

**banks**

with Installation Instructions  
**Owner's Manual**

**Banks  
High-Ram<sup>®</sup>  
Intake**

**With Banks Boost Tube**

**2003-2007 Dodge 5.9L Cummins  
(24-valve) ISB Pickup Trucks**

THIS MANUAL IS FOR USE WITH SYSTEM 42766

Gale Banks Engineering  
546 Duggan Avenue • Azusa, CA 91702  
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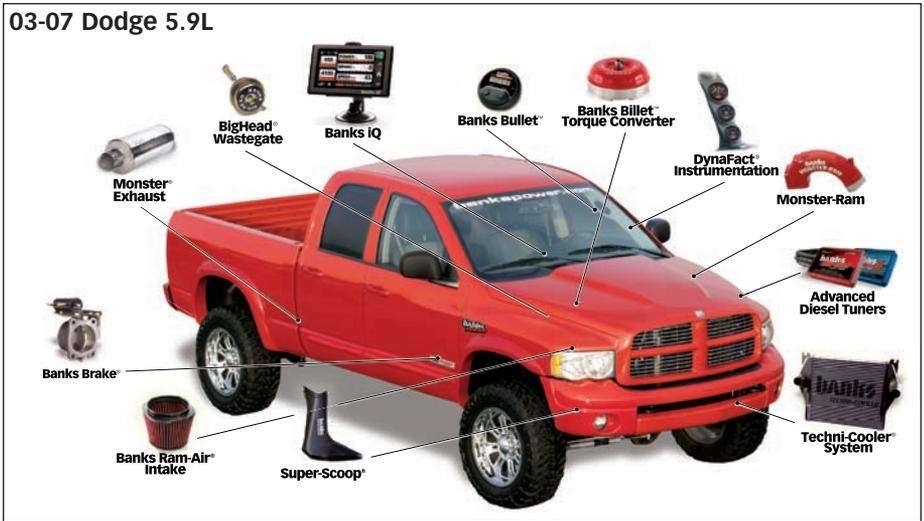
Product Information & Sales: (888) 635-4565

**bankspower.com**

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# Also Available from Banks Power

03-07 Dodge 5.9L



## **Banks iQ System (P/N 61148-61149)**

- 5" touchscreen interface that can control the Banks Diesel Tuner on the fly.
- Interchangeable gauge display, read and clear codes, monitor engine diagnostics, log data, time your vehicles runs and much more.

## **Banks Monster® Exhaust System Single (P/N 48640-48643, 48700, 48701, 48708)**

### **Duals (P/N 48702-48707, 48709) Sport (P/N 48777-48780)**

- Increases exhaust flow, cuts backpressure, lowers exhaust gas temperatures (EGTs) and increases power

## **Banks Ram-Air Intake Super-Scoop (P/N 42190-42191)**

- Adds cooler denser air to the Ram-Air Intake housing, further increasing fuel economy, reducing smoke and lowers EGTs.

## **Banks Ram-Air Intake System (P/N 42145)**

- Increases your airflow over stock.
- Adds power, improves fuel economy, lowers EGTs and reduces smoke.

## **Big Hoss Intake Manifold System (P/N 42747)**

- Increases flow and provides more uniform air distribution to the engine for more available power at a given boost level.

## **Banks Techni-Cooler® System (P/N 25980-25981)**

- Provides increased air flow to the engine by increasing air density for more increased power, lower EGTs and improved fuel economy.

## **Banks Exhaust Brake (P/N 55222-55229)**

- Increases the stopping power of your truck and extends the service life of your brakes

**Banks SmartLock**  
(P/N 55270)

- Reduces wear on transmission
- Locks Torque Converter and raises trans-line pressure
- Works with Banks Exhaust Brake

**Banks Billet Torque Converter**  
(P/N 72515)

- Higher torque capacity over stock
- Lockup clutch is slip-resistant so transmission fluids stay cooler and transmission life is prolonged

**Banks Bullet**  
(P/N 66522-66523)

- Adds power safely to your vehicle
- Displays critical engine functions
- Engine safeguards
- Change power levels on-the-fly

