

**banks**

with Installation Instructions  
**Owner's Manual**

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

**2006-17 Ford 6.8L V-10, 30-valve  
Class-A Motorhome**

THIS MANUAL IS FOR USE WITH KIT 49191

Gale Banks Engineering  
546 Duggan Avenue • Azusa, CA 91702  
(626) 969-9600 • Fax (626) 334-1743

Product Information & Sales: (888) 635-4565  
Customer Support: (888) 839-5600  
Installation Support: (888) 839-2700

**bankspower.com**

**banks**

# 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 (888) 839-2700 between 7:00 am and 4:00 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 Ram-Air intake system, familiarize yourself with the procedure by reading the entire manual before starting work. This manual contains 16 pages of copy, illustrations and parts listing. If any pages are missing from this manual please call Gale Banks Engineering immediately for a replacement.
2. The exploded view of the Ram-Air assembly (page 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 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

**Table of Contents**

**Section 1** ..... **4**  
General Assembly

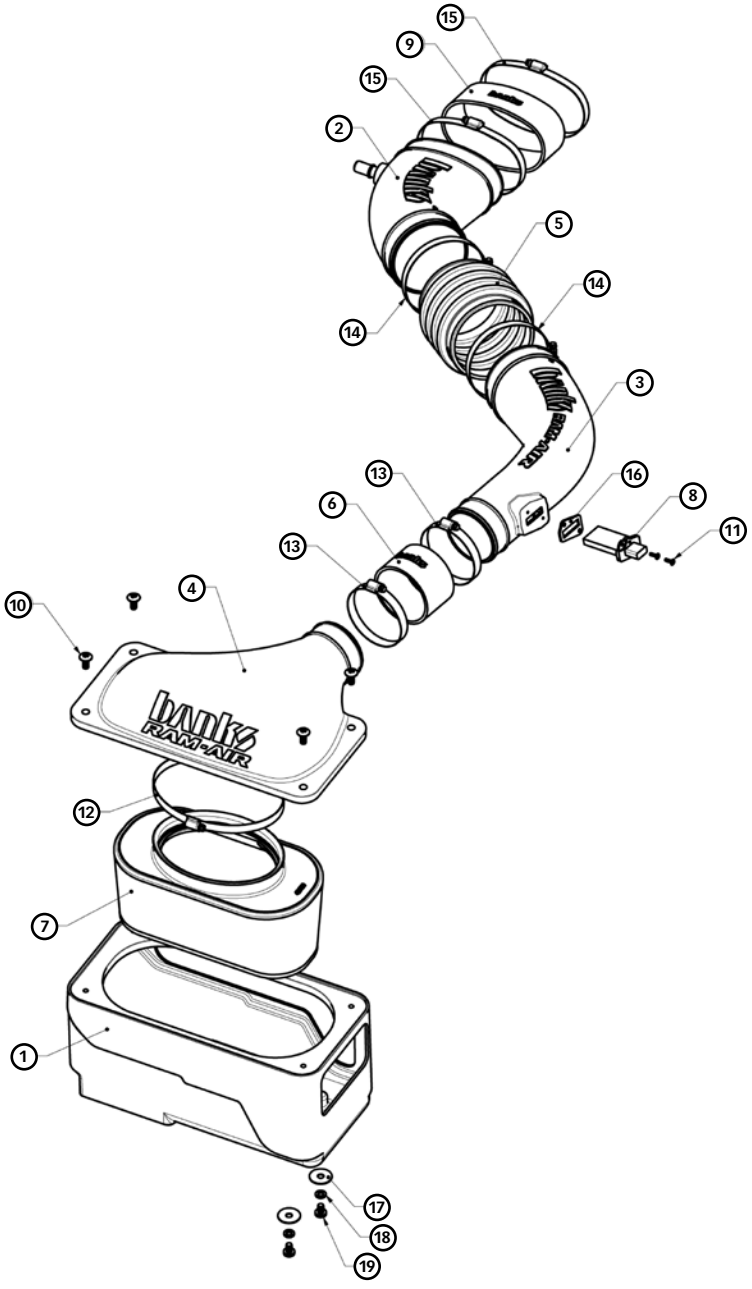
**Section 2** ..... **6**  
Ram-Air Installation

