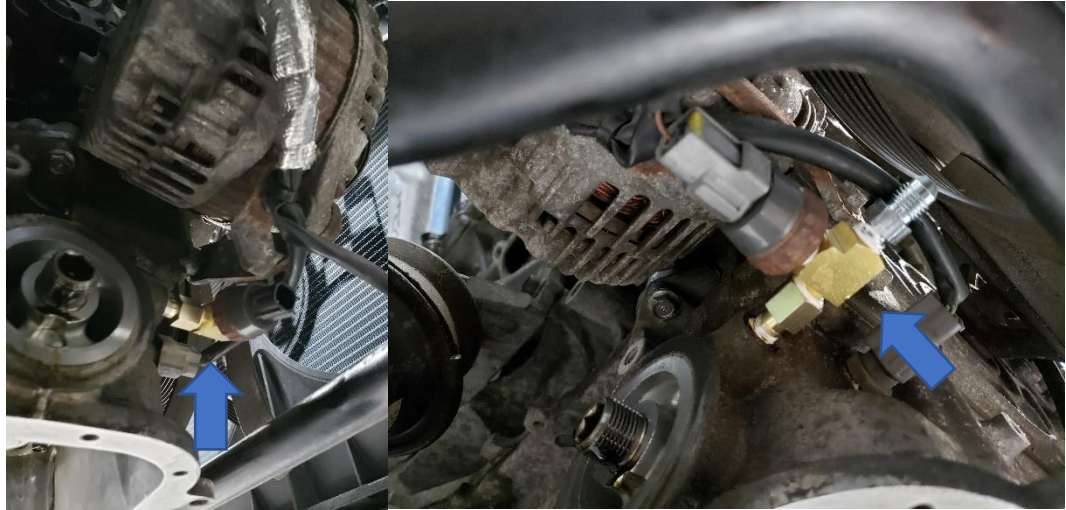
119. Locate the OEM oil pressure sensor and remove the connector to the sensor and the sensor using a **1 1/16" oil pressure socket**.



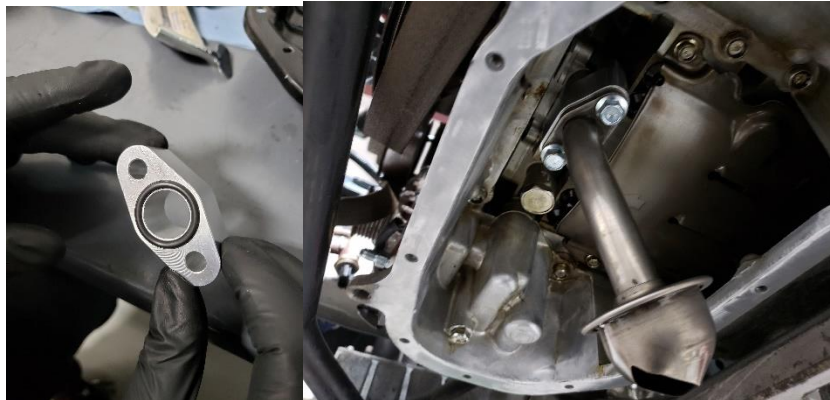
120. Install the straight gold adaptor fitting into the location of the stock OEM oil pressure sensor, slowly tighten the gold fitting into the upper oil pan until it is snug. Take caution to not over tighten this fitting as you will crack the upper oil pan. With the adaptor fitting installed, apply thread sealant to the three-way fitting and install this fitting into the other fitting.



121. With both gold fittings installed, reinstall the OEM oil pressure sensor into the port that is closest to you and install the silver -4 oil feed fitting into the adjacent opening.



122. Locate the oil pickup tube spacer and install it along with the oil pick up tube as seen below.



123. Using RTV, apply a film on the outer edge of the lower oil pan and install the oil pan spacer onto the lower oil pan. Repeat this process with the oil pan spacer and install it onto the vehicle as seen below.



124. With the oil pan spacer installed, install the drain plug for the spacer along with the SOHO oil pan adaptor fitting.

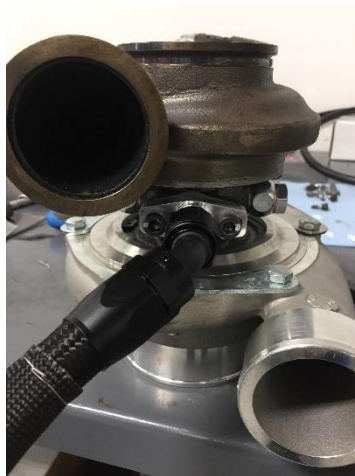


Installing the Turbo & Hot Side Piping

125. Remove the turbo from the box that it has arrived in, as we have already clocked the turbo in the proper location. Install the turbo drain fitting and gasket as shown below.