**Boost and Pyro Gauges**  
(P/N 64507)

- Keep your engine safe by monitoring vital engine parameters

**Banks Diesel Tuner**  
**EconoMind w/switch**  
(P/N 63725, 63793, 63795, 64507)

**EconoMind w/iQ**  
(P/N 63807, 63808, 63817, 63818)  
**Six-Gun w/switch** (P/N 61022, 63797)  
**Six-Gun w/iQ** (P/N 63809, 63819)

- Adds power safely to your vehicle
- Engine and transmission safeguards
- Change power levels on-the-fly

**Thermocouple**

- Add a temperature limiting function to your Diesel Tuner

**Banks Speed-Loader**  
(P/N 62981)

- Furthers the power output of the Banks Six-Gun and provides EGT limiting safety

**Banks BigHead® Actuator**  
(P/N 24331)

- Achieves a higher peak boost over stock and gives you precise boost control that gives you crisp acceleration and more mid-range pulling power

**Banks Stinger Systems**  
(P/N 49692-49699, 49708-49711, 49716-49721)

**Contains:**

- Ram-Air Intake system
- Monster Exhaust (single or dual)
- EconoMind Tuner w/ Banks iQ
- Big Head Wastegate Actuator

**Banks PowerPack Systems**  
(P/N 49700-49707, 49712-49715, 49722-49727)

**Contains:**

- Ram-Air Intake system
- Monster Exhaust (single or dual)
- EconoMind Tuner w/ Banks iQ
- Big Head Wastegate Actuator
- Monster-Ram
- Techni-Cooler System

**Banks Six-Gun Bundle**  
(P/N 49728-49735, 49744-49747, 49752-49757)

**Contains:**

- Ram-Air Intake system
- Monster Exhaust (single or dual)
- Six-Gun Tuner w/ Banks iQ
- Big Head Wastegate Actuator

**Banks Big Hoss Bundle**  
(P/N 49736-49743, 49748-49751, 49758-49763)

**Contains:**

- Ram-Air Intake system
- Monster Exhaust (single or dual)
- Six-Gun Tuner w/ Banks iQ
- Big Head Wastegate Actuator
- Monster-Ram
- Techni-Cooler System

For More Information please call (888) 635-4565  
or Visit us online @ [www.bankspower.com](http://www.bankspower.com)

# General Installation Practices

Dear Customer,

If you have any questions concerning the installation of your Banks High Ram Intake, please call our Technical Service Hotline at (888) 839-2700 between 7:00 am and 5:00 pm (PT). If you have any questions relating to shipping or billing, please contact our Customer Service Department at (888) 839-5600.

Thank you.

1. For ease of installation of your Banks High-Ram Intake, Please familiarize yourself with the procedure by reading the entire manual before starting work.
2. Throughout this manual, the left side of the vehicle refers to the driver's side, and the right side to the passenger's side.
3. Disconnect the negative (ground) cable from the battery (or batteries, if there are two) before beginning work.
4. Route and tie wires and hoses a minimum of 6" away from exhaust heat, moving parts and sharp edges. Clearance of 8" or more is recommended where possible.
5. The installation should be performed at time when the vehicle has been allowed to completely cool. This installation requires the installer to work near surfaces that may remain hot after the vehicle has been run. Failure to allow the vehicle to cool may result in personal injury.
6. When raising the vehicle, support it on properly weight-rated safety stands, ramps or a commercial hoist. Follow the manufacturer's safety

precautions. Take care to balance the vehicle to prevent it from slipping or falling. When using ramps, be sure the front wheels are centered squarely on the topsides. When raising the front of the vehicle, put the transmission in park (automatic) or reverse (manual), set the parking brake, and block the rear wheels. When raising the back of the vehicle, be sure the vehicle is on level ground and the front wheels are blocked securely.

**CAUTION! Do not use floor jacks to support the vehicle while working under it. Do not raise the vehicle onto concrete blocks, masonry or any other item not intended specifically for this use.**

7. During installation, keep the work area clean. Do not allow anything to be dropped into intake, exhaust, or lubrication system components while performing the installation, as foreign objects will cause immediate engine damage upon start-up.

## Tools Required:

- Drive ratchet
- Ratchet extensions
- Open-end Wrenches
- Inch and metric deep sockets
- Torx & Allen bits
- Flat blade screwdriver

## Highly recommended tools:

- Torque wrench
- Gasket scraper

## STOCK INTAKE ELBOW AND BOOST TUBE REMOVAL

**1.** Loosen the clamps that hold the rubber hose at the inlet of the stock intake elbow and slide the hose free of the intake inlet.