**Section 3** ..... **15**  
Filter Maintenance

# Section 1

## General Assembly

| Item | Description                                       | Part#     | Qty |
|------|---|-----------|-----|
| 1    | FILTER HOUSING, Ram-Air                           | 42062     | 1   |
| 2    | REAR INTAKE TUBE, Ram-Air                         | 42082     | 1   |
| 3    | FRONT INTAKE TUBE, Ram-Air                        | 42081     | 1   |
| 4    | FILTER HOUSING COVER, Ram-Air                     | 42063     | 1   |
| 5    | HOSE, BELLOWS, 4.50" I.D.                         | 94300     | 1   |
| 6    | HOSE, INTAKE TUBE, Ram-Air                        | 94307     | 1   |
| 7    | AIR FILTER ELEMENT, Ram-Air                       | 42019     | 1   |
| 8    | MAF SENSOR  | OEM STOCK | 1   |
| 9    | HOSE, THROTTLE BODY, RAM-AIR                      | 94309     | 1   |
| 10   | SCREW, TRUSS HEAD, PHILLIPS, 5/16"-18 X 3/4"      | 91226     | 4   |
| 11   | SCREW, TRUSS HEAD, PHILLIPS, 6-32 X 1/2"          | 91719     | 2   |
| 12   | HOSE CLAMP, #104                                  | 92904     | 1   |
| 13   | HOSE CLAMP, #56                                   | 92857     | 2   |
| 14   | HOSE CLAMP, #72 w/LINER                           | 92872     | 2   |
| 15   | HOSE CLAMP, #88 w/LINER                           | 92868     | 2   |
| 16   | GASKET, MAF SENSOR                                | 93067     | 1   |
| 17   | WASHER 5/16" FENDER, ZINC                         | 91206     | 2   |
| 18   | WASHER, SPLIT-LOCK, 5/16"                         | 91204     | 2   |
| 19   | MACHINE SCREW, PAN HEAD PHILLIPS, 5/16"-18 X 1/2" | 91290     | 2   |



# Section 2

## RAM-AIR INSTALLATION

### REMOVE STOCK AIR FILTER SYSTEM

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.

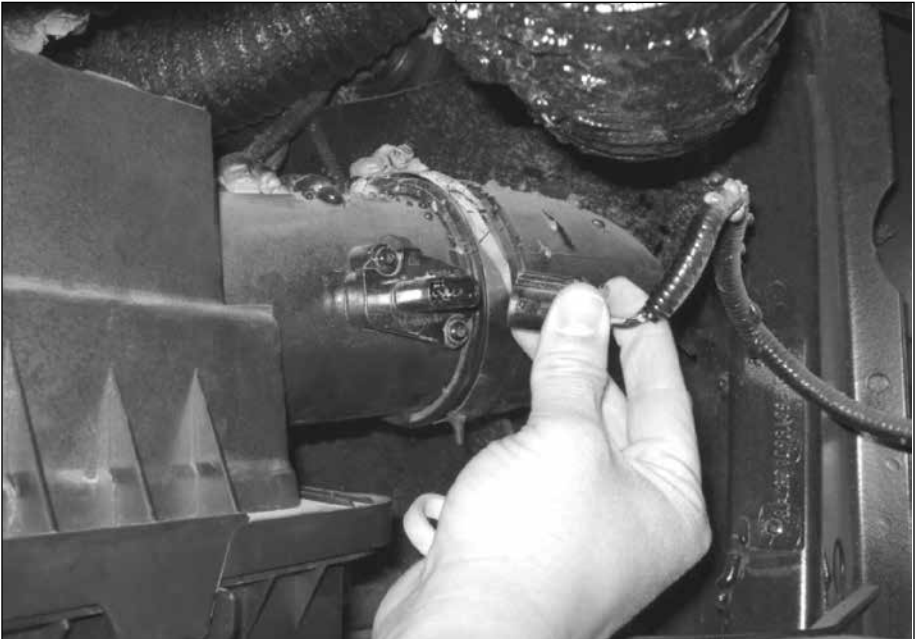
Use the Bill of Materials Chart and the General Assembly Drawing to reference component nomenclature and location. Use caution when working in the engine compartment. Make sure the engine has been OFF for several hours and cool.

