

banks[®]

Owner's Manual with Installation Instructions

Banks Ram-Air[®] Intake System

**2004-2008 Ford 5.4L
F150 Trucks**

THIS MANUAL IS FOR USE WITH KIT 41806

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. If you have any questions relating to shipping or billing, please contact our Customer Service Department.

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 (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 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 the initial installation. Service the filter as specified in the Filter Maintenance Section of this manual.

Tools Required:

- 3/8" drive ratchets with metric and standard sockets
- Standard and Phillips head screwdrivers
- Standard and needle-nose pliers
- Clean shop towels or rags
- 5/16 nut driver

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General Assembly

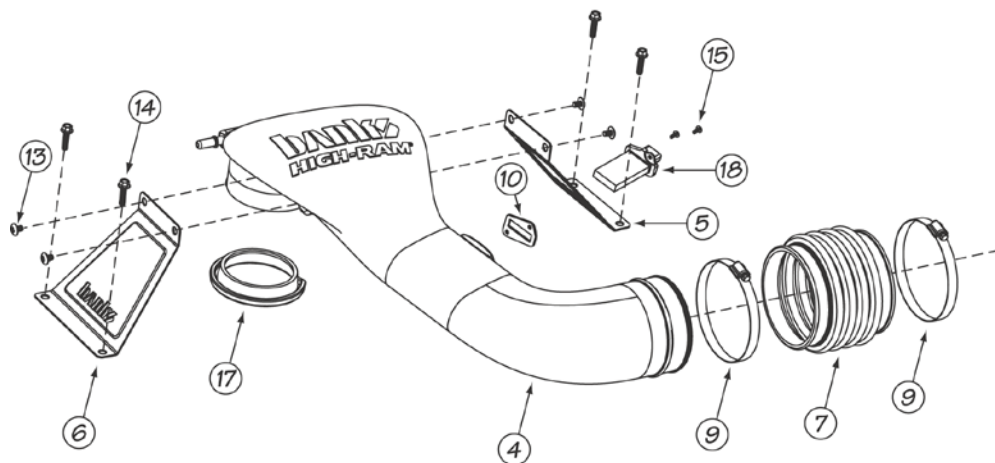
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Section 1