**CAUTION: Cover the intercooler up-pipe opening with a clean rag to prevent foreign objects from entering the intake tract.**

**2.** Remove the bolt that holds the dipstick on the intake elbow. Save the bolt for reuse. Gently push and move the dipstick and its holder to the rear of the engine compartment to gain access to the engine.

**3.** Remove the electric heater wire harness from the stock intake elbow by pulling the plastic pin out. Remove the wire harness brackets that are

mounted on the intake by removing the nut and the washer. Save the nut and the washer for re-use.

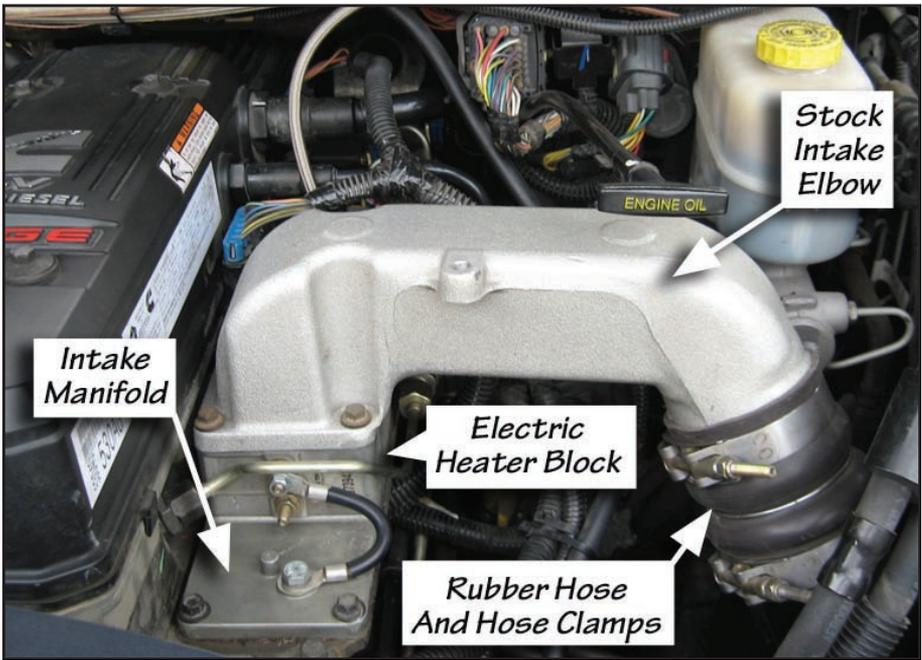
**4.** Unbolt and remove the 4 bolts at the base of the stock intake elbow and remove the intake elbow from the engine, being careful to not knock any debris into the intake through the electric heater element block.

**5.** Remove the stud bolt from the stock intake elbow (see **Figure 2**), and install it onto Banks High-Ram at the same location.

**6.** Remove the wires connecting the electric heater element block to the engine and remove the heater element block. Save the fasteners for re-use.

**CAUTION: Cover the opening in the intake manifold with a clean rag to prevent foreign objects from entering the engine.**

**Figure 1** 2007 Model Stock Intake Elbow Shown



**7.** Being careful not to scratch or gouge the mating surfaces of the parts, completely remove the stock gaskets from both sides of the heater element block and intake manifold, using a gasket scraper as needed. Clean and dry all sealing surfaces thoroughly.

**8.** Remove the driver side boost tube, hoses and hose clamps. Retain the factory hose and hose clamps at the inlet of the factory driver side boost tube for reuse with Banks Boost Tube. The boost tube is the charge air ducting that routes air from the Charge Air Cooler (CAC) to the intake manifold.

## **BANKS HIGH-RAM INTAKE AND BOOST TUBE INSTALLATION**

**9.** Install Banks driver side boost tube. The driver side tube use a 3.5 inch diameter hump hose and Spring loaded clamps at the connection to the Banks High-Ram and re-use the factory hose and clamps at the CAC. Keep the hose clamps loose until the High-Ram is installed. The Orientation of the hose clamps should be position as shown in **Figure 3** to avoid

clearance issues. Cover the opening of the boost tube to prevent foreign objects from entering the boost tube during the installation.