126. Install the -10 AN oil drain line to the fitting and be sure that the 45-degree end of the line is on the turbo.



127. Using the exhaust heat wrap that has been provided, you will need to wrap the two downpipe sections and the up pipe at this time. **DO NOT** wrap past the small tab on the downpipe as you will need to leave this area open to allow for securing the two pieces of the downpipe when installing into the vehicle.

Pictured below is a stage 1 up pipe and a downpipe

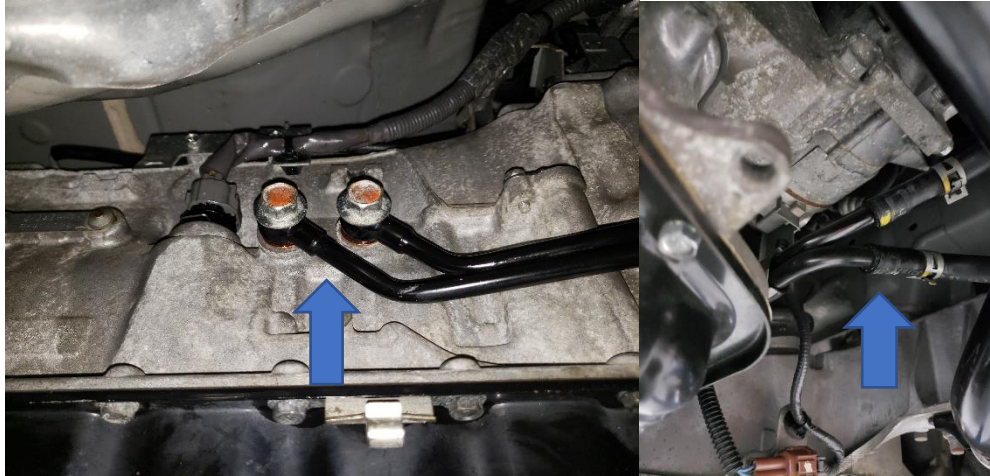


128. You will need to remove the plastic trim that covers the fuel lines and wrap this piece with the provided heat sleeve. You will need to cut the sleeve open to allow it to completely cover the plastic trim followed by marking the sleeve as seen below. Place the plastic trim in between the two marks and secure the heat sleeve with safety wire.



****THESE NEXT FEW STEPS WILL BE REQUIRED IF YOU HAVE A VEHICLE WITH AN AUTOMATIC TRANSMISSION****

129. Locate the OEM transmission lines which run from the side of the transmission towards the front of the driver's side as seen below.



130. Remove the rubber lines coming off of the hard lines located in the front of the engine bay, be sure to place a drain pan underneath the front hoses and clamp the rubber lines off to prevent any additional fluid from leaking onto the floor.



131. Disconnect the lines off the side of the transmission and install the banjo fittings that are in the transmission line kit provided.



132. You will need to cut the OEM hard lines that you have removed from the transmission and the rubber hoses to remove them from the car, please do so at this time.

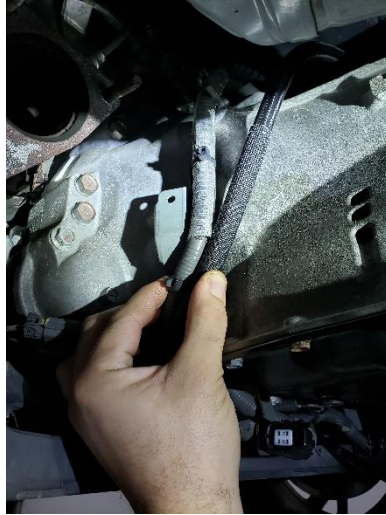
133. Start by routing the new transmission cooler lines up over the transmission, as seen below.



134. With the lines routed over the transmission assembly route the other end of the transmission lines over the power steering rack and thru the opening leading to the rubber transmission lines, as seen below.