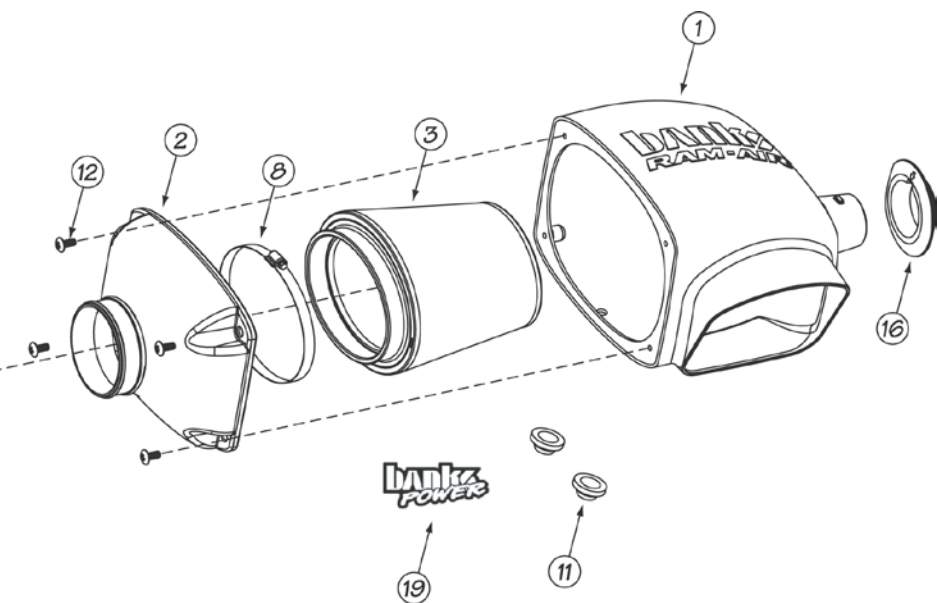
GENERAL ASSEMBLY

Figure 1



Item #	Part #	Description	QTY
1	41807	HOUSING, RAM-AIR FILTER	1
2	41808	COVER, RAM-AIR HOUSING	1
3	42158	AIR FILTER ELEMENT, RAM-AIR	1
4	41810	HIGH-RAM, RAM-AIR	1
5	41811	BRACKET, LEFT	1
6	41812	BRACKET, RIGHT	1
7	94300	BELLOWS, 4.5"	1
8	92904	HOSE CLAMP, #104	1
9	92872	HOSE CLAMP, #72	2
10	93067	GASKET, MAF SENSOR	1
11	93047	GROMMET, HOUSING FOOT	2
12	91226	SCREW, TRUSS HEAD, PHILLIPS, 5/16-18 X 3/4	4
13	91128	SCREW, TRUSS HEAD, PHILLIPS, 1/4-20 X 3/8	4
14	91736	SCREW, HEX FLANGE HEAD, M6 X 1.0 x 10mm	4
15	91718	SCREW, TRUSS HEAD, PHILLIPS, 6-32 X 3/8	2
16	*	GROMMET, INLET (STOCK)	*
17	*	GROMMET, THROTTLE BODY (STOCK)	*
18	*	MAF SENSOR (STOCK)	*
19	96009	BANKS UROCAL	2

* These are stock components that will be reused with the Banks Ram-Air System.



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.

1. Disconnect the Mass Airflow sensor (MAF) located on the air filter housing and set the connector aside.
2. Remove the PCV vent hose connection located on the air housing assembly and set the connector aside.
3. Remove the bolt located near the power steering reservoir that fastens the intake tube to the power steering bracket. See **Figure 3**.

4. Pull out the intake snorkel and grommet from the inner fender.
5. Remove and set aside the four M6 bolts that secure the air filter housing to the engine bay. *Note: The M6 bolts will not be reused.* See **Figure 4**.
6. Remove the air filter housing along with the attached intake tube from the engine compartment and set aside. See **Figure 5**.
7. Using the supplied torx tool bit, remove the MAF sensor and the stock MAF sensor gasket from the air filter housing and set aside. *Note: Take care when handling the MAF sensor.* See **Figure 6**.
8. Locate the supplied MAF sensor gasket from your Banks kit and install the gasket on the MAF sensor. *Note: Make sure to remove the stock gasket from the MAF sensor before installing the Banks gasket. Make sure the supplied MAF sensor gasket is aligned as shown in **Figure 7**.*

