

# Owner's Manual with Installation Instructions

## **Banks Ram-Air<sup>®</sup> Intake System**

**2009-2014 Chevy/GMC 4.8L, 5.3L, 6.0L, 6.2L V-8  
Gas Pickups & SUVs**

THIS MANUAL IS FOR USE WITH KIT 41850 & 41850-D

Gale Banks Engineering  
546 Duggan Avenue • Azusa, CA 91702  
• Call/Txt (800) 601-8072 •

Sales Support: 8:00am-5:00pm PT Monday-Friday  
Order Status: 8:00am-5:00pm PT Monday-Friday  
Installation Support: 8:00am-4:00pm PT Monday-Friday

**bankspower.com**



# General Installation Practices

Dear Customer,

If you have any questions concerning the installation of your Banks Ram-Air System, please call our Technical Service Hotline at (800) 601-8072 between 8:00 am and 4:00 p.m. (PT.). If you have any questions relating to shipping or billing, please contact our Customer Service Department at (800) 601-8072.

Thank you.

1. For ease of installation of your Banks Ram-Air Intake System, familiarize yourself with the procedure by reading the entire manual before starting work.
2. The exploded view of the Ram-Air assembly (pages 4-5) provides only general guidance. Refer to each step and section diagram in this manual for proper instruction.
3. Throughout this manual, the left side of the vehicle refers to the driver's side, and the right-side to the passenger's side.
4. Disconnect the negative ground cable from the battery before beginning work. If there are two batteries, disconnect both.
5. Route and tie wires and hoses a minimum of 6 inches away from exhaust heat, moving parts and sharp edges. Clearance of 8 inches or more is recommended where possible.

6. During installation, keep the work area clean. If foreign debris is transferred to any Banks system component, clean it thoroughly before installing.

7. 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; put the transmission in park; set the parking brake; and place blocks behind the rear wheels.

**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.**

## Notification

**The Banks Ram-Air Filter comes pre-oiled and no oiling is necessary for initial installation. Service the filter as specified in the Filter Maintenance Section of this manual.**

## Tools Required:

- 1/4" or 3/8" drive ratchets with metric sockets
- Standard and Phillips head screwdrivers
- Clean shop towels or rags
- 5/16" nut driver
- Torx Bits

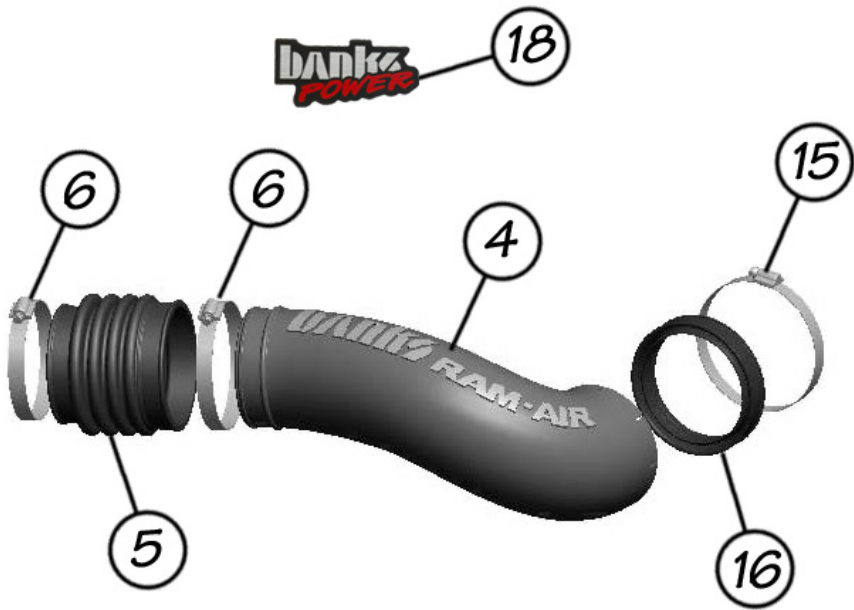
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# Section 1