135. With the new transmission oil cooler lines installed, zip tie the two lines to the OEM harness as seen below.

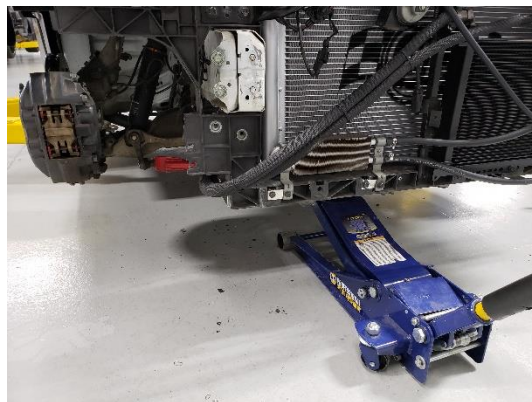


CONTINUATION OF INSTRUCTION MANUAL FOR BOTH TRANSMISSION TYPES

136. For the turbo to sit flush you will need to trim the passenger side frame rail as shown below.



137. In order for the up pipe and downpipe to be installed, you will need to raise the engine slightly to allow for additional clearance. Place a piece of wood on a jack and place the jack underneath the engine onto the oil pan. With the engine supported, loosen the top nut on the motor mount and proceed to slowly raise the engine using the jack. You will not need to raise the engine much as about an inch or so will be enough to allow you to install the up pipe and second downpipe.



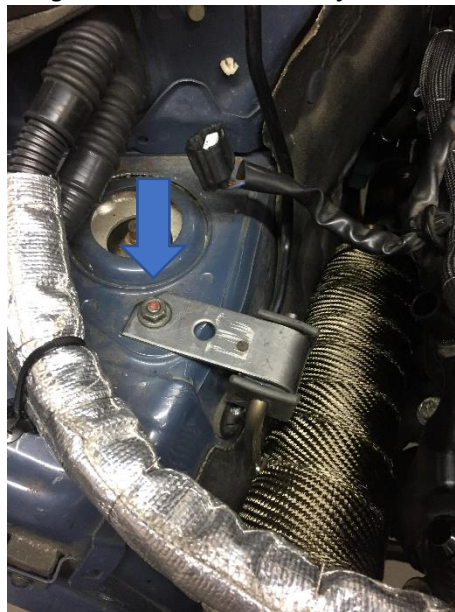
138. With the engine raised, install the up pipe followed by the secondary downpipe that will be coming off the turbo.

Stage 1 shown below



139. You can lower the engine after you have installed the secondary downpipe and tighten the motor mount nut to specifications. Install the turbo hanger to hold the secondary downpipe into place as seen below.

This hanger location is the same for both stages

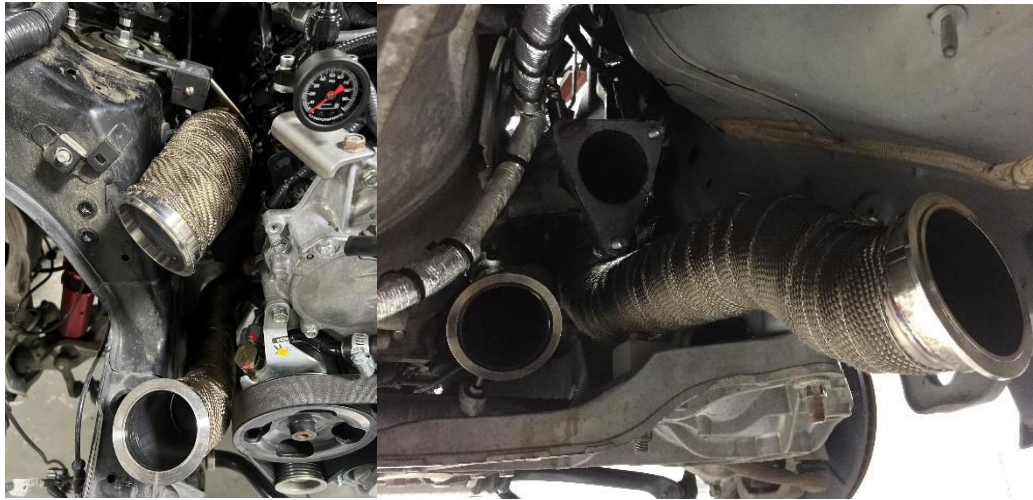


140. Install the primary downpipe into the secondary downpipe making sure to line up the brackets that are on the tabs of the downpipes as seen below. Once the tabs have been lined up, tighten the bolt and nut that will hold the downpipes together.



141. With both sections of the downpipe secured and installed along with the up pipe it should look like the picture below.

Stage 2 shown below



142. With the turbo installed, it should look like the picture below.



143. Install the v-band flange onto the up pipe prior to installing the turbo onto the up pipe, as seen below. When installing the turbo direct the oil drain line down and close to the frame horn and away from the power steering pump.



144. Prior to installing the turbo onto the up pipe, ensure that the oil drain is installed on the turbo and route the drain line on the outer edge of the passenger side frame horn as seen below.