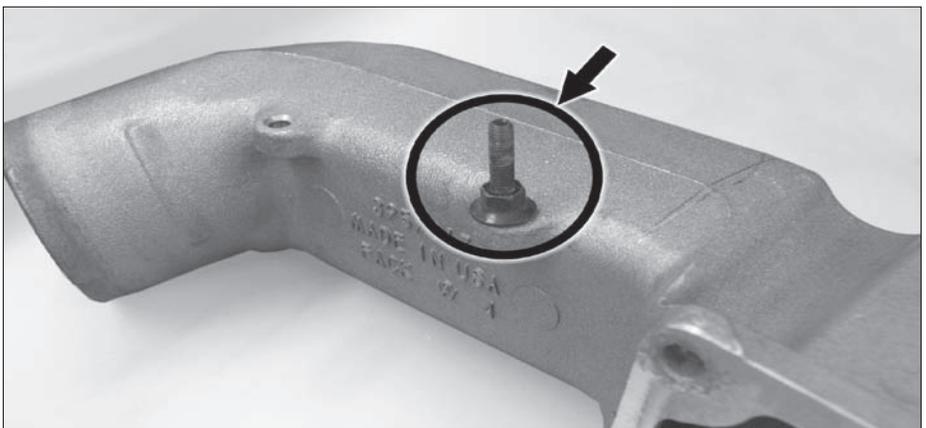
*NOTE: Before slipping any boost tubes and the corresponding hoses, into position, ensure that all connection ends are clean and free of any oil residue and contaminates. Clean all connection points with a **non-oil based solvent** such as Acetone, Mineral Spirits, Denatured Alcohol or Lacquer Thinner. Read and follow the manufactures operation instruction for non-oil based solvent cleaner.*

**10.** Reinstall the electric heater element block onto the intake manifold, placing one of the supplied gaskets between it and the intake manifold. Reattach the three electrical connections to the heater element.

**CAUTION: The Banks studs have different threads on each end.**

**11.** Make sure that the M8 ends go into the engine intake manifold. The two shorter studs go on the inboard side (closest to the valve cover). Apply the supplied thread lock compound at the M8 ends and hand-tighten the studs into the intake manifold.

**Figure 2**



**Figure 3**



**12.** Using the two  $\frac{5}{16}$ "-24 hex nuts supplied, tighten the studs into the intake by threading both nuts onto the stud, then tighten the nuts against each other with two  $\frac{1}{2}$ " open end wrenches. Tighten and torque the stud to 3-5 ft-lbs by turning the top nut. Remove the nuts from the stud by using two open end wrenches to loosen the nuts in relation to each other. Repeat the process for each stud. The process is shown in **Figure 4**.

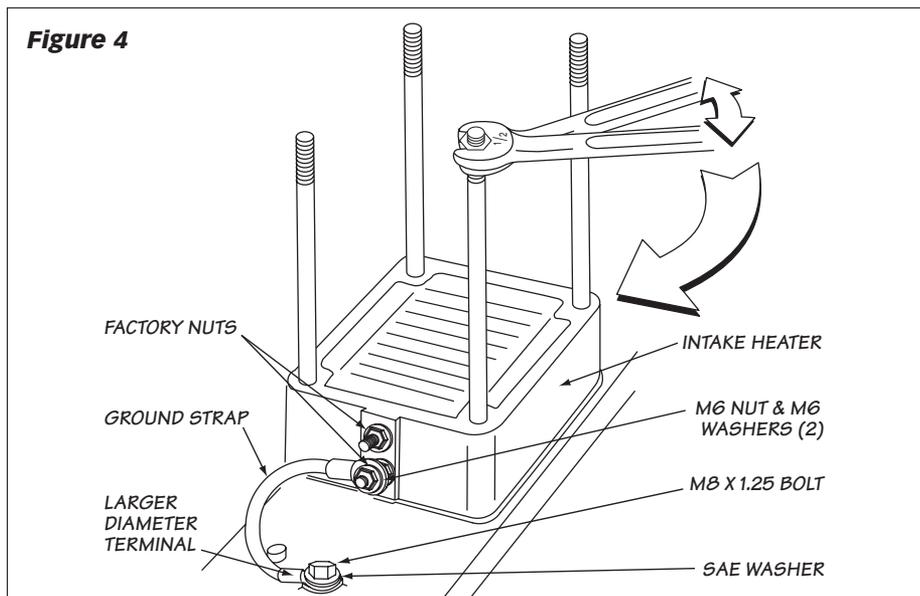
**13.** If your vehicle is NOT equipped with a factory ground strap on the intake heater, install the supplied ground strap from the intake heater to the engine. Put a 6-mm washer onto the bottom intake heater stud, leaving the factory heater nut installed. Next, install the smaller diameter ground strap terminal over the stud and retain with a 6-mm washer and nut. Route the other end of the ground strap to the threaded section on the engine

