SIKKY®
MANUFACTURING

GSF Stainless Steel Headers // Part# HDR-004

Congratulations on the purchase of your GSF Stainless Steel Headers and thank you for choosing Sikky Manufacturing. This installation manual is intended to guide you through the removal of the factory exhaust manifold and the installation of the Sikky stainless steel headers.

Note: We highly recommend a professional installation for this product. Check out our dealer list on our site to find a professional installer near your location.

Ideally this install should be performed on a car lift and this instructional guide is based on the methods that are best suited when using a lift.

**** Headers are for off road use only ****

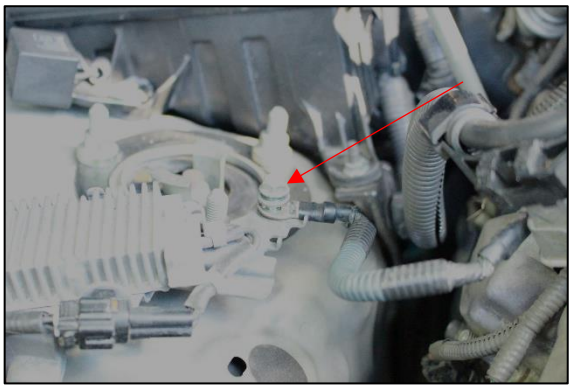
Parts List		
Part Name	**Quantity**	**Notes**
GSF Driver-side Header	**1**	**1 7/8" – 3" Stainless Steel**
GSF Passenger-side Header	**1**	**1 7/8" – 3" Stainless Steel**
DS02A	**1**	**Custom Dipstick Tube**
Gasket09	**2**	**GSF Header Collector Gasket**
ECM1	**1**	**GSF Header Electronic Control Module**
O_2 extension harness	**2**	**O_2 extension harness**

1) Remove center, passenger, and driver side engine cover.

2) Remove air box cover and unplug mass air sensor from cover. Now you will be able to remove the air box. Disconnect MAF connector & harness clip located on the air-box. Remove clamp from intake tube to air-box. Remove air-box cover & filter.

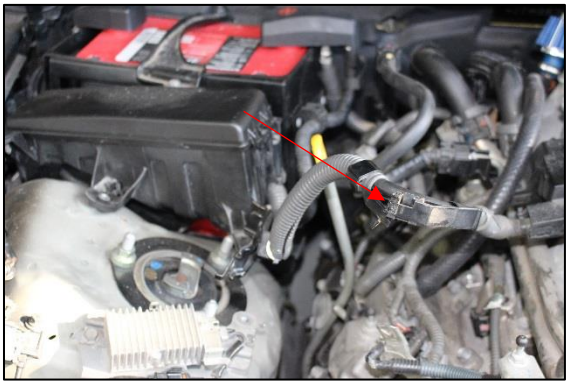
3) Disconnect VAC hose from filter housing.

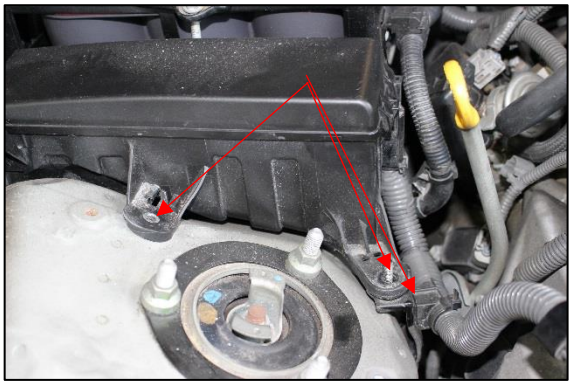
4) Unbolt the harness ground as pictured.



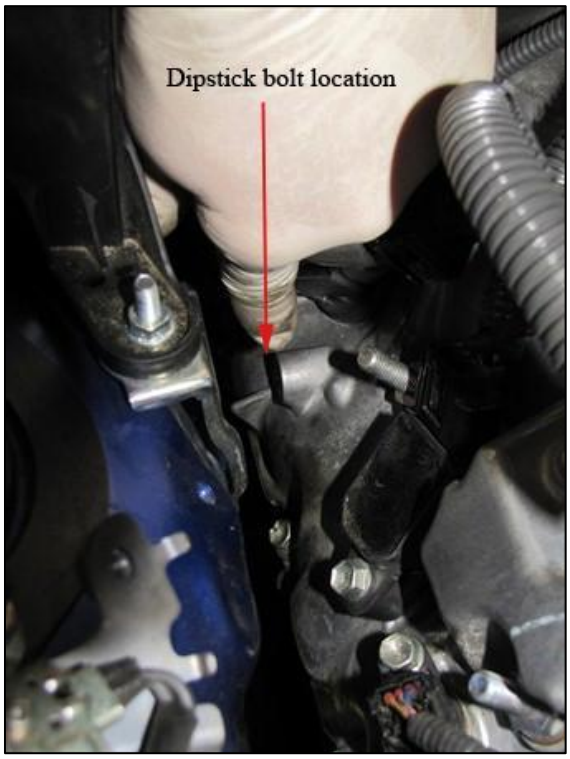
5) Remove bolts that fasten the fuse-box to the car.

a. Remove the clip displayed in the following picture.
b. Remove fuse box mounting bracket.
c. Once all fuse box bolts are removed, pull up on the fuse-box to allow for more room to access the dipstick tube bolt.