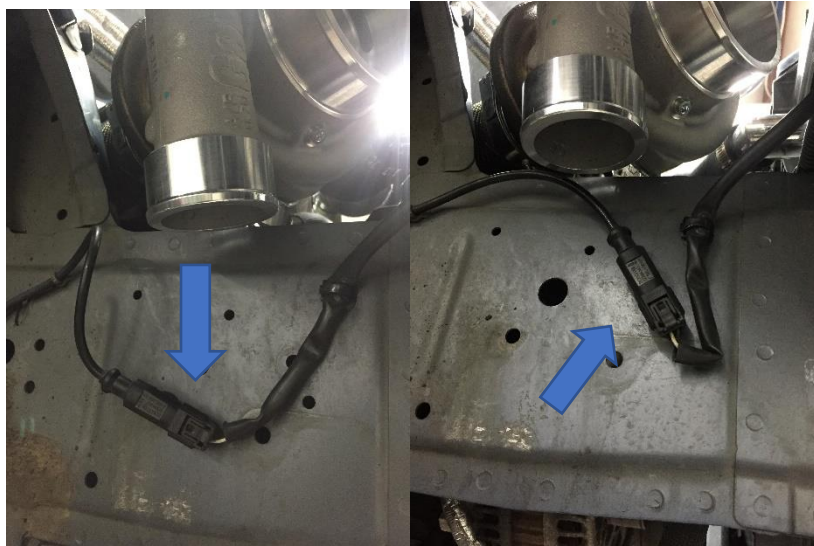
145. Install the turbo downpipe clamp onto the downpipe to secure it to the turbo as seen below.



146. Install the fuel regulator line from step 45 earlier in the manual back onto the engine, which can be seen below.



147. With the turbo installed, relocate the sensor that is on the frame horn as seen below.



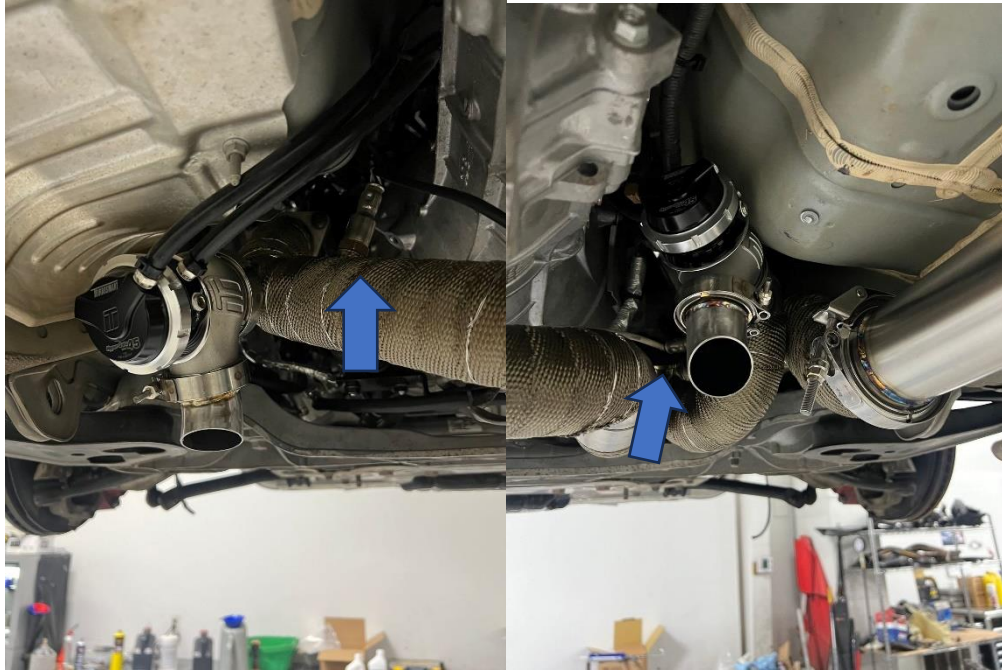
148. Install the three bolt gaskets provided onto the exhaust manifolds followed by the crossover pipe to both sides of the exhaust manifold as seen below.