Figure 2

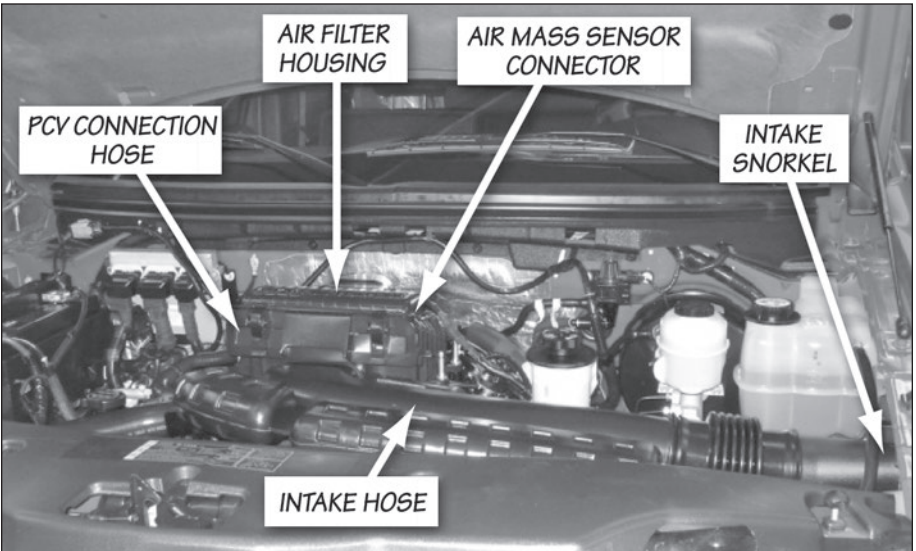


Figure 3

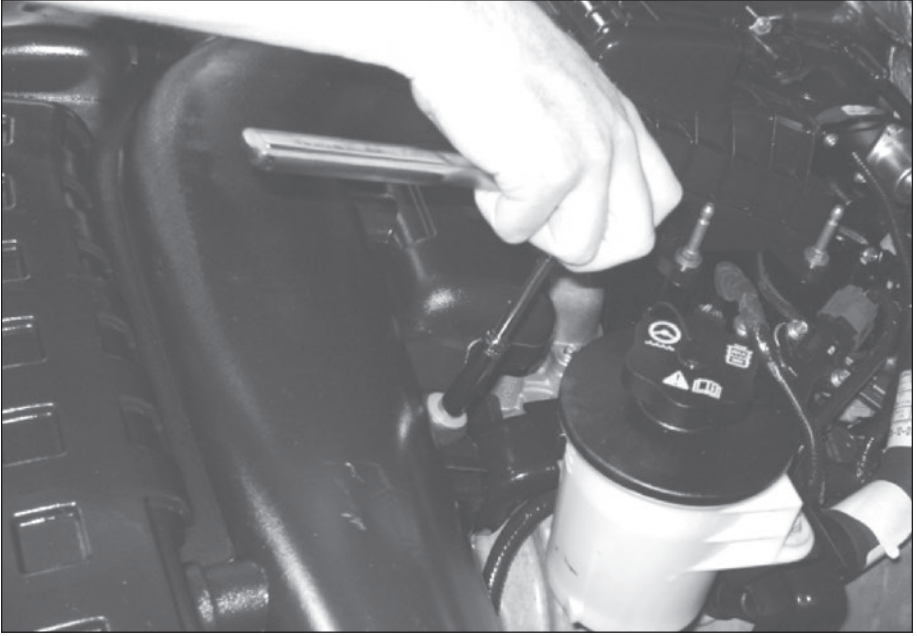


Figure 4