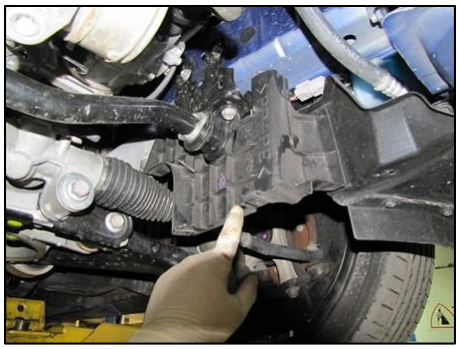
6) Remove 10mm bolt from passenger side valve cover that retains dipstick.
    a. Pull out the dipstick tube - *Note: If the car is overfilled with oil, the excess oil may spill from the dipstick tube port upon removal.*

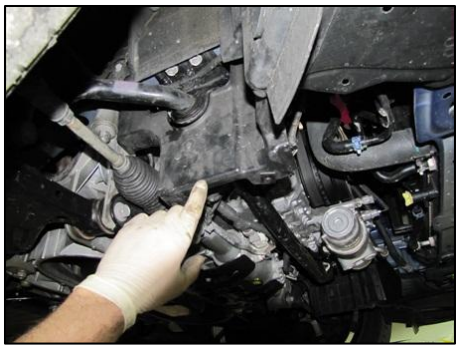


7) Make sure steering wheel is straight and locked Lift and support car.

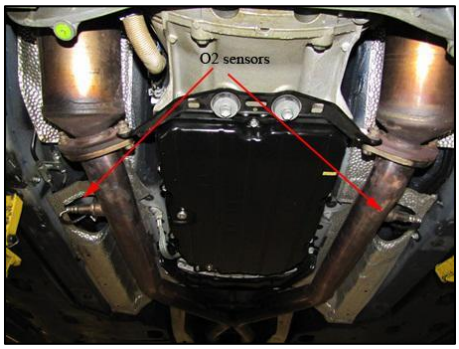
    Remove engine and transmission splash guards.

8) Remove both sway bar splash guards – both sides are secured with a singular bolt and clip. *Take care to avoid breaking when removing said clips.*

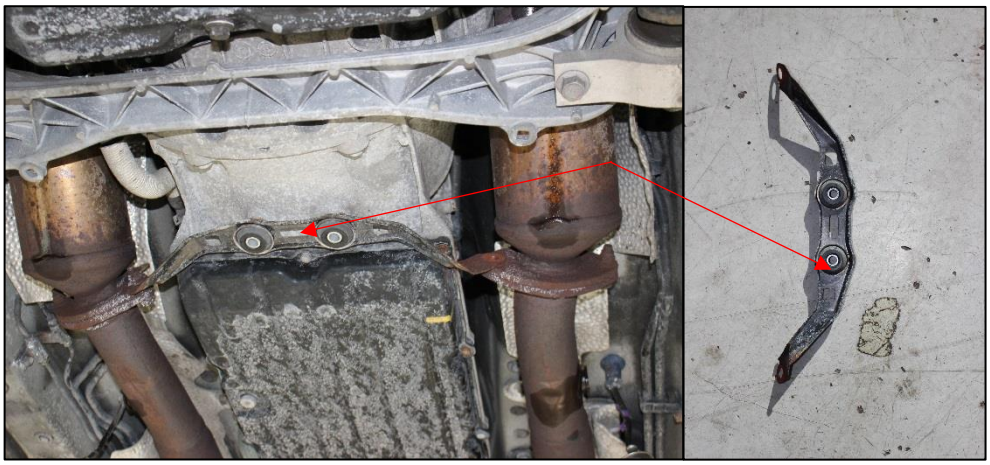




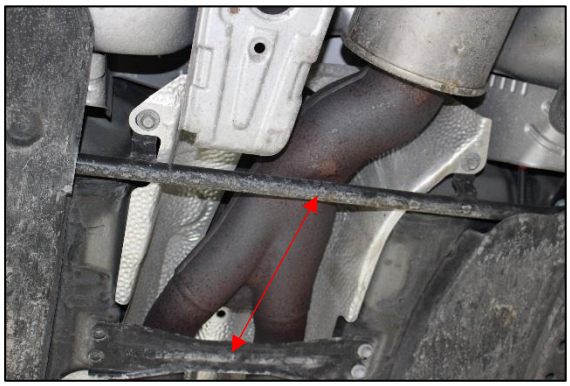
9) Remove secondary O2 sensors from exhaust pipe *(you do not need to unplug)* unscrew sensors and leave them hanging. *Be careful not to damage wires or sensors.*



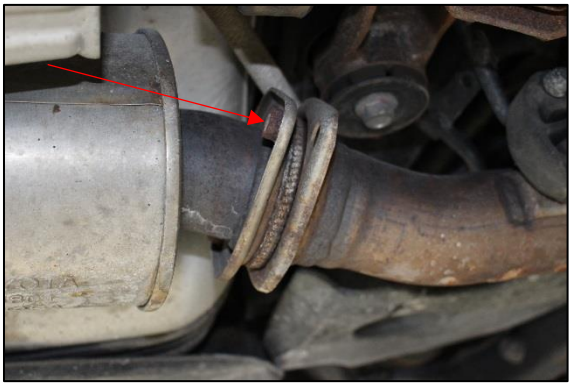
10) Remove converter support Bracket from exhaust & transmission.