and retain with a SAE washer and M8-1.25x 16 bolt. See **Figure 4**.

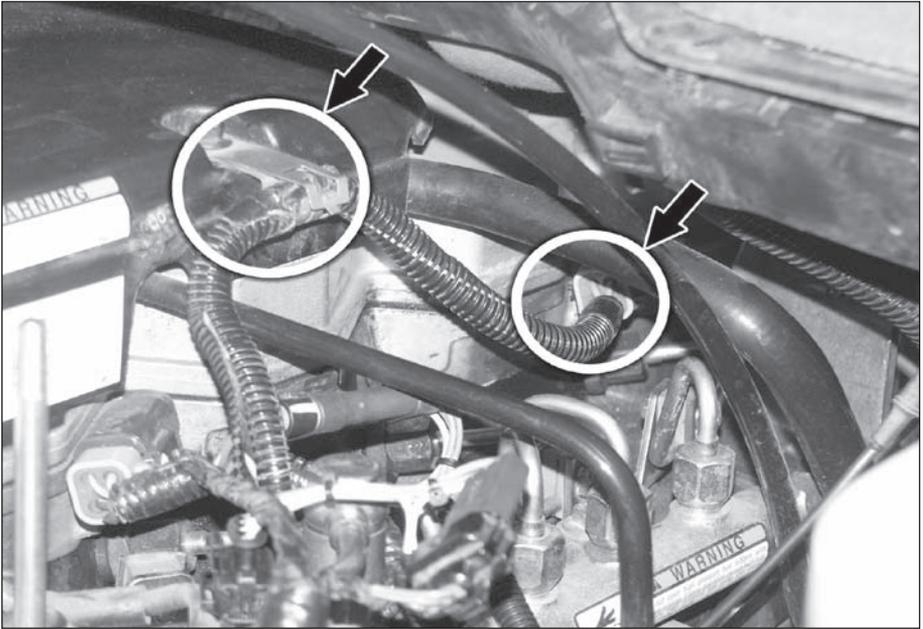
**14.** Using a flat screw-driver, loosen the clamp that holds the rear injector wire harness on the engine valve cover. Disconnect the injector wire harness from its connection. See **Figure 5**. Remove the bracket used to hold this wire harness to the stock ram. Route this harness underneath the heater harness and around the fuel by-pass valve as shown in **Figure 6**. Place the wire harness back in the clamp that is on the valve cover and re-connect the wire harness. Make sure there is no sharp bends in the wire harness, and secure it by re-fastening the clamp. Secure the wire harness with the supplied cable ties.

**15.** Disconnect the MAP and the FRP sensors and relocate the wire harness in front of the heater harness as shown in **Figure 6**. Reconnect the sensors.