## General Assembly





| Item | Description  | Part# | Qty |
|------|--|-------|-----|
| 1    | FILTER HOUSING, Ram-Air                              | 42221 | 1   |
| 2    | FILTER HOUSING COVER, Ram-Air                        | 41853 | 1   |
| 3    | AIR FILTER ELEMENT                                   | 42138 | 1   |
| 4    | INTAKE TUBE, RAM-AIR                                 | 41805 | 1   |
| 5    | HOSE, BELLOWS  | 94304 | 1   |
| 6    | HOSE CLAMP, #64                                      | 92864 | 2   |
| 7    | HOSE CLAMP, #128                                     | 92928 | 1   |
| 8    | SPRING BAND CLAMP, 5/8" (NOT SHOWN)                  | 92891 | 1   |
| 9    | SCREW, #4 TRUSS HEAD, PHILLIPS, 5/16-18 X 3/4"       | 91226 | 2   |
| 10   | SCREW, #4 TRUSS HEAD, PHILLIPS, 5/16-18 X 1 1/4", SS | 91242 | 2   |
| 11   | SCREW, TRUSS HEAD PHILLIPS, 6-32 X 5/8" , SS         | 91839 | 2   |
| 12   | PCV HOSE, 3/8" (NOT SHOWN)                           | 94136 | 1   |
| 13   | GASKET, MAF SENSOR                                   | 93072 | 1   |
| 14   | FACTORY MAF SENSOR                                   | /     | 1   |
| 15   | HOSE CLAMP, THROTTLE BODY                            | 92872 | 1   |
| 16   | SEAL GASKET, THROTTLE BODY                           | 93075 | 1   |
| 17   | STOP DO NOT DISCARD, DECAL (NOT SHOWN)               | 96002 | 1   |
| 18   | BANKS POWER UROCAL                                   | 96009 | 2   |

# Section 2

## RAM-AIR INSTALLATION

Use the Bill of Materials Chart and the General Assembly Drawing to reference component nomenclature and location. Use caution when working in the engine compartment. Make sure the engine has been OFF for several hours and cool.

You are about to install the Banks Ram-Air Intake System. Read and follow all steps before working on the vehicle. Some components from the stock air intake system will remain in service. Take care when removing stock air intake components to not damage them.

The images are for general reference only. Your vehicle application may look different.

- 1.** Remove the cover on top of the engine to gain access to the throttle body. Lift the cover up to loosen it from the rubber grommet and set aside. See **Figure 1**.
- 2.** Loosen the clamp at the inlet of the throttle body and separate the stock

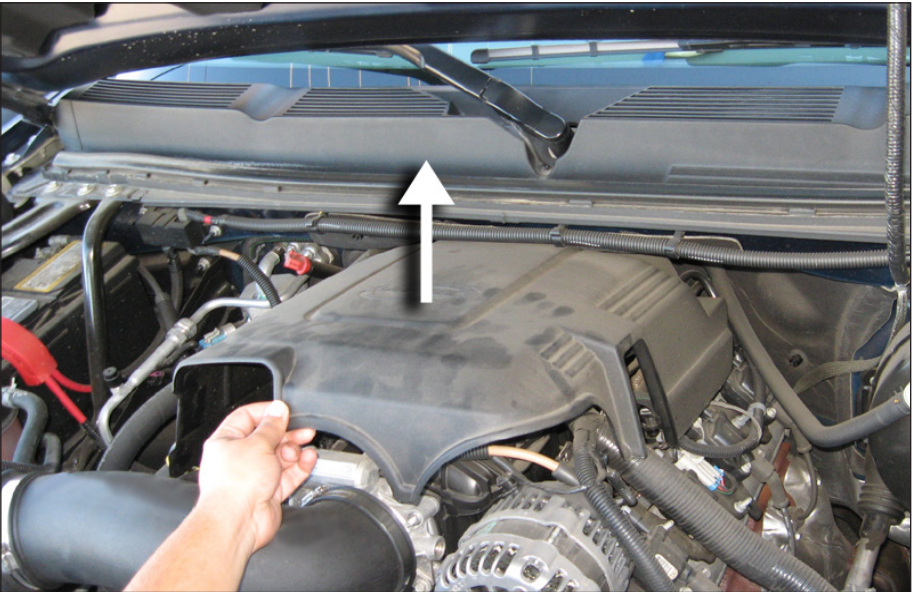
intake tube connecting to the throttle body as shown in **Figure 2**.