11) Remove these two rear brackets.
- Partially unfasten the rearward plastic covers. *There are three plastic screws on one side two on the opposing side.* This will permit room to access the bolts without removing the entire shield.

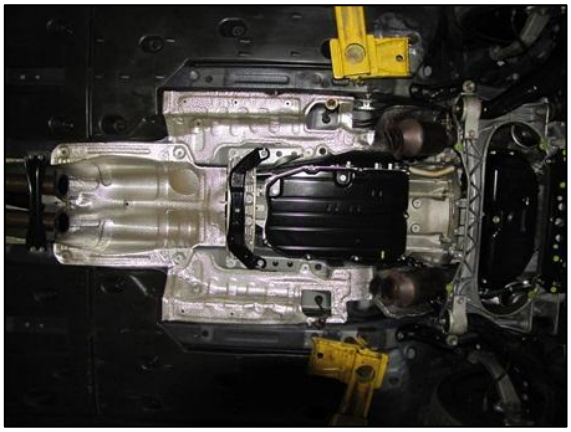


12) Remove rear exhaust section spring bolts.



13) Remove remaining front bolts of the center X-pipe.

14) Remove center section of exhaust X-Pipe.



15) Remove sway bar bracket bolts from both sides and remove the U bracket. *Sway Bar does not need to be completely removed. It will hang from end-links careful not to damage end-links.*

16) Clearly mark the steering shaft and steering shaft joint connection points as well as the connection point between the joint and steering rack.
This step will ensure your alignment when reassembling the vehicle. Although we do recommend having a front end alignment after the install.

17) Remove steering shaft and remove the bolts from either end of steering U-joint. Ensure that the marks are clear. You may want to extend the marks when disassembled to allow for the reassembly process to be uncomplicated while also retaining proper alignment. *Note which side of the joint is the top for they are not alike.*

Note:

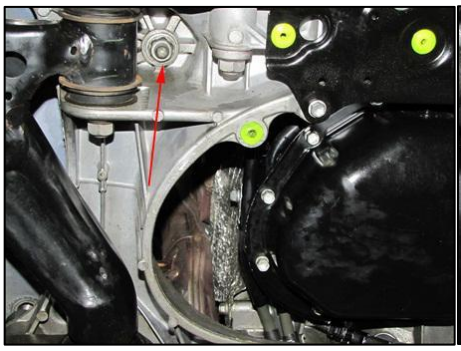
You will need a small block of wood (preferably a 2x4 about 6" long.) This wood will support and protect your engine. Very important to not use steel jack stands or something may damage the engine during the install.

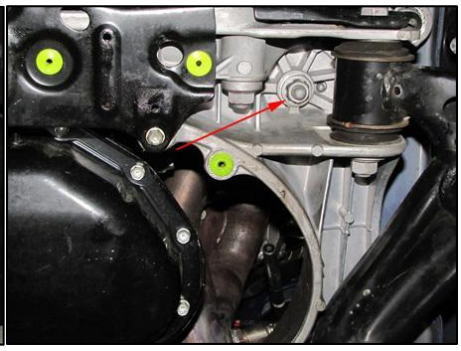
18) Place the block of wood on top of the stand.
Lift the stand until the wood is putting pressure on the crank pulley and timing cover to support the weight of the engine.
Make sure wood is straight, this will support engine during header install.

Note:

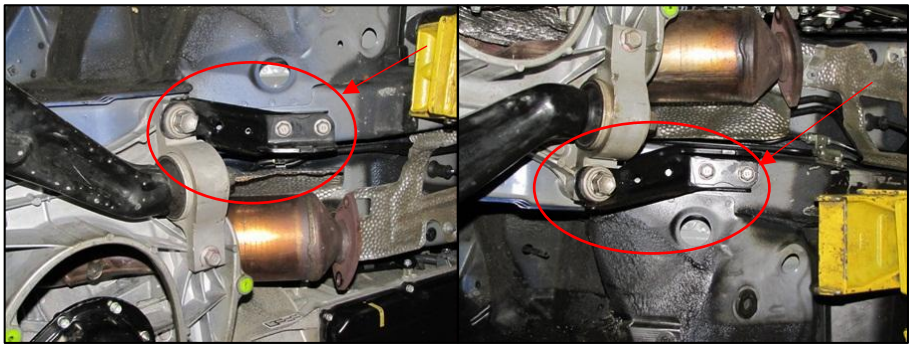
DO NOT LIFT ON OIL COOLER ENGINE IS NOT LIFTED, ONLY SUPPORTED.

