

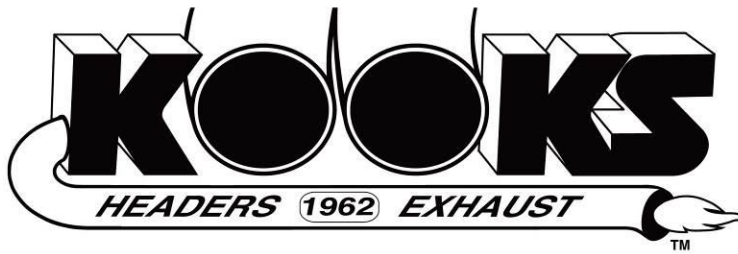
2016+ CADILLAC CTS-V

Header & Connection Installation Instructions

Offroad
Catted (shown)
Green Catted



**Thank you for your purchase, we appreciate your business.
If additional assistance is needed, please contact Kooks Headers and Exhaust
Toll free at 1-866-586-KOOK or contact your local dealer.**



Do not attempt this installation if proper safety equipment isn't available to you - seek the assistance of a professional installer.

Read and understand all instructions before beginning.

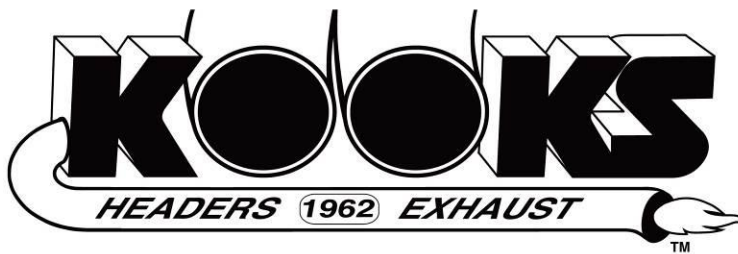
To install this system, the following tools are suggested:

- Vehicle Lift or Jack and 4 Jack Stands
- Ratchet Set ($\frac{1}{4}$ " & $\frac{3}{8}$ " Drive)
- Metric Socket Set ($\frac{1}{4}$ " & $\frac{3}{8}$ " Drive)
- Extensions ($\frac{1}{4}$ " & $\frac{3}{8}$ " Drive)
- Pry Bar Set
- $\frac{7}{8}$ " O2 Socket ($\frac{7}{8}$ " Wrench)
- Gasket Scraper
- Metric Wrench Set
- Exhaust Tubing Cutter or Saw
- Standard Screwdriver Set
- Safety Glasses
- Paint Pen or Marker
- Vehicle Service Manual
- Thread Locker
- WD-40 (Penetrating Oil)
- Anti-seize
- Zip Ties

Vehicle Preparation

****Raise and Support Vehicle (Refer to Owner's Manual for specified jacking points) ****

Always disconnect the battery before performing this type of work on any vehicle



STOCK MANIFOLD AND CATALYTIC CONVERTER REMOVAL PROCESS

It is recommended to spray penetrating oil on the rusted hardware to help loosen them before you begin.

STEP 1. Battery

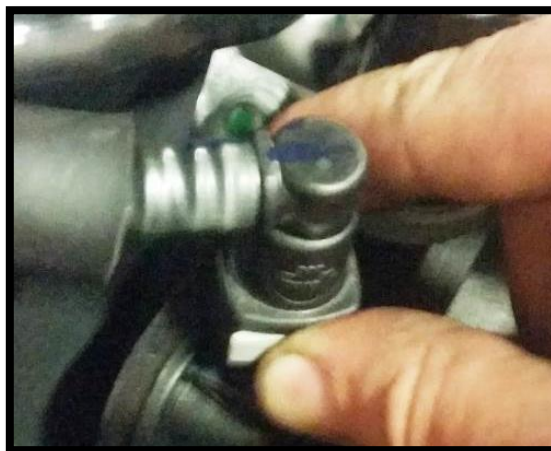
- Disconnect the negative and positive battery terminals.

STEP 2. Engine Bay

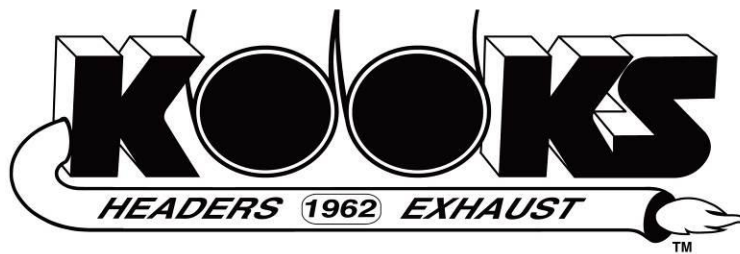
- Remove the engine cover.
- Completely disconnect the PCV hose from the driver side valve cover.