- 3.** Loosen the clamp at the inlet of the bellow hose and remove the factory intake tube and bellow hose from the stock lid cover. See **Figure 3**.

*NOTE: For truck models with a Positive Crankcase Ventilation (PCV) hose, disconnect the PCV hose from the engine. Turn the hose clamp at the engine connection to undo the clamp and disconnect.*

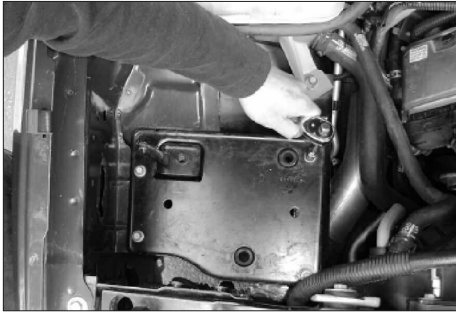
- 4.** Disconnect the MAF sensor connector wire harness. Secure the wire harness away from the air box.
- 5.** Remove the stock air box by lifting the air box up and out. The bottom of the stock air box is held in place by rubber grommets. There may be some slight resistance when removing the stock air box.

**Figure 1**

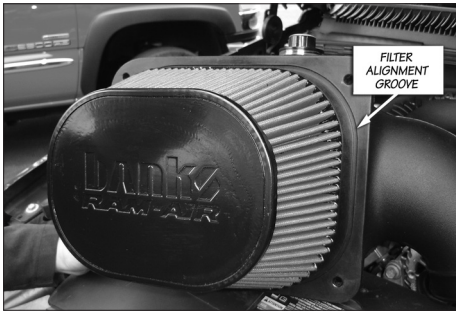




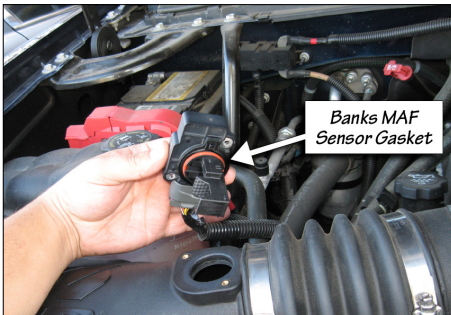
**Figure 4**



**Figure 5**



**Figure 6**



**6.** Next, remove the stock air box tray. Remove the bolts accessible from the top of the engine compartment as shown then remove the stock air box tray. See **Figure 4** . Keep the previously removed bolts for reassembly later in the installation process.

**7.** Locate your Banks Ram-Air Filter Housing from you kit. Align the Banks Ram-Air Filter Housing to fit parallel to fender edge. Install and tighten the previously removed bolts to secure the Banks Ram-Air Filter Housing.

*NOTE: It may be necessary to adjust the radiator to overflow bottle hose to provide clearance for the Banks Filter Cover Housing. Adjust any other wires or hose as needed.*

**8.** Locate the Banks Ram-Air Filter Housing Cover.

**9.** Locate the Banks Ram-Air Filter Element and filter hose clamp. Install the filter hose clamp on the filter.

**10.** Install the Banks Filter onto the Banks Ram-Air Filter Cover. Press fit the two pieces together until an audible snap is heard. This process will ensure that a correct seal has been established. Tighten Banks Filter hose clamp.