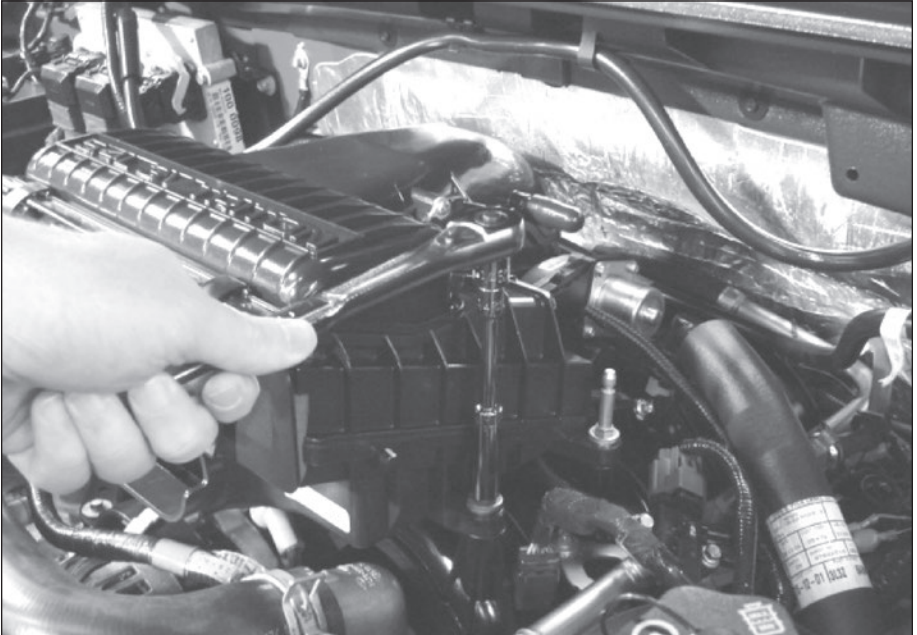


Figure 5

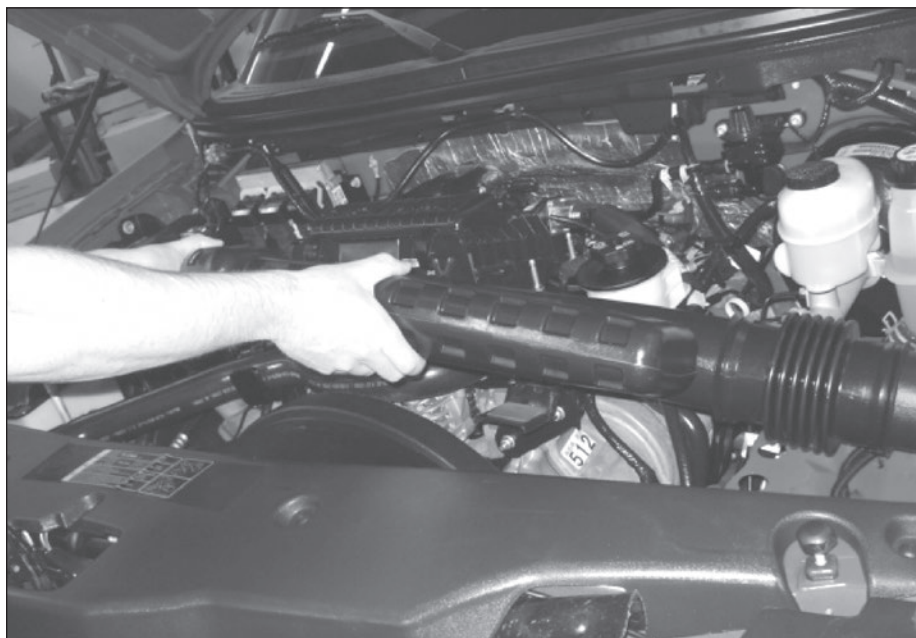
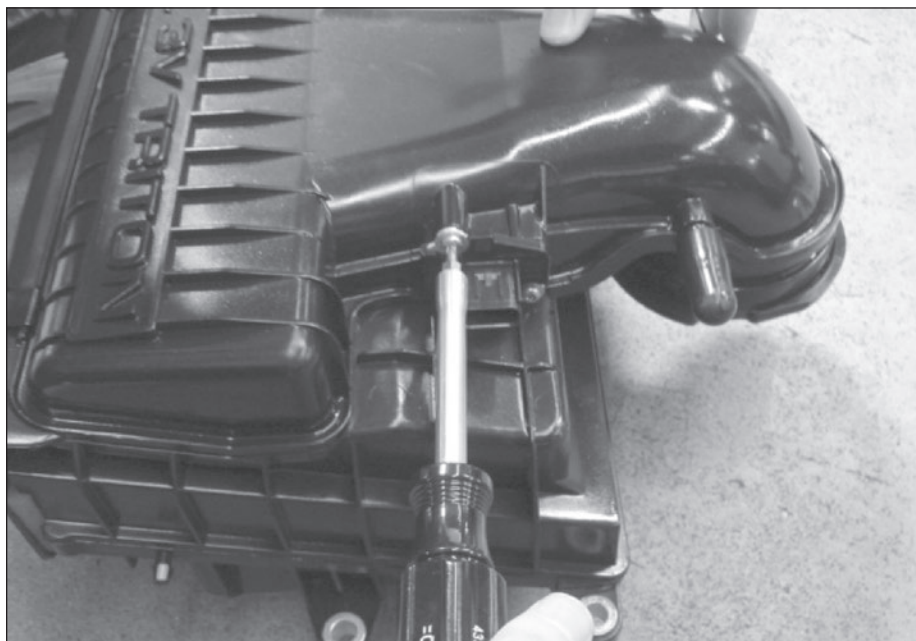