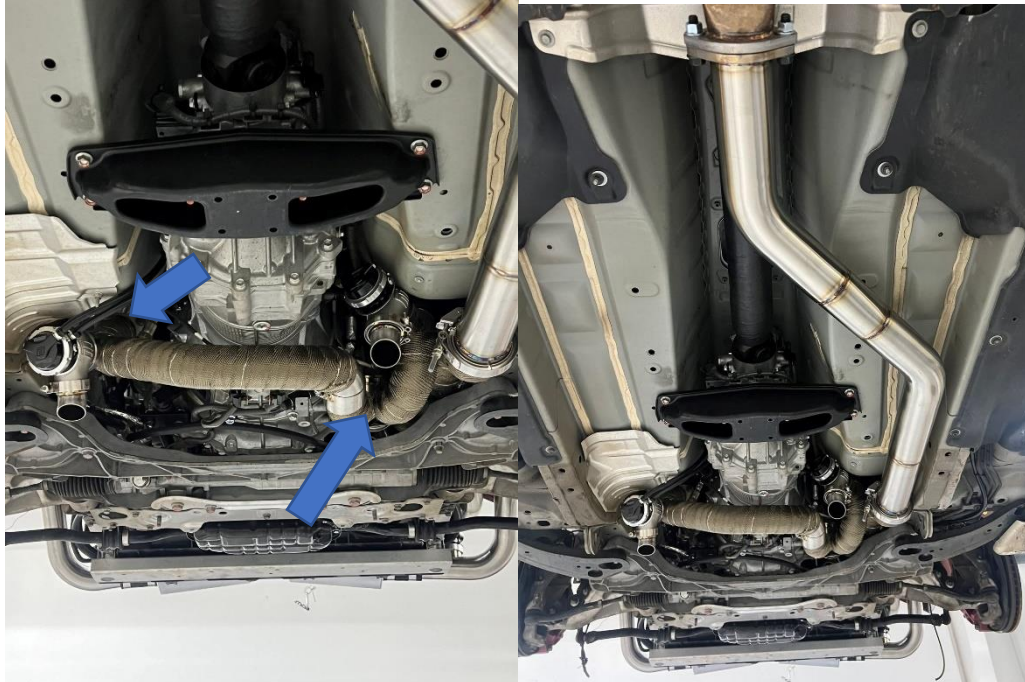
Auto Crossover Pipe



149. Install the rear O2 sensors into the two open ports on the crossover pipe, prior to installing the wastegate.

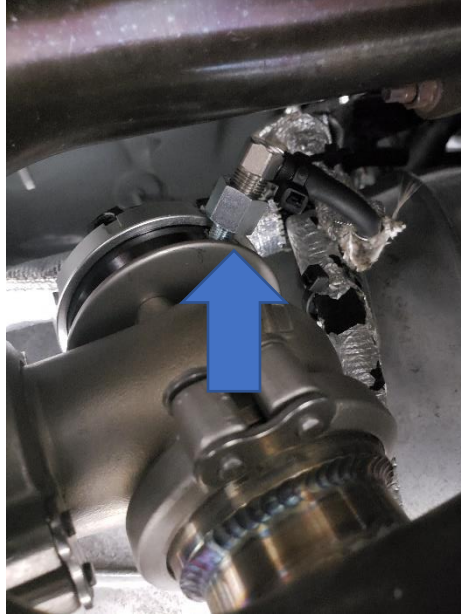


150. Install the wastegate(s) onto the crossover pipe, followed by the downpipe to cat back adaptor section as seen below.



151. With the wastegate installed, install the fitting to the bottom port of the wastegate as seen below. You will need to run a vacuum hose to the back side of the manifold or to a boost controller if you have one, so make sure that you cut a long length to be able to reach where you plan on routing it.

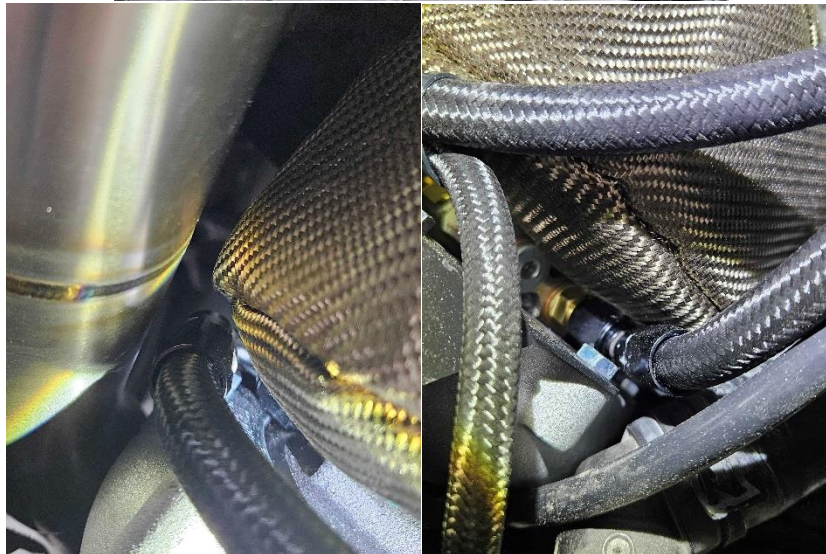
Be sure to install heat sleeve over the vacuum hose to prevent it from touching anything hot or melting