*NOTE: see **Figure 5** to reference the correct alignment groove to the Banks Ram-Air filter.*

**11.** Place the Banks Ram-Air filter cover onto the Banks Ram-Air housing. Align and loosely fit the cover onto the housing using the supplied fasteners. Your system contains a CARB EO label for emissions purposes. This label should be placed on the grill/radiator cross member inside the engine compartment, so that it is easily seen by an emissions technician.

**12.** From the stock air box, remove the MAF sensor by loosening the two (2) torx screws. Leave the factory gasket on the MAF sensor in place.

**CAUTION: DO NOT TOUCH OR ALLOW ANY SOLVENTS TO ENTER THE SENSING ELEMENT OR DAMAGE MAY RESULT.**

**13.** Locate the supplied Banks MAF sensor gasket and Install Banks gasket on the MAF sensor. Make sure the sensor is properly installed. Install the MAF sensor (with the additional Banks Gasket) onto the Ram-Air Cover sensor boss. See **Figure 6**.

**14.** Locate the Banks Ram-Air Intake tube and supplied throttle body seal gasket with hose clamp. Slide rubber grommet and hose clamp over the outlet of the intake tube.

**15.** Install the Banks Ram-Air Intake tube onto the throttle body. Do not tighten the clamp at this time.

**16.** Locate the supplied PCV hose and spring band clamp. Slide the spring band clamp over the PCV hose and install the PCV hose over the PCV outlet on the Banks Intake tube. Slide the clamp to secure the hose to the PCV outlet on the Banks Intake Tube. Install the outlet of the Banks PCV hose into the Valve Cover. See **Figure 7**.

**17.** Align the intake tube to the cover outlet. See **Figure 8**.

**18.** Install, but do not tighten, the Banks bellows hose and hose clamp onto the cover and intake tube inlet. Make sure that the bellow hose is inserted properly into the cover outlet and the Banks intake tube and tighten the hose clamps.

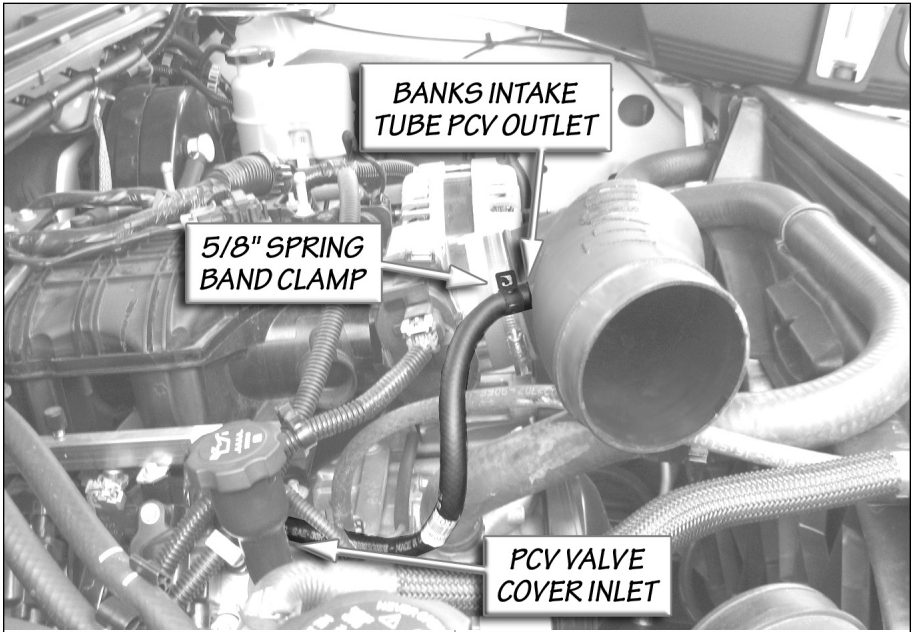
**19.** Re-attach the MAF connector to the MAF sensor.