19) Remove both nuts on the bottom end of the engine mount bushings 17 mm.

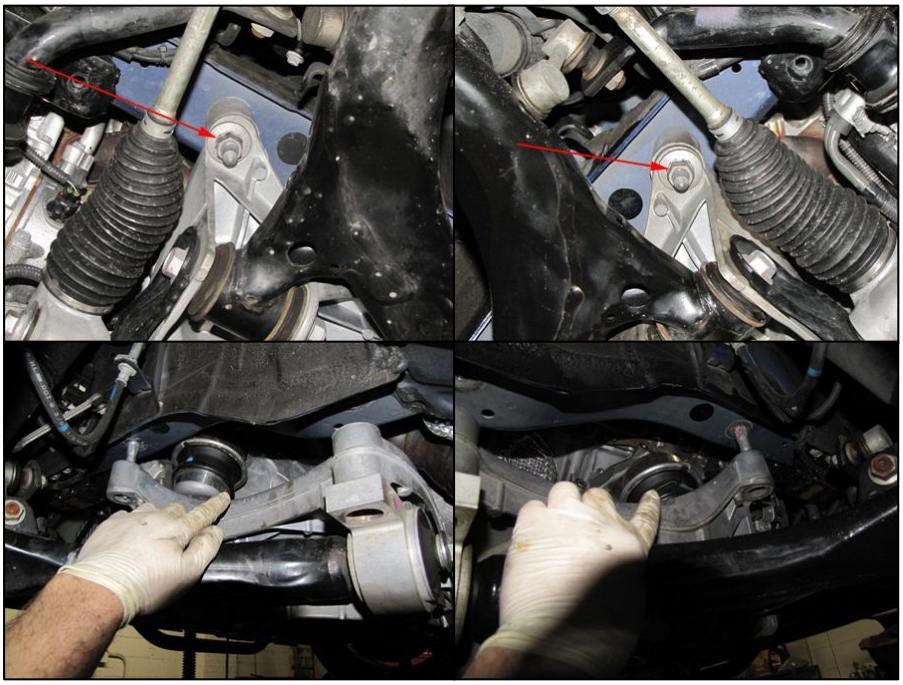




20) Remove tow hooks at rear of sub-frame.
(2) 14 mm
(1) 7/8" (mark right and left sides)
Make sure to be supporting the subframe with stand or trans. Jack prior to removing bolts.

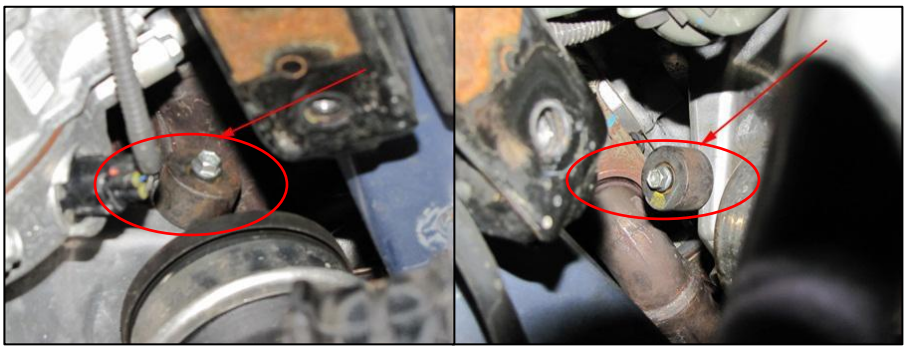


21) Remove front sub-frame bolts (2) 19 mm. Slowly lower sub frame until it hangs from the suspension
- *You should be able to remove sub-frame support at this point*

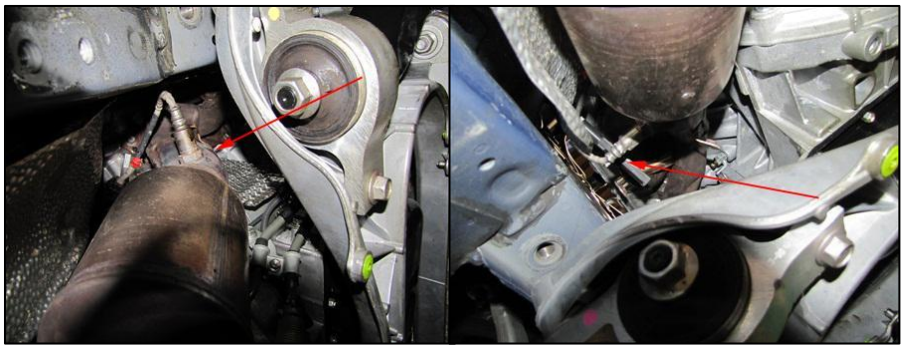


22) Remove splash shields between sub-frame and frame rails on both sides

23) Remove dampers from motor mounts on both sides secured by a single 10mm bolt. *(will be reused)*