**1.** Gain access to the front of the engine compartment. Locate the stock air filter housing.

**2.** Locate and remove the Mass Air Flow (MAF) sensor connector. See **Figure 2**. Loosen the air filter housing intake hose clamp. Remove the air filter housing from the engine compartment and set aside. *NOTE: There may be slight resistance when removing the air filter housing from the rubber grommets. Take care not to damage equipment or sensors when removing the housing.* See **Figure 3**.

**3.** Remove the (2) rubber grommets from the air filter housing tray. See **Figure 4**. Reinstall the grommets to the vertical housing filter panel. See **Figure 5**.

**Figure 2**



**Figure 3**



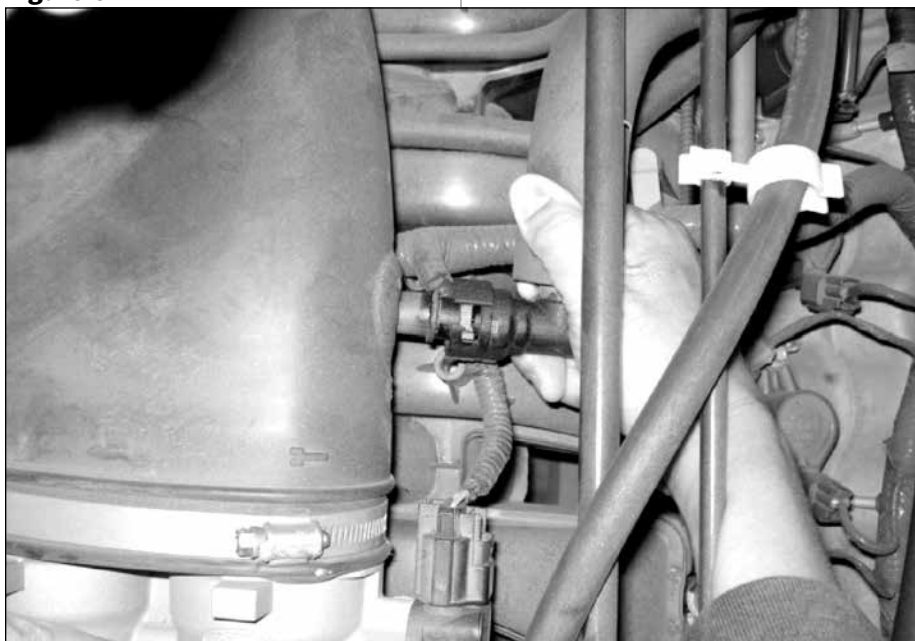
**Figure 4**



**Figure 5**



**Figure 6**





**Figure 7**



**4.** Now, through the interior of the coach, locate and remove the engine cover to access the top of the engine.

**5.** Locate and remove the PCV tube connected to the throttle body intake tube. See **Figure 6**.

**6.** Find the throttle body intake tube and loosen it's hose clamp.

**7.** Remove the throttle body intake tube from the engine compartment and set aside.

### **INSTALL BANKS RAM-AIR INTAKE TUBE**

**8.** Assemble the Banks throttle body hose and hose clamp onto the Banks rear intake tube. Lightly tighten the hose clamp.