**20.** Affix the "Do Not Discard" sticker on or near the filter case (included with every Banks replacement element). Make sure you put the sticker in a highly visible place to alert your mechanic not to discard.

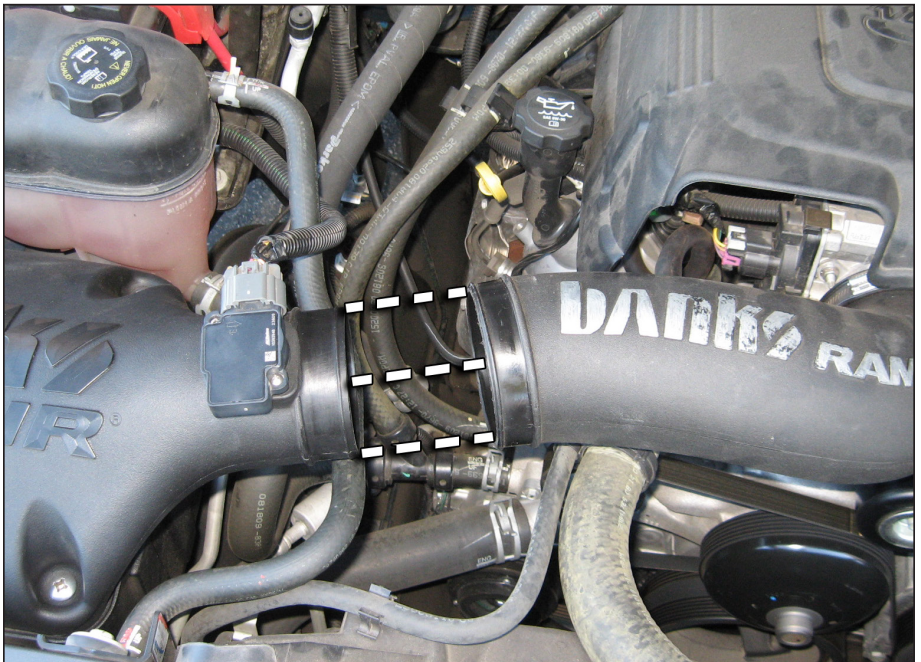
**21.** You system includes two (2) Banks Power decals designed to complement the Chevy emblems on the vehicles front doors.

**22.** Re-install the engine cover. Make sure to go over all hose clamps for tightness and connectors for a sure fit. Make sure that the intake tube is not touching any engine components. Re-connect battery grounds. You have successfully completed the installation of the Banks Ram-Air Intake system.

**Figure 7**



**Figure 8**



# Section 3

## AIR FILTER CLEANING INSTRUCTIONS

### OILED AIR FILTER ONLY

**NOTICE**: The Banks Ram-Air Oiled Air Filter comes pre-oiled and no oiling is necessary for initial installation. Use Banks Ram-Air Filter Cleaning System (part#90094), available from Gale Banks Engineering to service the Air Filter. Follow the instructions included with the cleaning system to clean and re-oil your Bank Ram-Air Oiled Air Filter.

#### 1. PRE-CLEANING

Tap the element to dislodge any large embedded dirt, then gently brush with a soft bristle brush. *NOTE: If complete cleaning is not practical at this time, recoil the element and reinstall in your vehicle.*

#### 2. SPRAY-ON CLEANING

Spray air-filter cleaner liberally onto the entire element and let soak for 10 minutes.

#### 3. PAN CLEANING

Large air-filter elements can be rolled or soaked in a shallow pan of air-filter cleaner. Remove immediately and let soak for approximately 10 minutes.

**NOTICE**: NEVER use gasoline, steam, caustic solutions, strong detergents, high-pressure nozzles, or cleaning solvents to clean the filter element. All of these can cause harm to the filter media as well as SHRINK and HARDEN the rubber end caps.

#### 4. RINSING

Rinse off the element with low-pressure water. Tap water is okay. Always flush from the clean side to dirty side. This removes the dirt

and does not drive it into the filter.