- Using a small flathead screwdriver, pop out the retaining clip located on the valve cover vent port. The other end of the hose can be removed by squeezing the connector lock and pulling out the PCV valve.



- Disconnect spark plug wires.
- We recommend removing the spark plugs for better clearance when removing manifolds and installing Kooks headers.



STEP 3. O2 Sensors

- Note and mark the position of each O2 sensor (left front, left rear, etc.).
- Disconnect all O2 sensors from wiring harness.
- Remove O2 sensors ($7/8$ " wrench or O2 socket).

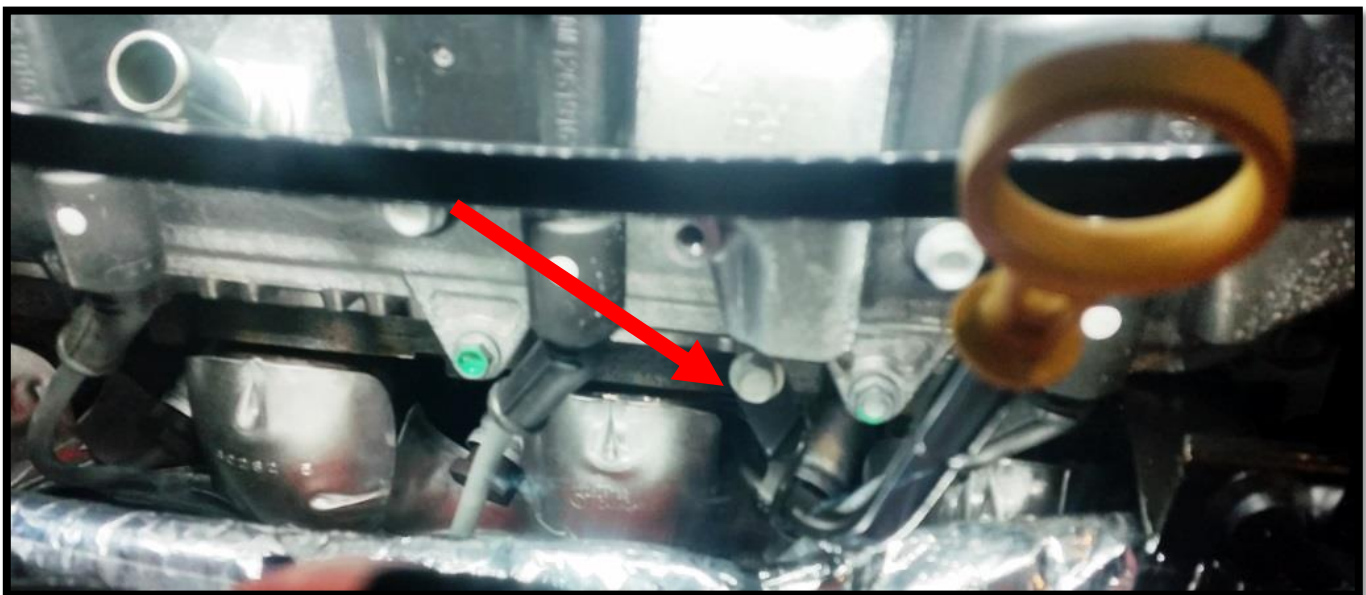
STEP 4. Bottom Aluminum Shear Plate

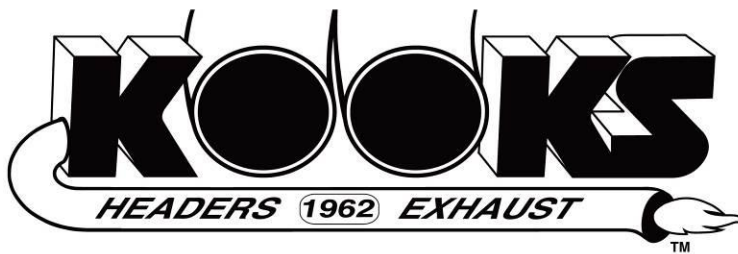
- Remove the plate to allow access to bottom of the engine.