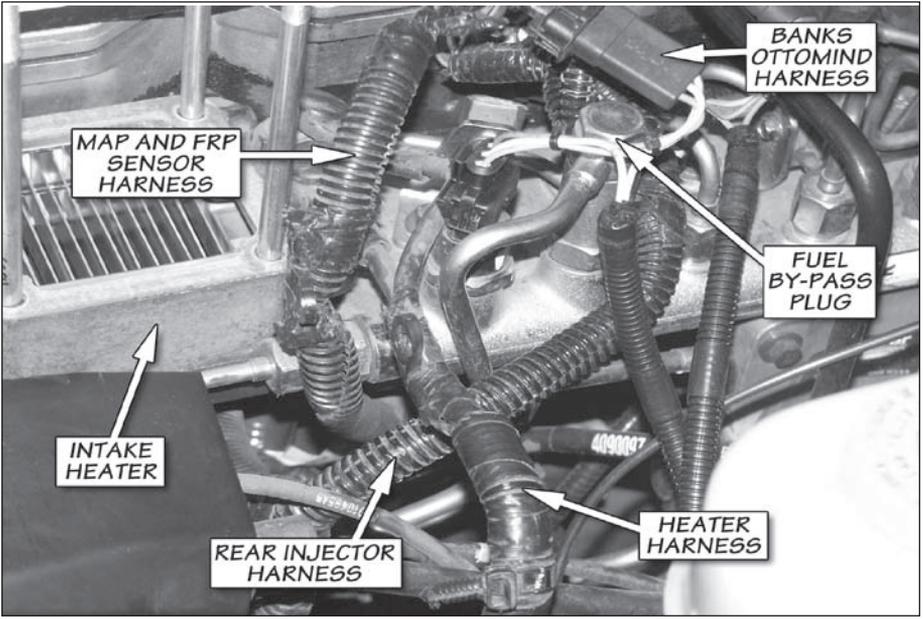
**Figure 4**



**Figure 5**



**Figure 6**



**16.** Slide the second provided intake gasket over the four studs and set the High-Ram in place on the studs. Twist a Stat-o-seal washer over the outer two studs, then over each stud install a flat  $\frac{5}{16}$ " AN washer. Install a  $\frac{5}{16}$  -24 nylock nut on each stud and tighten all four evenly between 140 to 150 lb-in. See **Figure 7**.

**CAUTION: Use only handtools when tightening the High-Ram. Tighten snugly but do not overtighten. Damage to the High-Ram casting can result from the use of pneumatic tools or excessive tightening.**

**17.** Place the supplied spacer on the stud on the High-Ram. Mount the bracket on the MAP and FRP wire harness to the stud, and secure the bracket with the original washer and nut that were removed in **Step 3**.

**18.** The plastic pin on the heater wire

harness will not be used to secure to the High-ram. Use a supplied cable tie to secure the harness away from any heat source.

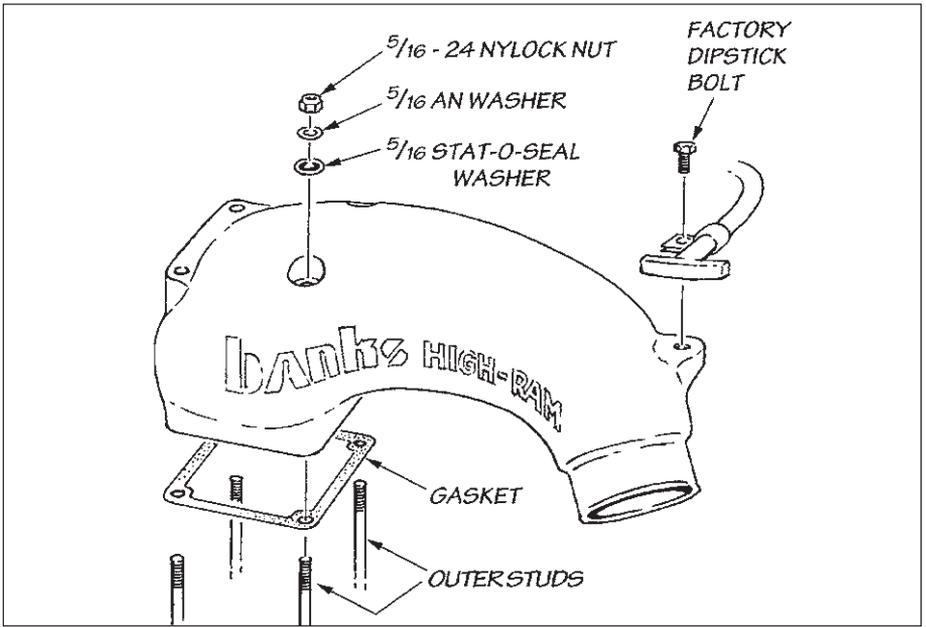
**19.** Remove all rags from the boost tube opening and reconnect the rubber hose from the boost tube to the High-Ram and tighten the clamp to 100 lb-in (11 N-m).