#### 5. DRYING

Always dry naturally. After rinsing, shake off all excess water and let the element dry naturally.

#### 6. AEROSOL OILING

After cleaning air filter always reoil before using. Spray air filter oil down into each pleat with one pass per pleat. Wait 10 minutes and re-oil any white spots still showing.

#### 7. OILING HINTS

Never use a Banks Ram-Air filter without oil (the filter will not stop the dirt without the oil). Use only air filter oil. Air-filter oil is a compound of mineral and animal oil blended with special polymers to form a very efficient tack barrier. Red dye is added to show just where you have applied the oil. Eventually the red color will fade but the oil will remain and filter the air. NEVER USE Automatic Transmission Fluid. NEVER USE Motor Oil. NEVER USE Diesel Fuel. NEVER USE WD40, LPS, or other light-weight oils.

#### 8. REINSTALL

Reinstall your Banks Ram-Air filter element with proper care. Make sure the element seats properly in the filter case. Install the cover making sure it's in the right position. Tighten all the nuts, bolts, screws or clips to factory specifications.

#### 9. DO NOT DISCARD

Affix the "Do Not Discard" sticker to the filter case (included with every Banks replacement element). Make sure you put the sticker in a highly visible place to alert your mechanic not to discard.

#### 10. PERFORMANCE HINTS

Service every 50-100,000 miles on

street-driven applications. Service more often in offroad or heavy-dust conditions. If an air-filter restriction gauge is installed, then change the element when the air-filter restriction reaches 18"—H.O.

**⚠ CAUTION:** **Extremely fine dust from agriculture or offroad use will pull the oil from the element. Frequent reoiling of the element's clean side might be required. Completely service when practicable. For extra protection use an air-filter sealing grease on rubber ends of the element. Service only with air-filter cleaner and air-filter oil.**

## DRY FILTER CLEANING

Clean every 50-100,000 miles on street-driven applications. Clean more often in offroad or heavy-dust conditions. If an air-filter restriction gauge is installed, then change the element when the air-filter restriction reaches 18"—H.O.

### 1. PRE-CLEANING

Carefully tap the air filter element to dislodge any large embedded dirt or debris.

### 2. CLEANING

Spray an appropriate DRY AIR-FILTER CLEANER SOLUTION liberally onto both sides of the entire filter element with the majority applied to the dirty side. Soak for 10 minutes. Do not allow the DRY AIR-FILTER CLEANER SOLUTION to dry on the air filter.

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**NOTICE:** NEVER use gasoline, steam, caustic solutions, strong detergents, high-pressure nozzles, or cleaning solvents to clean the filter element. All of these can cause harm to the filter media as well as SHRINK and HARDEN the rubber end caps.

### 3. RINSING

Rinse the filter element with cool or warm (not hot) water from the clean side out in order to flush the dirt out of the filter. It may be necessary to use your fingers on the hose to apply light water pressure. Repeat steps 2 and 3, until the water flowing through the media is completely clear of any dirt and debris.

### 4. DRYING

After rinsing, gently shake off excessive water and allow to dry naturally. Re-install the filter onto the intake system, airbox or custom assembly once it is dry or just slightly damp. Follow all original installation instructions.

### 5. REINSTALL

Reinstall your Banks Ram-Air filter element with proper care. Make sure the element seats properly in the filter case. Install the cover making sure it's in the right position. Tighten all the nuts, bolts, screws or clips to factory specifications.

### 6. DO NOT DISCARD

Affix the "Do Not Discard" sticker to the filter case (included with every Banks replacement element). Make sure you put the sticker in a highly visible place to alert your mechanic not to discard.

### 7. PERFORMANCE HINTS

Service every 50-100,000 miles on street-driven applications. Service more often in offroad or heavy-dust conditions. If an air-filter restriction gauge is installed, then change the element when the air-filter restriction reaches 18"—H.O.

-END, SECTION 3-