STEP 5. Dip Stick Tube

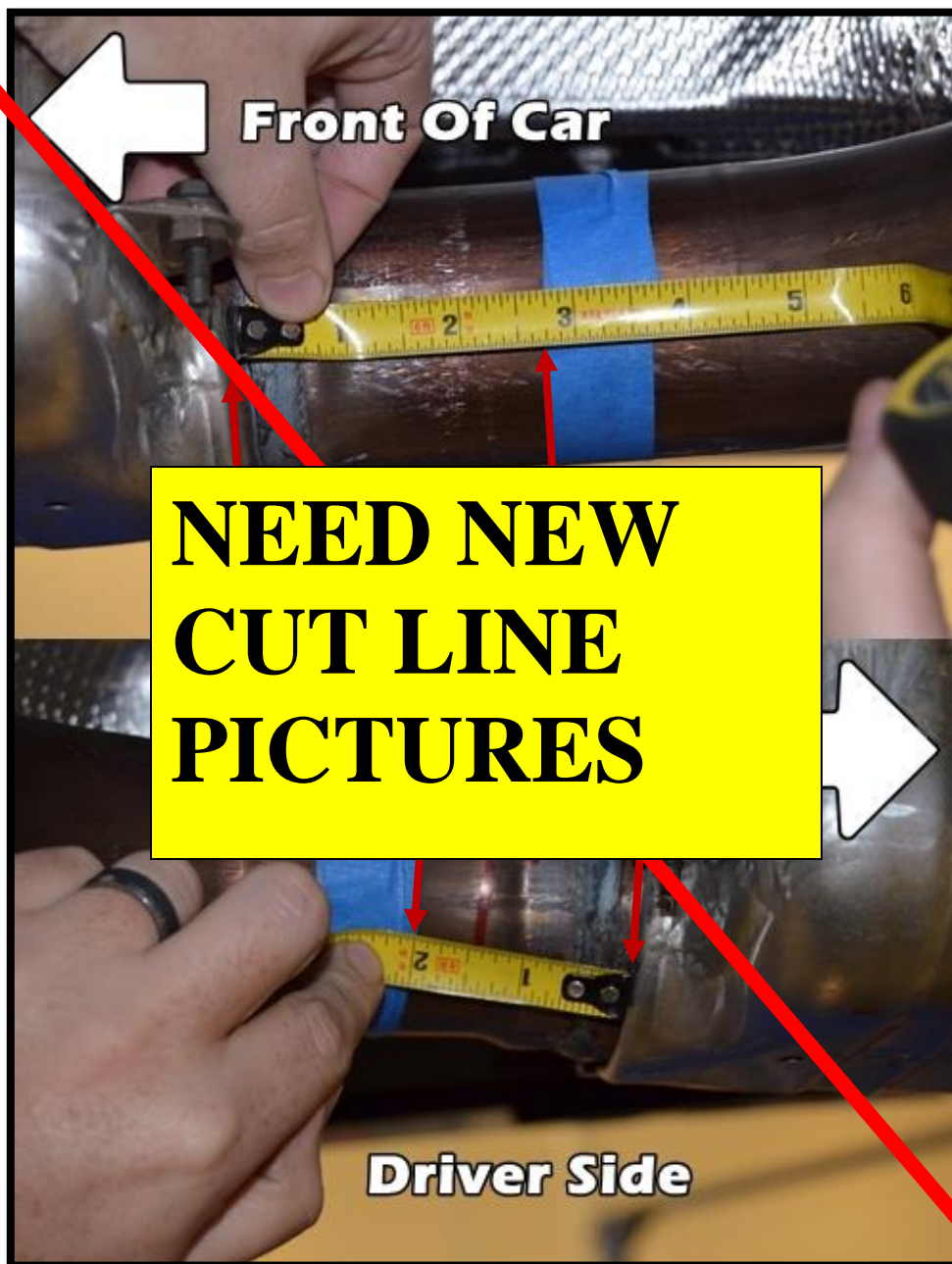
- Note the routing and orientation of the dip stick tube before removal.
- Remove the retaining bolt and pull tube up and out of seating boss to remove it.