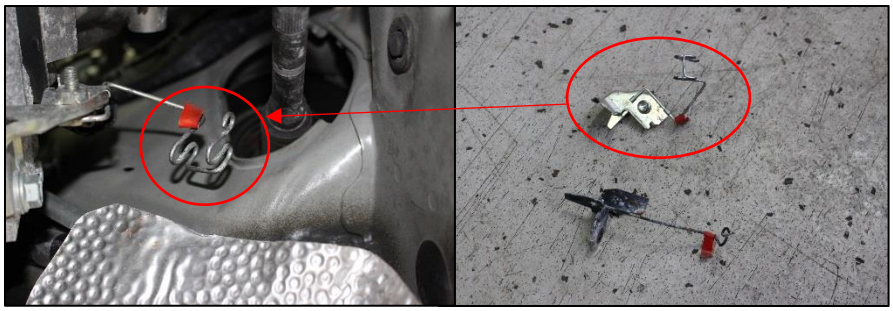
24) Unplug primary O2 (AFR) sensors. It is possible to remove the headers without taking these sensors out however you will need to transfer the sensors to the new headers or use new sensors. *It is much easier to remove heat shields if sensors are removed first.*



It is very common for these sensors to be seized into the factory exhaust manifolds. If the sensor threads are damaged during removal either repair the threads or replace the sensor. DO NOT reuse or you will damage the O_2 bung threads on the new headers.

25) Remove heat shields from the manifolds - they are flexible and will need to be flexed to get them out.
There are 3 bolts on each side, make sure you remove them before pulling on the shields.

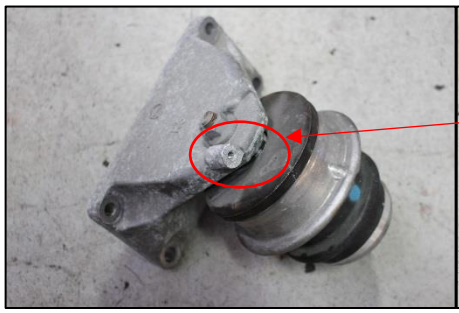
26) Remove small wire O2 plug hangers from both sides
WILL NOT BE REUSED

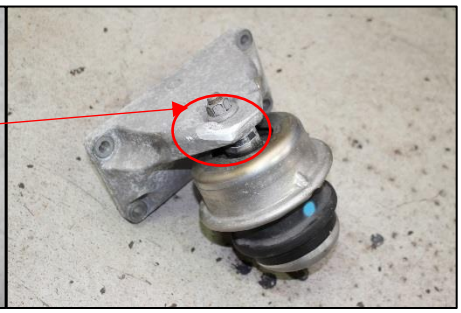


27) Remove eight nuts from each manifold. Remove stock exhaust manifolds. You may need to slightly move engine side to side and pull down on sub frame to ease removal do not raise or lower engine or damage to vehicle may occur.

28) Remove top nut on drivers side engine mount to mount bracket. Then Pry down on the front sub-frame to remove the driver's side engine mount. Remove the rubber on the mount and reinstall mount cover and nut.
Note:
Moving the engine excessively can break the radiator as the upper rad hose is very short. Keep in mind the wiring harness only has so much flex as well.

29) Remove passenger side engine mount and bracket
Separate engine mount and bracket
Remove rubber from engine mount
Cut / grind the displayed bolt hole on the engine mount bracket until it is smooth - this will allow for the clearance needed to install the new headers





30) Reinstall mount on bracket, then reinstall engine mount assembly to engine

31) Install O2 sensor extension harness' provided
a. Use zip ties to hold it in place against the transmission
b. Tie them up as high as you can to get maximum distance from the header once installed

Note: Ensure original exhaust manifold gaskets are in good condition and are still in place on the mounting studs, if not replace them with OEM parts.

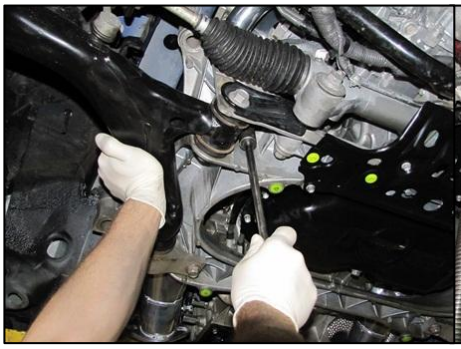
32) Install one header at a time:
a) position the passenger side header first. You will need to pry down on the sub-frame to get the header past the engine mount and sub-frame.
- Once the header is close carefully pry engine towards the driver side to situate the header onto the factory studs. Start the original eight nuts HOWEVER make sure to leave them loose.

b) Install driver side header at this time *(procedure is similar to passenger side with some slight variance being that the engine must be pried towards the passenger side).*
c) Once both headers are in position tighten all sixteen of the original nuts.