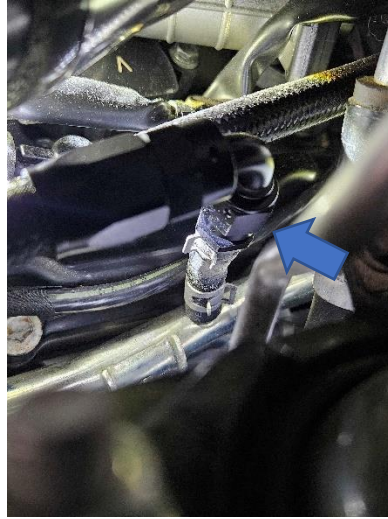
152. With the turbo installed, you will now need to route the coolant and oil feed lines. You will need to remove the OEM coolant lines that go to the throttle bodies first which can be seen below.



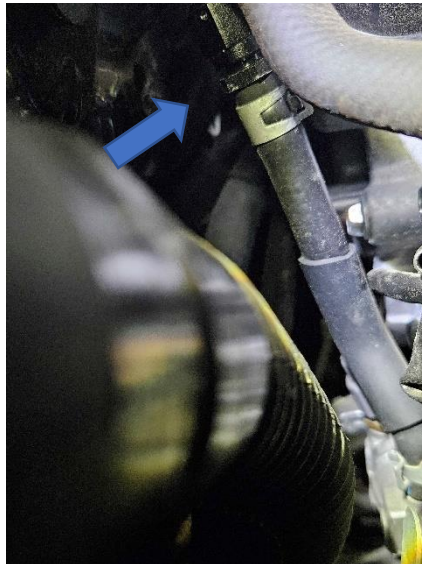
153. Install the black coolant lines that have been provided in the kit labeled VHR_SMCL1 & VHR_SMCL2. The line with the 45-degree fitting will need to go the right side of the turbo and the line with the 120-degree fitting will need to go to the left side of the turbo.



154. Zip tie both lines together up until you get to the front of the engine timing cover and then route the line that has the 120-degree fitting to the driver's side coolant hard line and secure using the adaptors provided as seen below.



155. Route the other line with the straight fitting to the rear of the engine and use the adaptor to incorporate it into the existing OEM coolant hose.



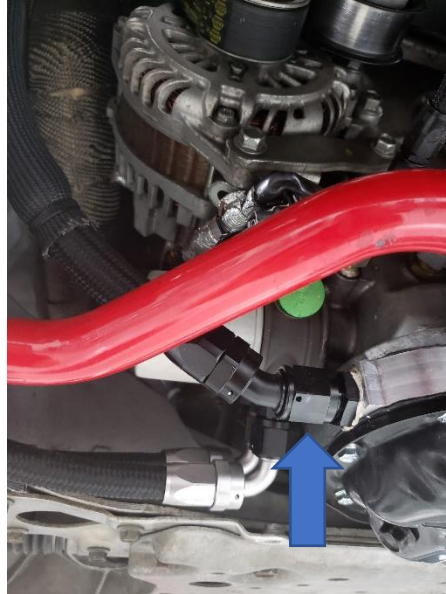
156. With both coolant lines run and installed, locate the oil feed line (VHR_SMFL) and install the 90-degree end onto the top of the turbo via the -4 AN fitting. Route the line down near the passenger side frame horn taking care not to have the line rub against anything that will get hot.