Figure 6



9. Using the supplied screws, lightly tighten the MAF sensor to the Banks High-Ram intake tube.

10. Remove the stock throttle body gasket from stock air filter housing. See **Figure 8**.

11. Insert throttle body gasket onto the Banks High Ram. Make sure the throttle body gasket is installed flush past the beaded lip.

12. Install the supplied brackets using the supplied phillips head screws (1/4-20) screws to the Banks High Ram. Install the 'wide' bracket on the side with the aluminum hose connection as shown. See **Figure 9**.

13. Install the Banks High Ram onto throttle body. Make sure to fit all the way flush to bottom of the throttle body lip.

14. With the two supplied brackets fastened to the Banks Ram Air Intake,

align the brackets to the intake manifold. Fasten the brackets to the engine manifold using the four supplied M6 flange head bolts. *Note: These are the only metric bolts in the kit.* See **Figure 10**.

15. Remove the stock air intake hose 'L' bracket attached to the power steering reservoir bracket. See **Figure 11**.

16. Reinstall the stock nut to refasten the stock power steering reservoir bracket. *Note: Only one nut will be used to refasten the stock power steering bracket.*

17. Connect the MAF connector to MAF sensor.

18. Connect the factory PCV vent hose to the PCV connection on the Banks Ram Air Intake.

19. Locate the supplied filter hose clamp and install on filter.

Figure 7

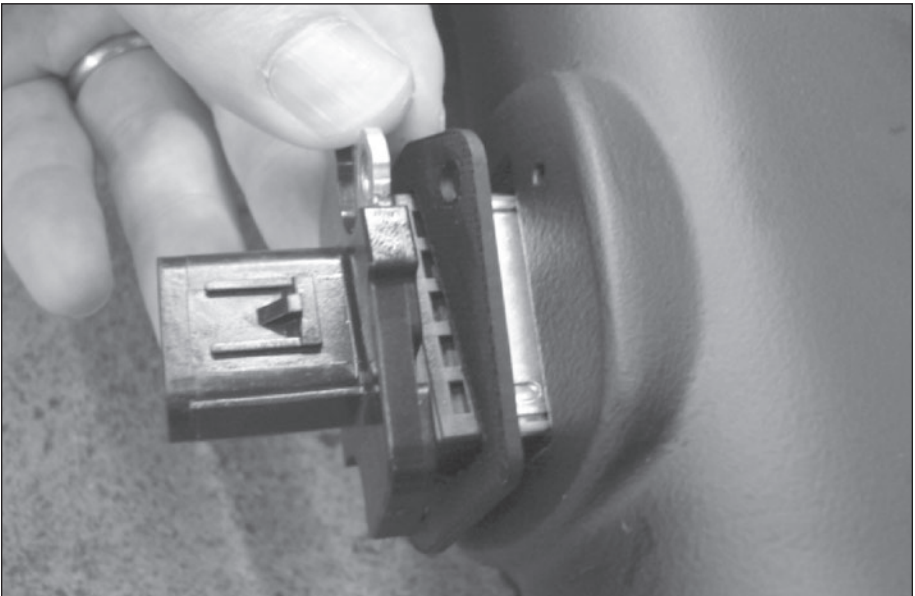


Figure 8



Figure 9



Figure 10

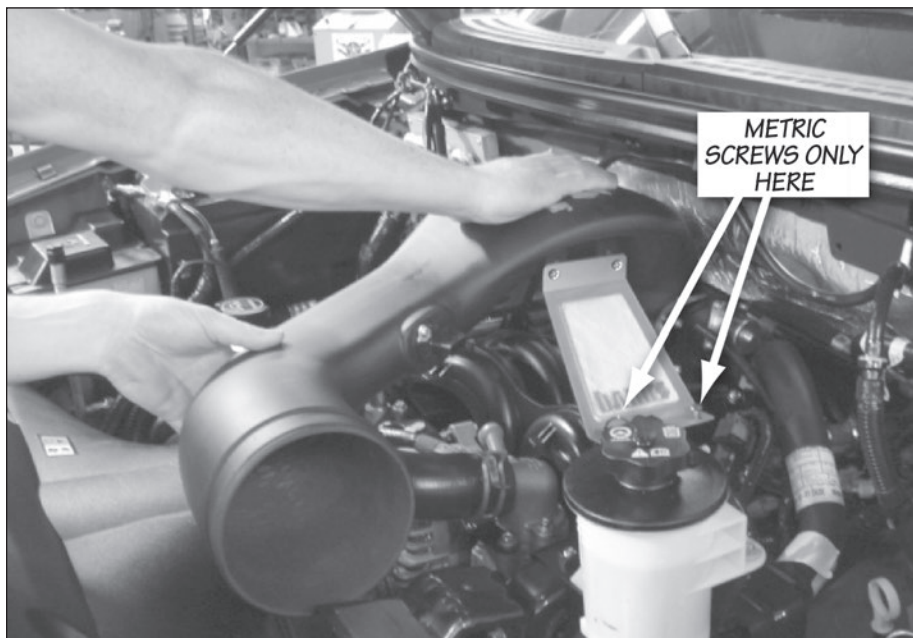


Figure 11

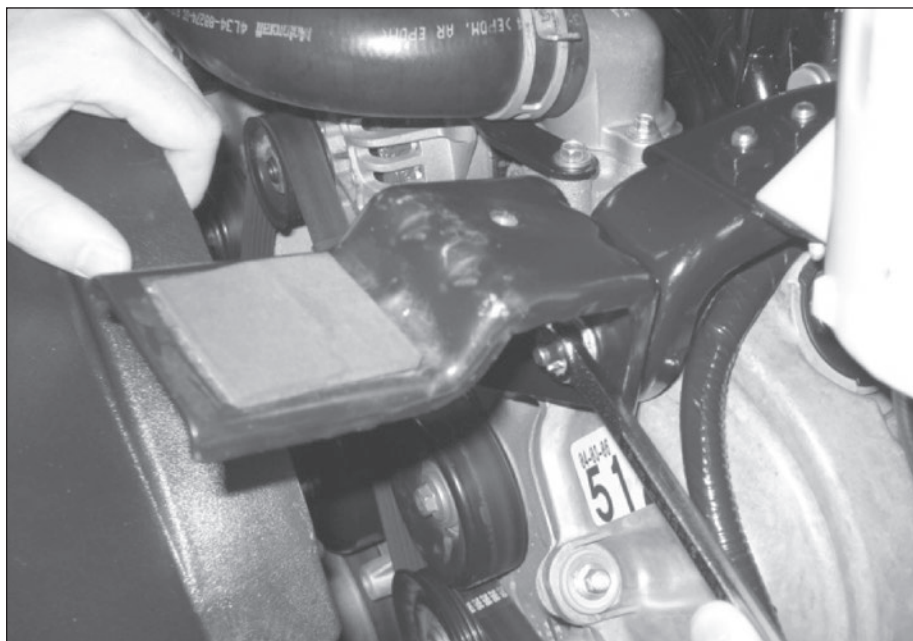


Figure 12



20. Locate the Banks filter cover. Install the Banks filter onto the Banks filter cover. Tighten Banks filter hose clamp. See **Figure 12**.