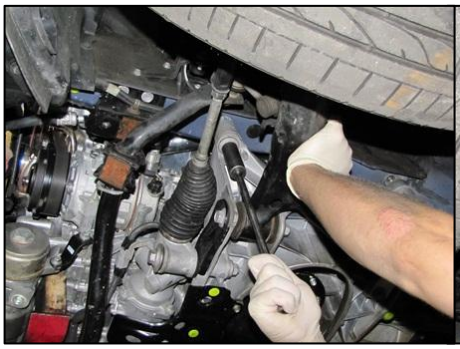
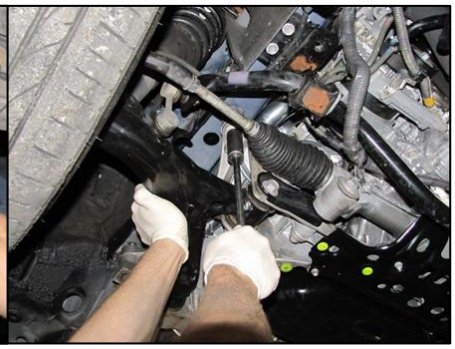
Note: ***Some of the nuts are difficult to access you will need a combination of wrenches, swivel sockets and a variety of extensions.***
Be very careful when prying engine, move as little as required or damage surrounding components may occur.

33) Double check that all of the header nuts are tight. Check headers for clearance on shields and in general
a) Reinstall sub-frame to frame splash shields.

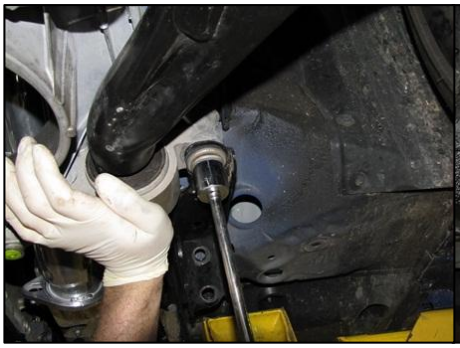
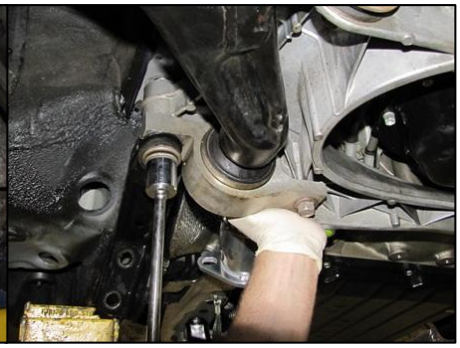
b) With engine still loose reinstall front O_2 sensors
And connect to the O_2 extension harness, double check that wiring is as far from headers as possible

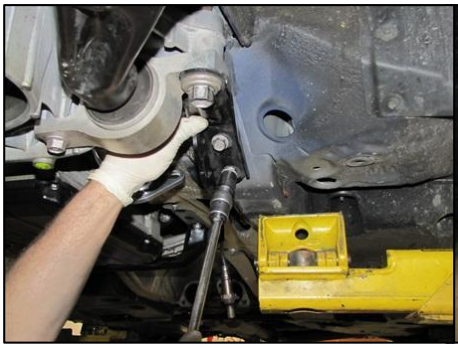
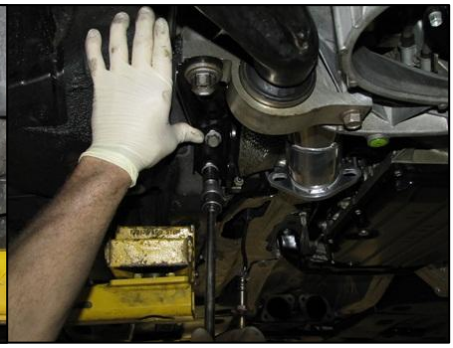


34) Raise subframe close to original position if engine was lowered at all it will need to be raised as well.

35) Now Start (don't tighten) 2 front and 2 rear sub-frame bolts remember to install tow hooks on rear bolts, start 4 rear tow hook bolts as well.
    - After loosely starting all sub-frame bolts you will want to tighten all bolts evenly
    - Remove engine support and reinstall engine mounts to sub-frame and tighten.
    - *Lower and tighten motor after sub-frame has been tightened*.

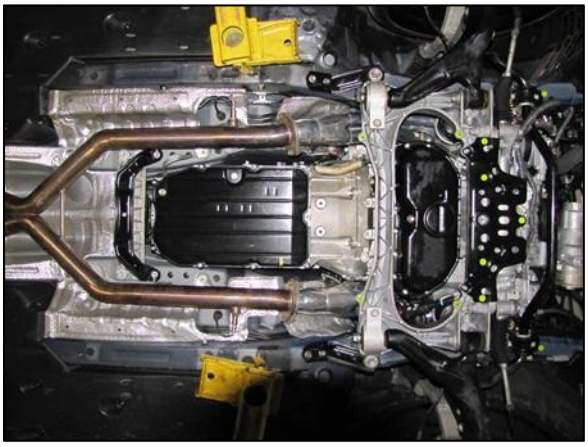



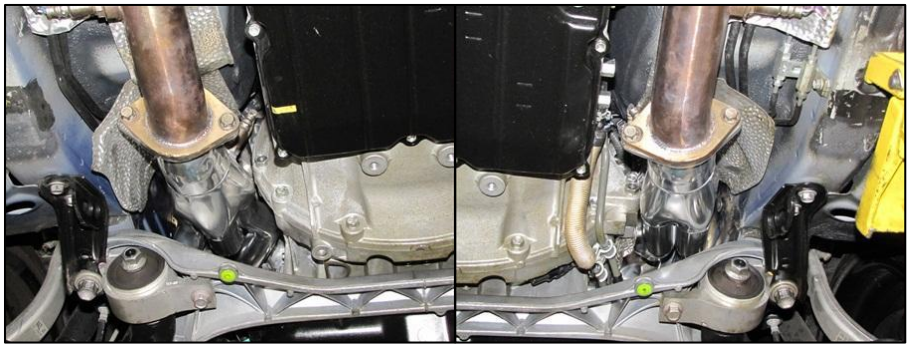
36) Install steering linkage. Be very careful to align your marks and tighten factory fasteners.