**20.** Rotate dipstick bracket and align the dipstick bracket hole to the hole on the High-Ram. Mount it to the High-Ram casting using the original factory bolt. See **Figures 7 and 8**.

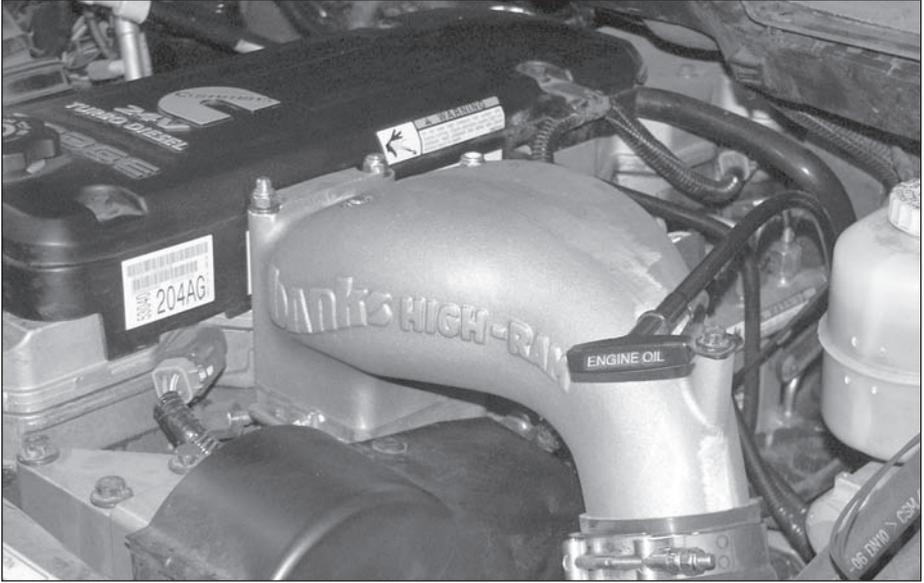
*NOTE: For 2004-2007 model vehicles, locate the supplied corrugated loom in your kit and install over the main connector wires to protect it from rubbing against the dipstick. See **Figure 9**.*

**21.** Reconnect the batteries. The Banks High Ram installation is now complete.

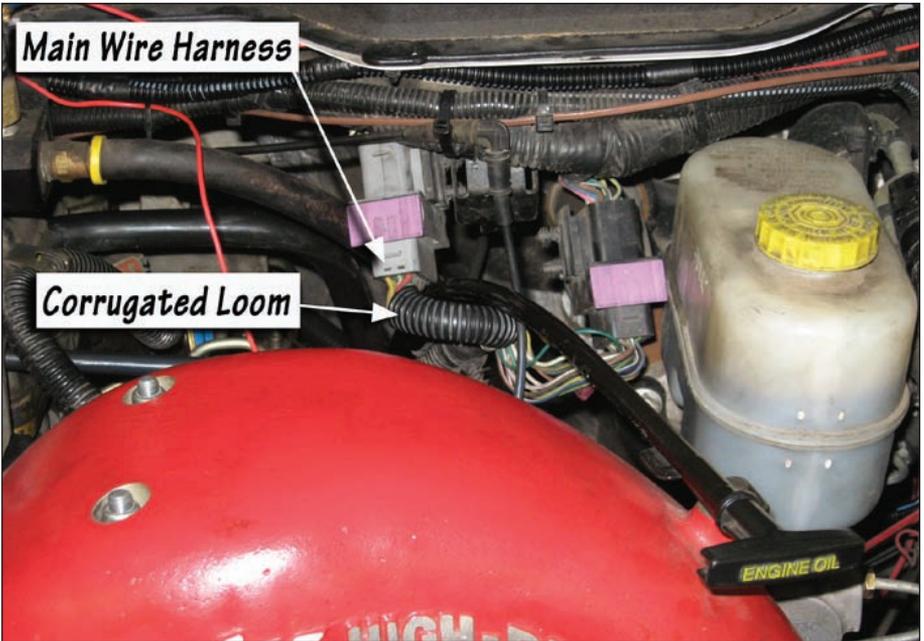
**Figure 7**



**Figure 8**



**Figure 9**



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