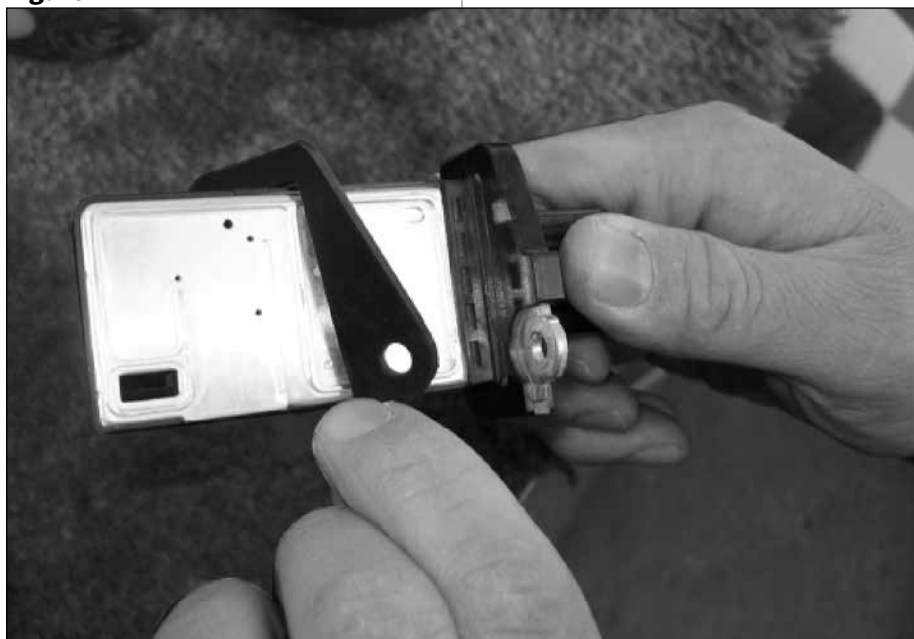
**9.** Install the supplied Banks bellows hose and hose clamp onto the other end of the Banks rear intake tube. See **Figure 7**.

**10.** Locate the Banks front intake tube and install it into the other end of the Banks bellows hose. Make sure the alignment of the air intake tube is correct (**Figure 8**). Tighten all the hose clamps on the Banks intake tube assembly.

**Figure 8**



**Figure 9**



**Figure 10**



**11.** From the previously removed stock air housing, carefully remove the MAF sensor from the housing cover.

**12.** Remove the factory MAF sensor gasket. Locate and install the supplied Banks MAF sensor gasket onto the sensor. *NOTE: Make sure to line up the gasket. The gasket only fits on one way.* See **Figure 9**.

**13.** Install the MAF sensor into the Banks intake tube. See **Figure 10**.

**14.** Assemble the supplied Banks intake tube hose and hose clamps onto the Banks front intake tube. Tighten the hose clamp to the front intake tube.

**15.** With the Banks intake tube fully assembled, install it into the engine compartment. Connect the Banks throttle body hose to the throttle body and tighten the hose clamp. See **Figure 11**.

**16.** Connect the PCV valve tube to the port on the Banks rear intake tube.

### **INSTALL BANKS RAM-AIR FILTER HOUSING**

**17.** Locate the supplied Banks Ram-Air Filter Housing, Banks Ram-Air Filter Element, and hose clamp. Install the hose clamp onto the Banks air filter. *NOTE: Do not tighten the hose clamp onto the air filter at this time. Leave loose to fit Banks air filter cover in a step 21.*

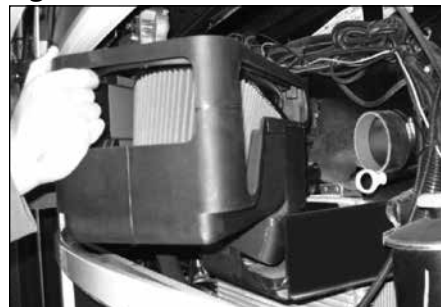
**Figure 11**



**Figure 12**



**Figure 13**



**Figure 14**



**Figure 15**



**18.** Place the filter and hose clamp into the Banks Ram-Air Filter Housing.

**19.** Install the Banks air filter housing into the stock air filter tray. *NOTE: Insert the housing with opening facing away from the engine, then twist in towards the passenger side.* See **Figures 12,13,14** and **15**.