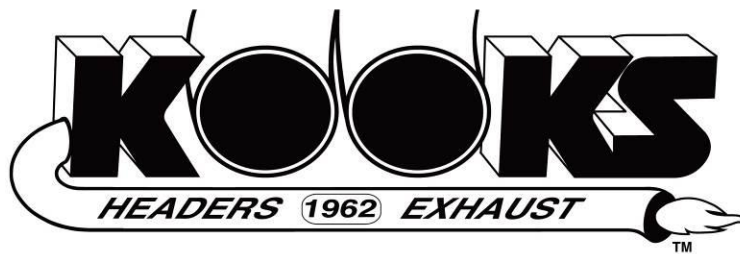




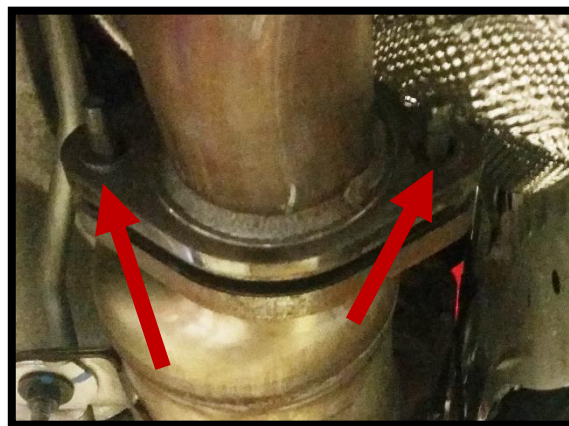
STEP 6. Factory Catalytic Converters

- Using the reference below, carefully measure the location of the cut lines on each exhaust pipe behind the catalytic converters. It is advised to use tape or some other means to mark each pipe completely to ensure a square cut. Once marked, cut each of the pipes.
- Driver side - cut approximately 2" after the cat
- Passenger side - cut approximately 2 ¾" after the cat

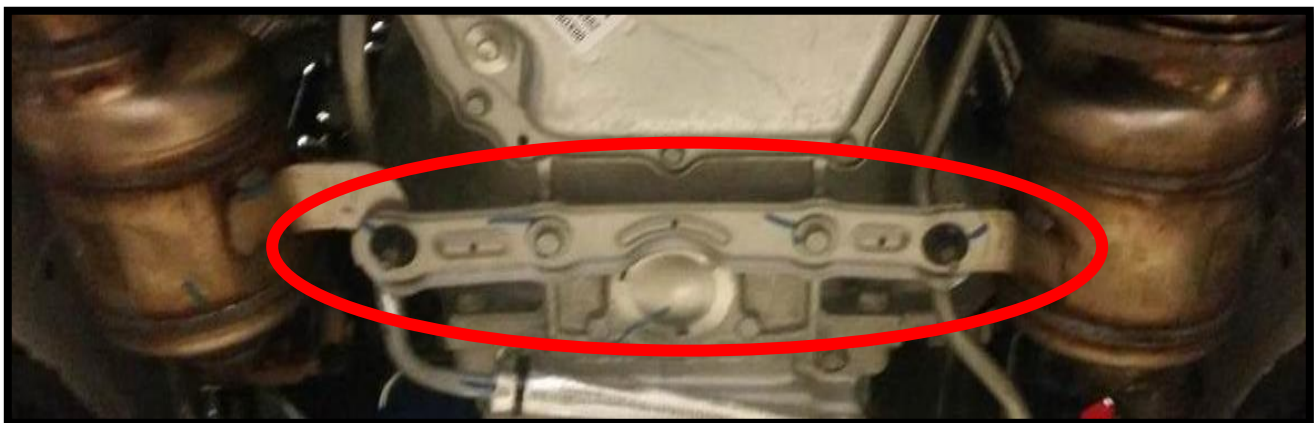


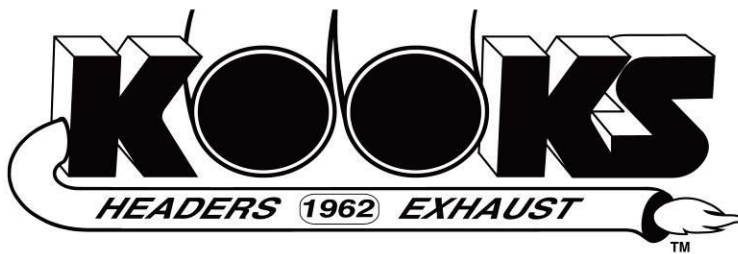


- After making the cuts, remove the rear catalytic converters. The driver side inlet is attached with a band clamp, and the passenger side inlet is attached with a 2-bolt flange.