157. Install the other end of the oil feed line to the -4AN fitting that is located on the gold tee as seen below.



158. Install the oil drain line onto the black AN fitting on the oil pan spacer as seen below.

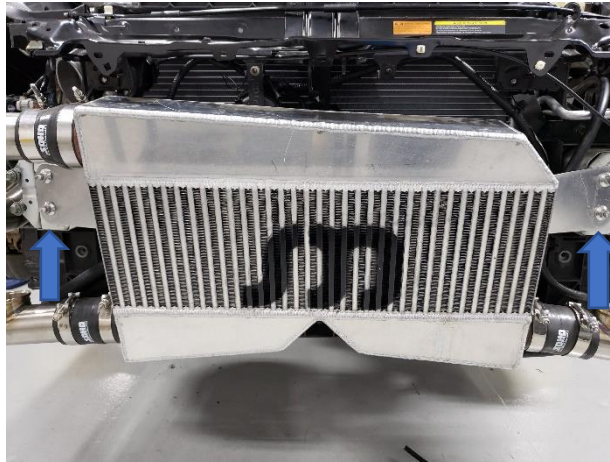


159. Install the upper intake manifold back onto the vehicle via the 6 bolts and two nuts.

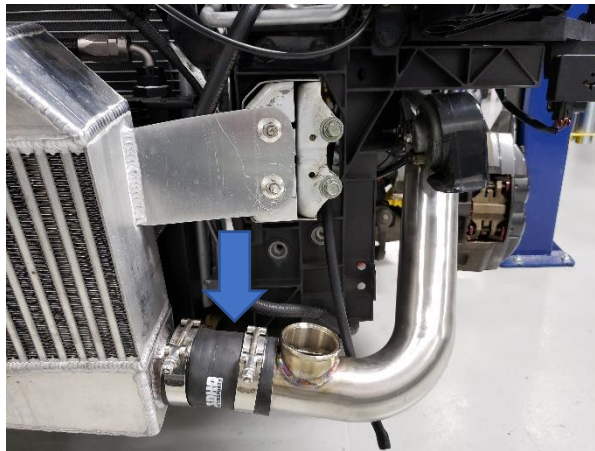


Cold Side Piping & Intercooler

160. At this point, you will need to locate the intercooler and remove the four nuts located on the frame horns to mount the intercooler as seen below.



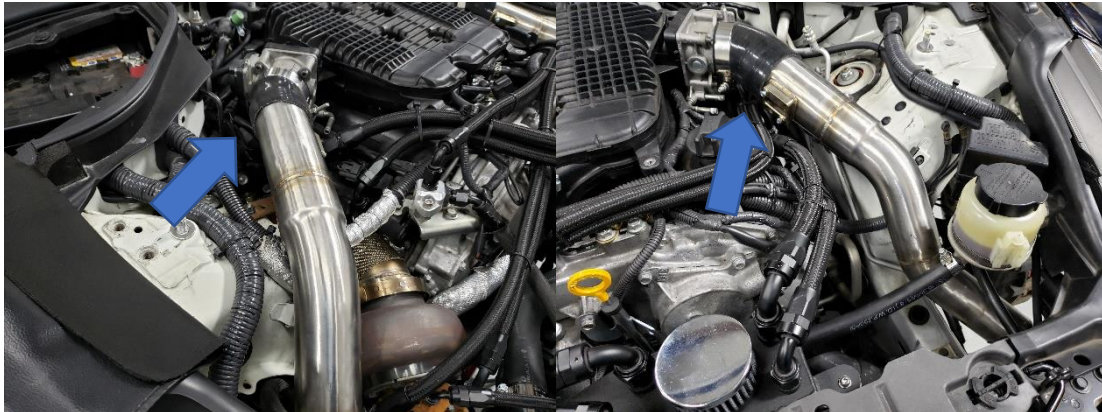
161. Install the two (C40B-250) couplers onto the bottom of the intercooler followed by the charge pipes from the intercooler that have the blow off valve flanges as seen below.



162. Install the single reducer coupler (R40B-250/300) onto the top endcap of the intercooler and one straight 2.5" coupler (SM_25SC) onto the turbo. Once you have installed these couplers, proceed to install the charge pipe (VHR_SMCP1_S2).



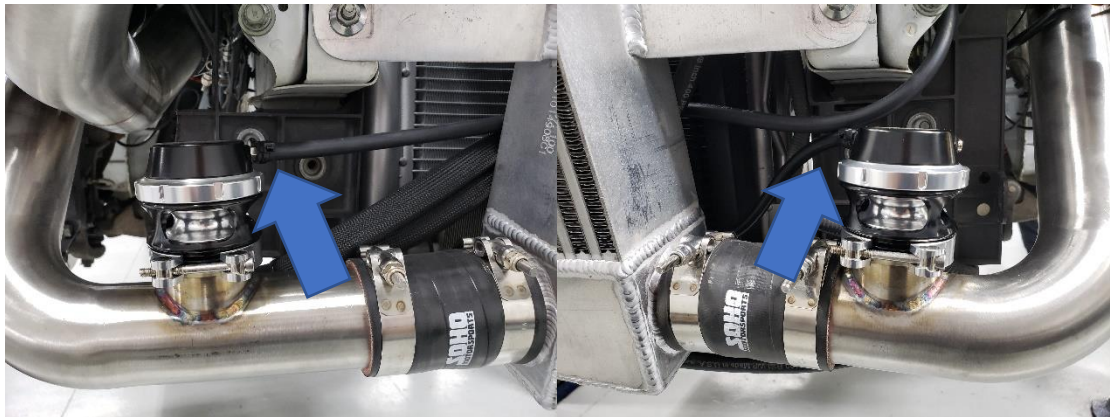
163. Install the two 2.75" couplers (SM_275_45) to the throttle bodies for each side, take note that they are labeled for the passenger side and the driver's side.
164. Install the intercooler pipe #2 to the driver's side throttle body and passenger side throttle body as seen below.