21. Insert Banks filter cover onto the Banks air housing. Locate supplied $\frac{5}{16}$ -18 screws and fasten the cover to the housing. *Note: make sure the Banks cover is lined up correctly.* See **Figure 13**.

22. Locate the previously removed stock intake snorkel gasket and install it onto the Banks housing as shown. See **Figure 14**.

23. Locate the grommets supplied in your kit and install as shown in **Figure 15**. Install the grommet end into the larger hole then slide into smaller hole. Do both grommets.

24. Locate the supplied bellows and bellows hose clamps. Fit both hose

clamps onto each end of the bellows. Install one end of the bellows onto the Banks housing then tighten the hose clamp.

25. Install Banks housing into vehicle compartment. Insert snorkel into stock air intake opening then slide Banks housing feet into previously installed rubber grommets. See **Figure 16**.

26. Fit the Banks bellows into the Banks High Ram Intake. Tighten the hose clamp.

27. Re-connect battery grounds.

28. You have successfully completed the installation of the Banks Ram-Air Intake system. See **Figure 17**. 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.

-END, SECTION 2-

Figure 13



Figure 14



Figure 15

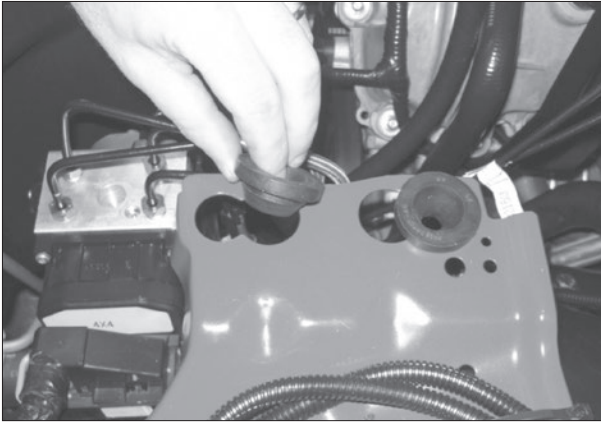


Figure 16

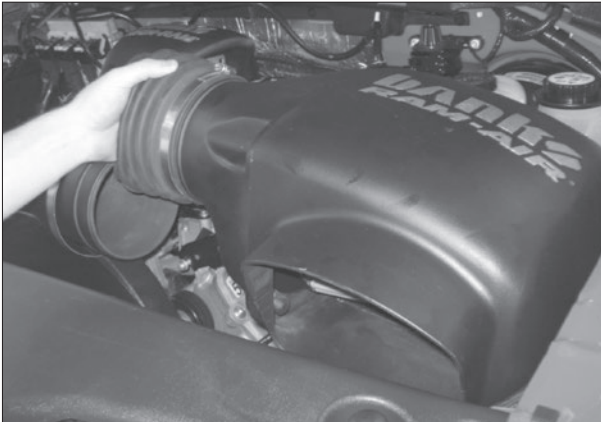
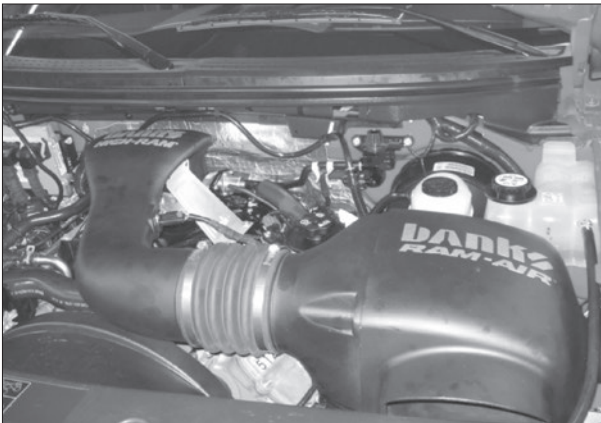


Figure 17



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, reoil 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.

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.