**20.** Using the supplied Banks air filter housing hardware, slide the lock washer and then the large flat washer over the screw. Install the screw from the bottom of the stock housing tray into the Banks housing (**Figure 16**). *NOTE: Hand tighten with screw driver only.*

**21.** Place the Banks air filter cover onto the Banks air filter housing. Install the Banks filter onto the Banks cover and tighten the hose clamp as shown in **Figure 17**.

**22.** Slide the Banks intake hose onto the Banks air filter cover and tighten the hose clamp. See **Figure 18**.

**23.** Install the supplied screws

into Banks Ram-Air Filter Cover and tighten. *NOTE: Hand tighten with screw driver only.*

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

**25.** Reconnect the battery ground.

**26.** 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.

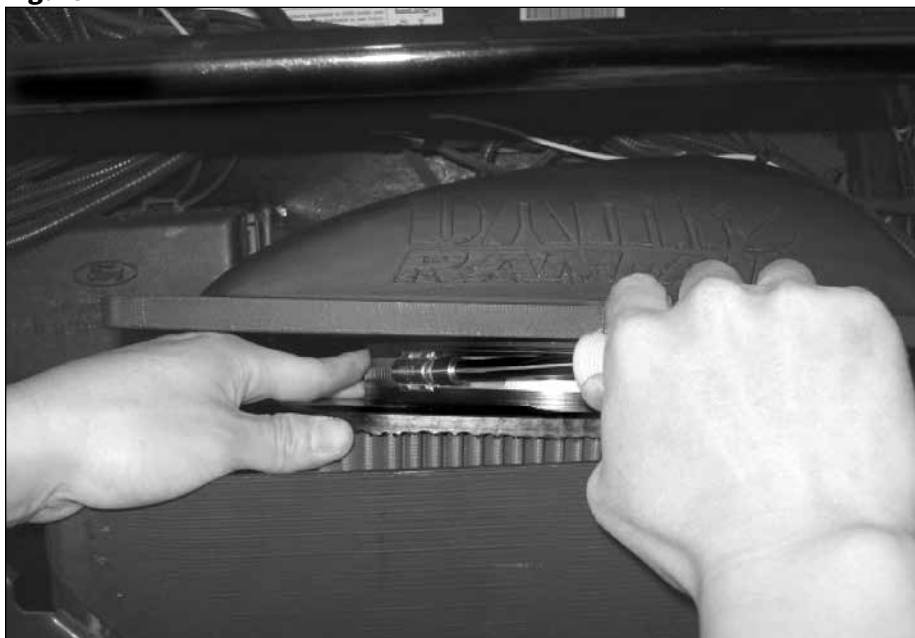
Make sure to go over all hose clamps for tightness and connectors for a sure fit.

Make sure that the intake tube is not touching any engine components. Enjoy your Banks Ram-Air Filter System.

The installation of the Banks Ram-Air Intake System is complete.



**Figure 17**



**Figure 18**





# Section 3

## Filter Maintenance

### Notification

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

- 1.** Service Banks Ram-Air Filter every 50-100,000 miles on street-driven applications. Service more often in offroad or heavy-dust conditions.
- 2.** 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 Banks Ram-Air Filter. No gasoline cleaning, No steam cleaning, No caustic cleaning

solutions, No strong detergents, No high pressure car wash, No parts cleaning solvents. Any of these No's can cause harm to the cotton filter media plus SHRINK and HARDEN the rubber end caps.

**CAUTION! Extremely fine dust from agriculture or off-road use will pull the oil from the element. Frequent re-oiling 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 Banks Ram-Air filter cleaner and Banks Ram-Air filter oil.**

Gale Banks Engineering  
546 Duggan Avenue • Azusa, CA 91702  
(626) 969-9600 • Fax (626) 334-1743

Product Information & Sales: (888) 635-4565  
Customer Support: (888) 839-5600  
Installation Support: (888) 839-2700

**bankspower.com**