- Clean and deburr the cut edge on the remaining exhaust. This will ensure that the supplied barrel clamps seal correctly.
- Remove the factory catalytic converter bracket. (This will not be reused.)





- Remove the front catalytic converters; they are attached to the manifolds via 4-bolt flanges.

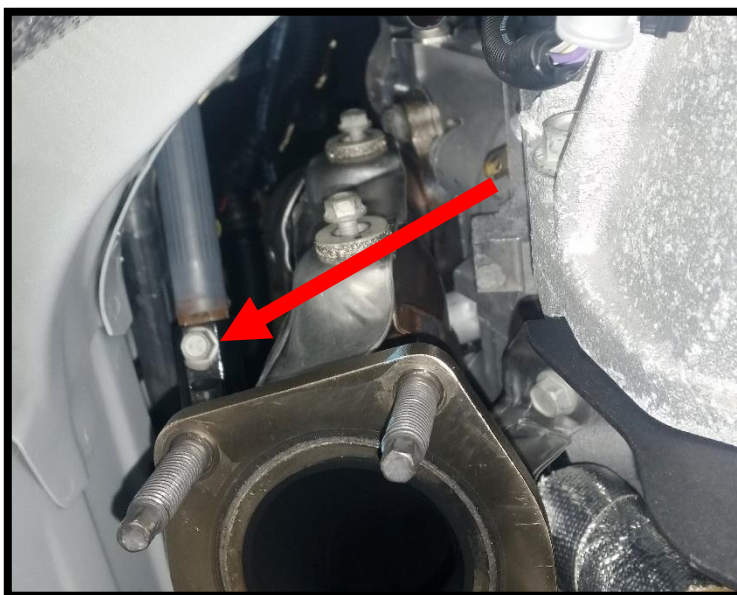
STEP 7. Starter

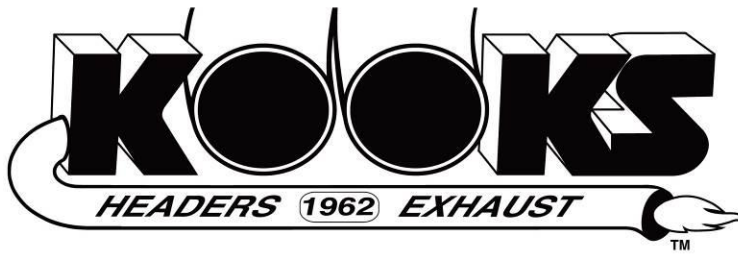
- Remove the starter heat shield. (See arrow in picture below)
- Remove starter wire connections.
- Remove the starter.



STEP 8. Steering Shaft

- Disconnect the steering shaft by removing the retaining bolt and move it out of the way.





STEP 9. Exhaust Manifolds

- Remove factory exhaust manifold heat shields.
- Remove factory exhaust manifolds from top-side of engine bay.

KOOKS HEADER AND CONNECTION PIPE INSTALLATION PROCESS

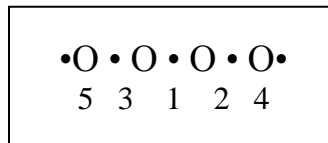
****All hardware should be tightened to factory specifications****

STEP 1. Cleaning.

- Before installing your new Kooks Headers, make sure all gasket surfaces are clean and oil free.

STEP 2. Kooks Header (**Drivers Side**)

- Install headers from the bottom of the engine compartment
- Align one bolt through the header and supplied gasket and start in the cylinder head.
- Align header and gasket, then start remaining header bolts.
- Tighten header to factory exhaust manifold torque specs, working from the center out (see figure below)



STEP 3. Kooks Header (**Passenger Side**)

- Install headers from the bottom of the engine compartment.
- Align one bolt through the header and supplied gasket and start in the cylinder head.
- Before proceeding further, reinstall dipstick tube in the bore, ensuring that it's fully seated.
- Align header and gasket, then start remaining header bolts. **Do Not Tighten.**

STEP 4. Starter

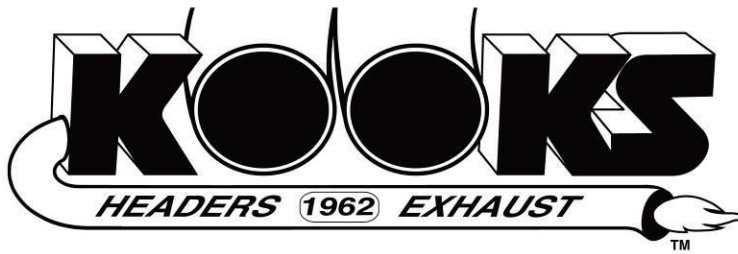
- Reinstall starter.
- Reconnect starter wire connections, routing for maximum clearance around the header.
- Reinstall starter heat shield
- Carefully check wire clearance; use zip ties if needed to hold wires.

