with Installation Instructions

Owner's Manual

Banks Ram-Air® Intake System

2008-2010 Ford Power Stroke 6.4L Turbo Diesel F250/F350/F450 Trucks

THIS MANUAL IS FOR USE WITH SYSTEM 42185 & 42185-D

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

©2016 Gale Banks Engineering

09/21/16 **PN 96496** v.8.0

Also Available from Banks Power

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

Banks Monster® Exhaust System Single & Dual (P/N 49780-49787)
- Increases exhaust flow, cuts backpressure, lowers exhaust gas temperatures (EGTs) and increases power.

Banks Techni-Cooler® System (P/N 25984)
- 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 55469)
- Increases the stopping power of your truck and extends the service life of your brakes

Banks SpeedBrake (P/N 55464)
- Allows for controlled hill decent at a user defined vehicle speed.

Banks Diesel Tuner Six-Gun (P/N 63907)
- Adds power safely to your vehicle
- Engine and transmission safeguards
- Change power levels on-the-fly

AutoMind Programmer (P/N 66110)
- Contains Banks tunes that boost your vehicles HP, Torque and MPG.
- Displays a host of critical engine functions
- Provides "service technician" diagnostic capabilities
- Has upgradeable functionality, so it will never be out of date

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

Six-Gun Bundle
(P/N 46652-46655)
Contains:
- Monster Exhaust (single and dual)
- Ram-Air Intake
- Six-Gun Tuner w/ Banks iQ

Big Hoss Bundle
(P/N 46656-46659)
Contains:
- Monster Exhaust (single and dual)
- Ram-Air Intake
- Six-Gun Tuner w/ Banks iQ
- Techni-Cooler

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 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. 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.

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

⚠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.

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

Tools Required:

- Standard and #3 Phillips head screwdrivers
- Clean shop towels or rags
- 1/4" and 5/16" nut drivers

Table of Contents

Section 1 5
General Assembly

Section 2 6
Ram-Air Installation

Section 3
Oiled Air Filter Cleaning Instructions. . 14

Dry Air Filter Cleaning Instructions . . . 15

Section 1
GENERAL ASSEMBLY

Figure 1

Item	Component #	Description	Qty
1	42186	HOUSING, RAM-AIR FILTER	1
2	42187	COVER, RAM-AIR HOUSING	1
3	42188/42188-D	AIR FILTER ELEMENT, RAM-AIR SYSTEM	1
4	42189	INTAKE TUBE, RAM-AIR SYSTEM	1
5	92904	HOSE CLAMP, #104	1
6	93071	GASKET, MAF SENSOR	1
7	91242	MACHINE SCREW, TRUSS HEAD, PHILLIPS 5/16”-18 X 1 1/4”	2
8	91226	MACHINE SCREW, TRUSS HEAD, PHILLIPS, 5/16”-18 X 3/4”	2
9	91719	MACHINE SCREW, TRUSS HEAD, PHILLIPS, #6-32 X 1/2”	2
10	92987	Torx Bit, T20-1/4” Drive, Tamper Proof Screw Style	1
11	96009	Urocal, Banks Power, Small-Red, Black & Silver	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.

1. Loosen the hose clamp on the air cleaner bellows located next to the Mass Air Flow (MAF) sensor. See **Figures 2** and **3**.

2. Press and hold the air filter restriction gauge's release tab while removing the connector.

3. Remove the restriction gauge by gently twisting and pulling it out of the rubber grommet. See **Figure 4**. Remove the rubber grommet. These will be re-used later.

4. Locate the MAF sensor connector. Slide the connector lock back and press the release tab while carefully removing the MAF connector. Set it aside.