37) Install sway bar brackets and original bolts.

38) Install X-Pipe and brace from trans to header flanges, using original hardware and with supplied header to X-pipe gaskets.



39) If you did not unplug rear O2 sensors you will need to wind them up counter clockwise prior to install so that when you thread them in the wires are not twisted after tightening them down.



Installing the dipstick

1) Lubricate the o-ring with grease or engine oil
2) Start with the dipstick laid into the space where the air box was. Lay it down with the tab facing toward the engine.
3) Get the end of the dip stick through the header and gently rotate 90 degrees counter clockwise while wiggling it until it lines up with the hole in the engine and the mounting tab on the valve cover.
4) Verify that the bottom of the dipstick is firmly in place in the engine.

Notes:

-Be very careful threading the dipstick bolt in, the threads are very easy to -strip / cross thread
-Make sure the dipstick is rotated to provide as much clearance as possible on the headers while you tighten it / you may find that the dipstick tube is extremely close and slight contact with the header tube is okay.
-Check one final time to make sure the dipstick is fully seated in the engine.

5) Place factory dipstick into the Sikky dipstick tube

Final steps

1) Reinstall ground strap, VAC hose, and intake cover and air box and fuse box bracket along with the mounting bolts.
    a. Leave all plastics covers off for now
2) Plug mass air flow sensor back in & clip harness on air box.

3) Check over all bolts and plugs to make sure they are tightened and plugged in

4) Install microprocessor (additional guide can be found at the end of this document)

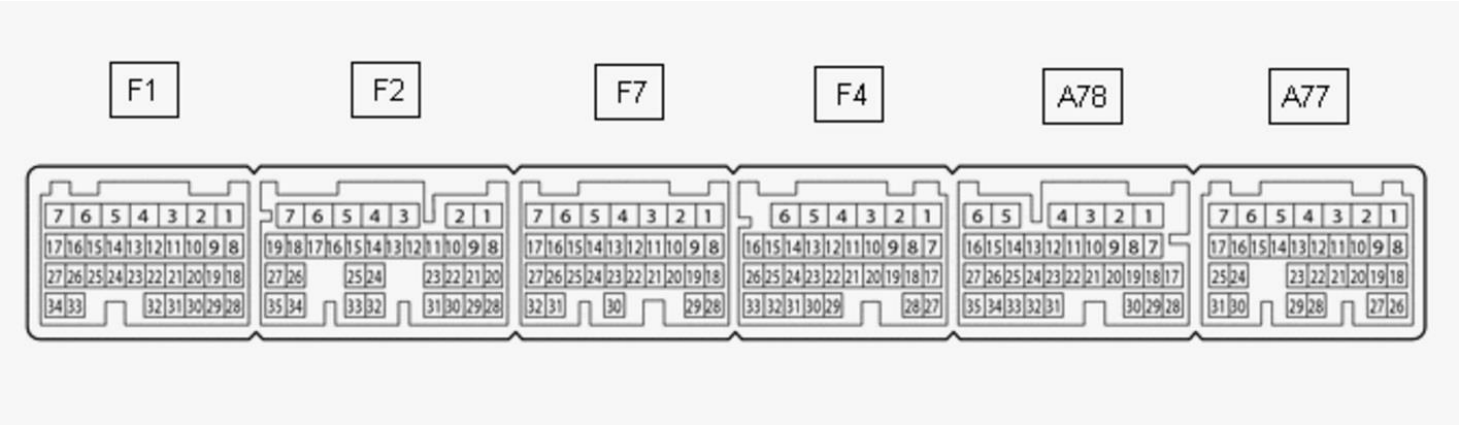
5) Start engine, check for leaks
    b. If leaks are found, check exhaust gaskets, depending on exhaust type, gaskets may have to be shifted around
    c. Gaskets provided with Sikky ISF headers were designed to fit in the groove of a factory exhaust system. Due to the fact that some aftermarket exhaust manufacturers are using flanges with smaller grooves than OEM you will need to split the difference with the gasket so it is centered on the opening. Take your time on this step because in improperly installed gasket will result in a leak.