STEP 5. Kooks Header (**Passenger Side**)

- Tighten header to factory exhaust manifold torque specs following factory torque sequence.

STEP 6. Dip Stick Tube

- Reattach dipstick retaining bracket with OEM bolt.



STEP 7. Steering Shaft

- Reinstall the lower steering shaft.

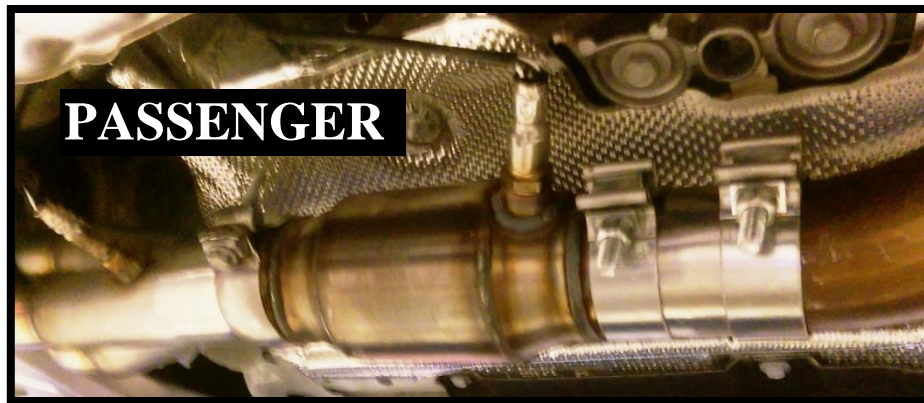
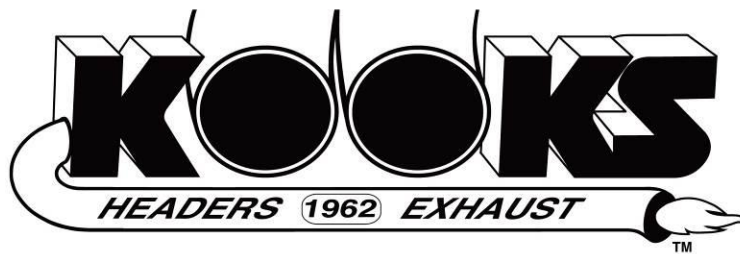
STEP 8. Kooks Connection Pipes

- Slide the Swivel Seal clamps on header collectors with the bolt heads down and to the inside; do not tighten.
- Slide the barrel clamps over the factory exhaust with bolt heads down and to the inside.
- Loosely install the connection pipes, noting that the driver side connection has a slight bend; the passenger side is straight.



- Align connection pipes as shown in pictures below, noting position of O2 sensor bungs.
- Tighten system from rear to front of the vehicle.
 - Swivel Seal Clamp = 20-25 ft-lb (**DO NOT OVERTIGHTEN, IT WILL LEAK!**)
 - Band clamp = 40-45 ft-lb





STEP 9. O2 Sensors

- Apply anti-seize to the threads of all O2 sensors and install them in the original locations.
- Connect the supplied O2 extensions on Drivers Side Front & Rear O2 sensors:
 - (1) 10" Driver Front Extension Wire (4-pin, BLACK CONNECTOR)
 - (1) 8" Driver Rear Extension Wire (4-pin, GREY CONNECTOR)

STEP 10. Bottom Aluminum Shear Plate

- Reinstall the shear plate.

STEP 11. Spark Plugs and Spark Plug Wires

- Reinstall spark plugs & wires.
- Reinstall the PCV hose and engine cover.

STEP 12. Battery

- Ensure all above steps have been completed.
- Reconnect the positive then the negative battery terminal.

STEP 13. Inspection

- Start engine and check for any exhaust leaks.
- Allow vehicle to complete one heat cycle (Heat to temp and allow for cooling).
- Re-torque header bolts and clamps.