165. Install one 2.5" straight coupler onto each side to connect intercooler pipe #1 to intercooler pipe #2 as seen below.



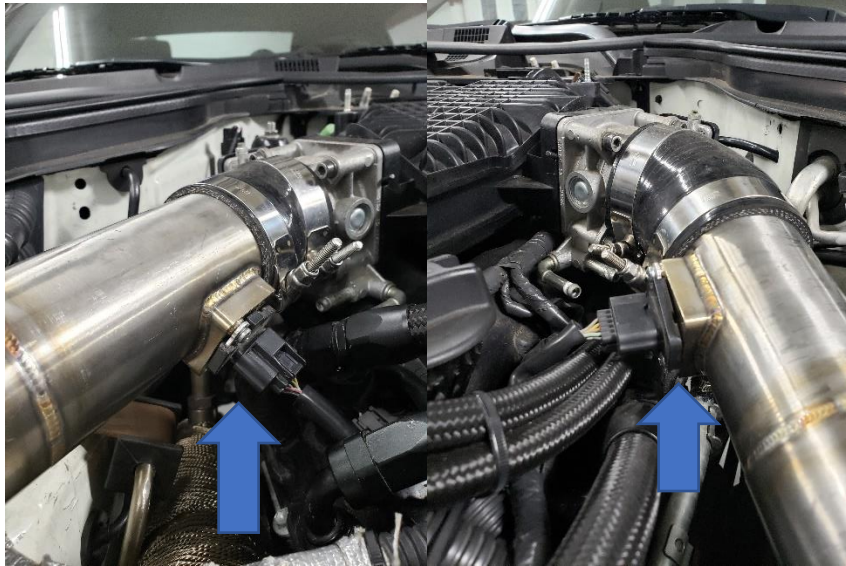
166. Install the fitting that comes with the blow off valves onto the blow off valves and then install them onto the flanges and seen below.



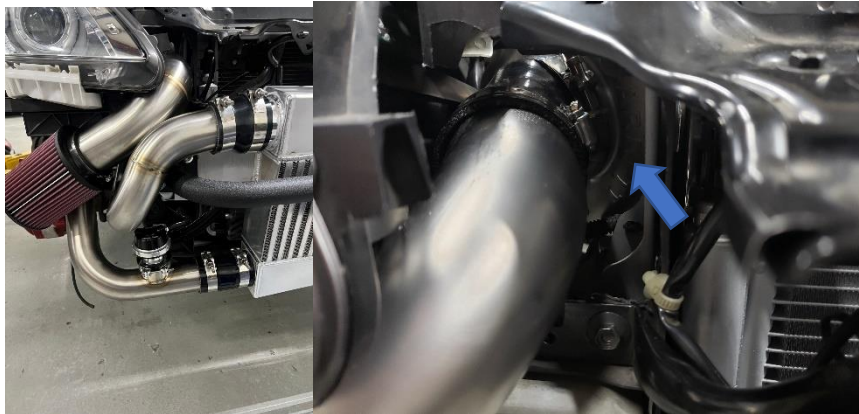
167. Once you have installed the blow off valves, install vacuum hose onto the top fittings and route the two hoses towards the intake manifold via a plastic three way tee.



168. With the cold side piping installed, please go back at this time and install the necessary t-bolt clamps for each coupler ensuring that the pipes are tight and not loose.
169. Locate the OEM MAF sensors and install them into the MAF flanges of the new cold side piping.



170. Install the intake coupler for the turbo onto the turbo along with the intake pipe and filter.



171. At this time, you will need to fill the vehicle with coolant, oil and power steering fluid.
172. Congratulations, you have installed your SOHO Motorsports Single Turbo kit, please contact us or the shop that is going to be tuning the vehicle to provide you with a tune file to allow you to start the vehicle and check for any leaks.