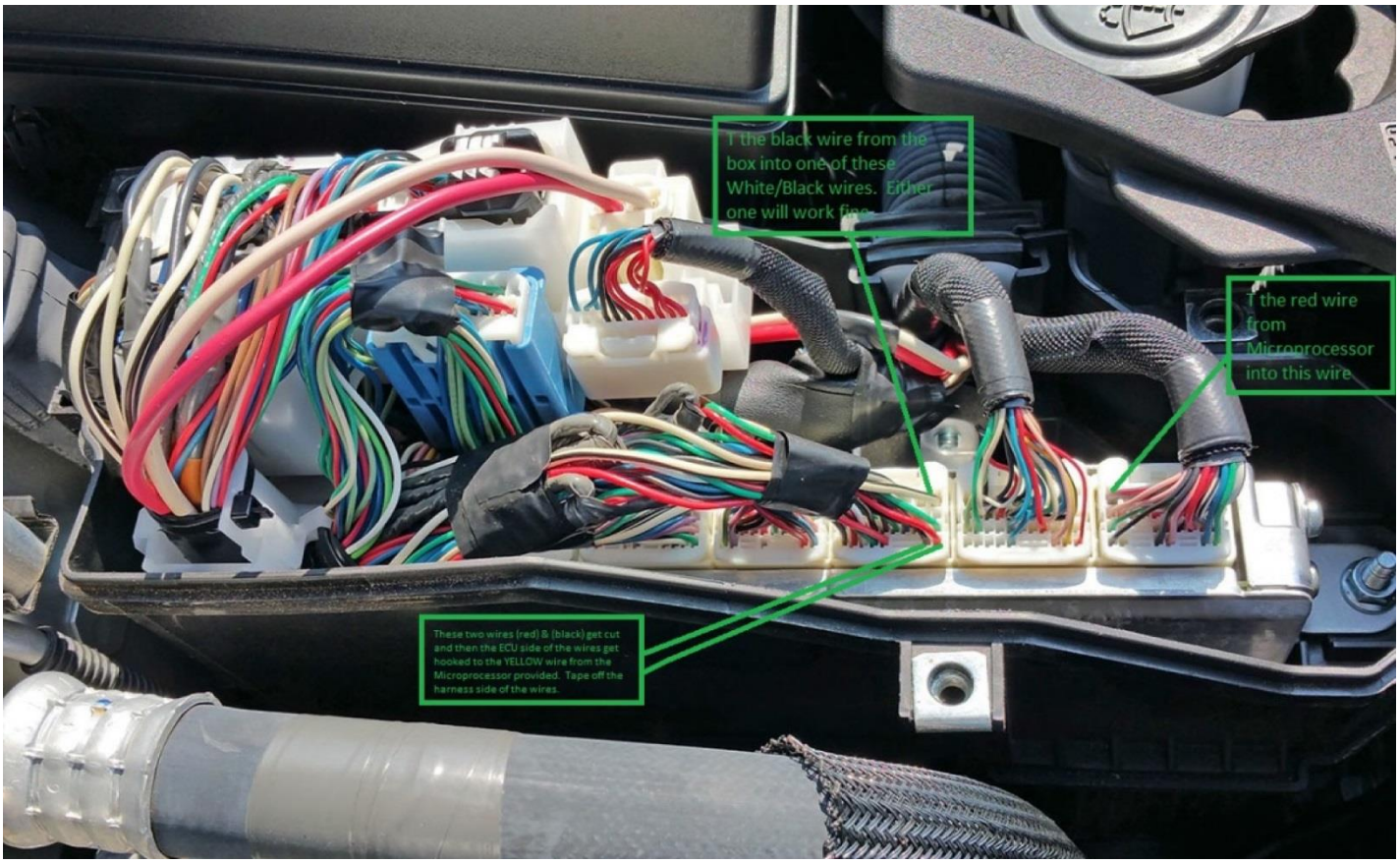
6) Reinstall all plastic guards
    - *Sway bar splash shields*
    - *Trans & engine lower cover*
    - *Upper engine cover and both side covers*

HAVE FUN!

Micro Processor installation

1. Remove 3 10mm bolts and remove ECU cover
2. On the **F4** connector trim the wire loom to access the wires coming out of the connector.
3. Cut the **BLACK** and **RED** wires coming from pin **27** and **28** on the **F4** ECU connector. Leave approximately 2 inches of wire at the ECU side. Solder them together along with the **YELLOW** wire from the microprocessor. The harness side of these two wires will no longer be used and can be taped off.
4. The **RED** wire from the microprocessor needs to be T'd into the **GREY** wire with **RED** stripe at pin **7** on the **A77** connector.
5. The **BLACK** wire from the microprocessor needs to be T'd into the **WHITE** wire w/**BLACK** stripe at pin **1** on the **F4** connector
6. For steps 5 and 6 the wire must be spliced in. Do not cut the factory wire. Remove wire insulation and solder the microprocessor wire to the exposed wire and properly tape up this connection.
7. Double check all connections were made properly and all bare wires are taped up or heat shrink is used.
8. Tuck the microprocessor off to the side of the ECU and re install the cover.




T the black wire from the box into one of these White/Black wires. Either one will work fine.
T the red wire from Microprocessor into this wire
These two wires (red) & (black) get cut and then the ECU side of the wires get hooked to the YELLOW wire from the Microprocessor provided. Tape off the harness side of the wires.