5. Remove the warm air intake hose from the air cleaner housing (**Figure 5**).

6. Gently pry the MAF wiring harness clip loose from the air filter housing with a bladed screwdriver (**Figure 6**).

7. Remove the MAF sensor Torx (T-20) screws using the supplied Banks Torx tool bit.

8. Carefully remove the MAF sensor and set aside. The MAF sensor will be re-used later.

Figure 2

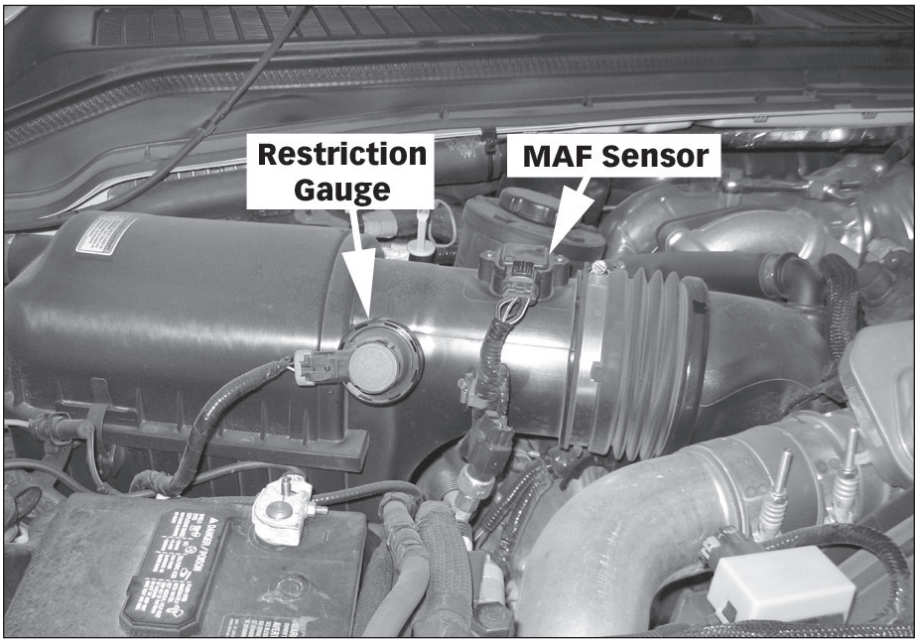


Figure 3

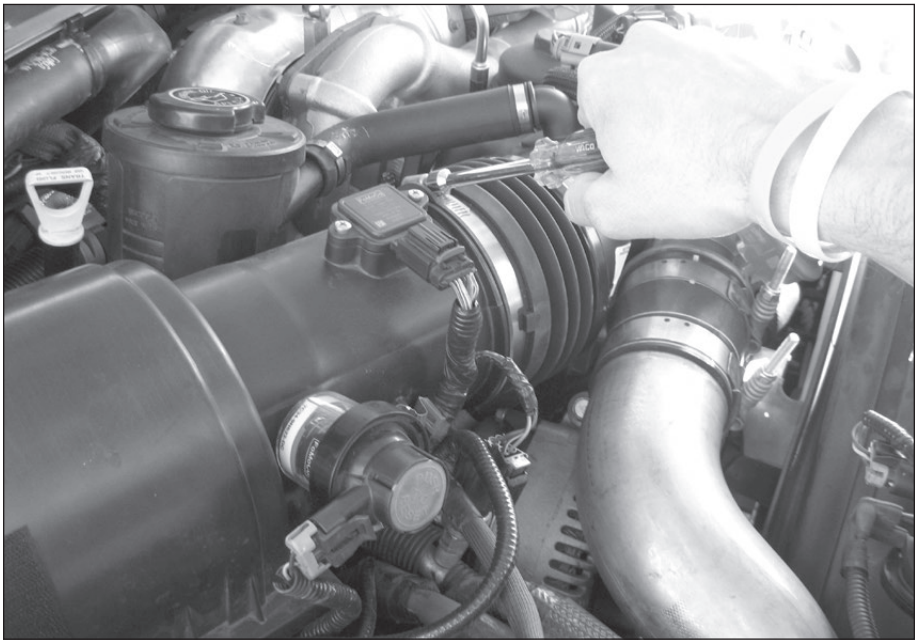


Figure 4

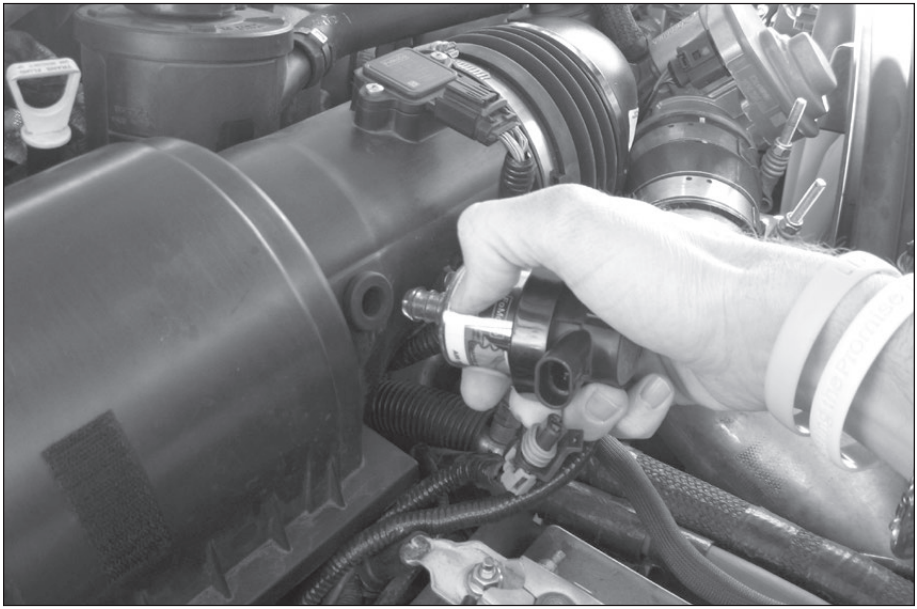


Figure 5

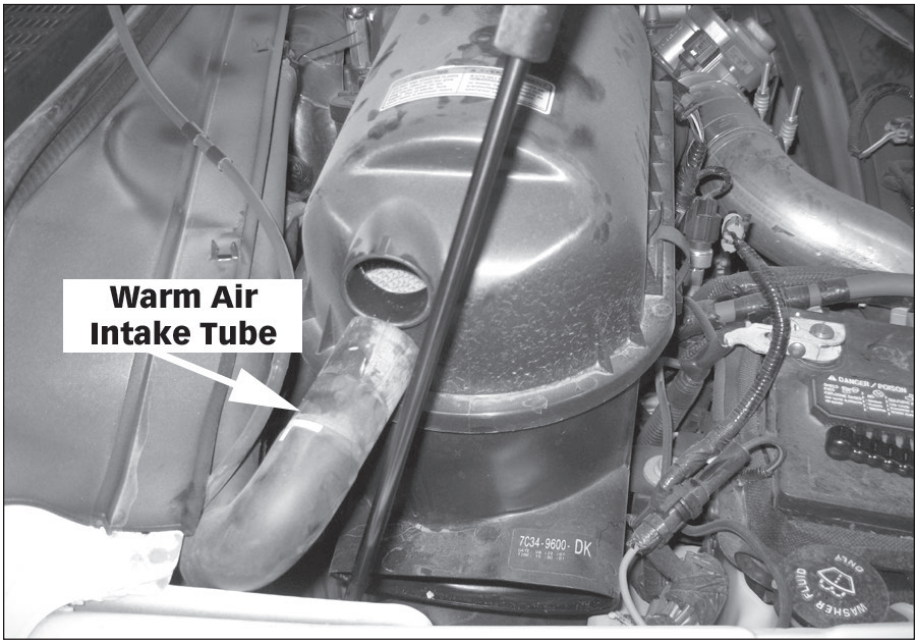
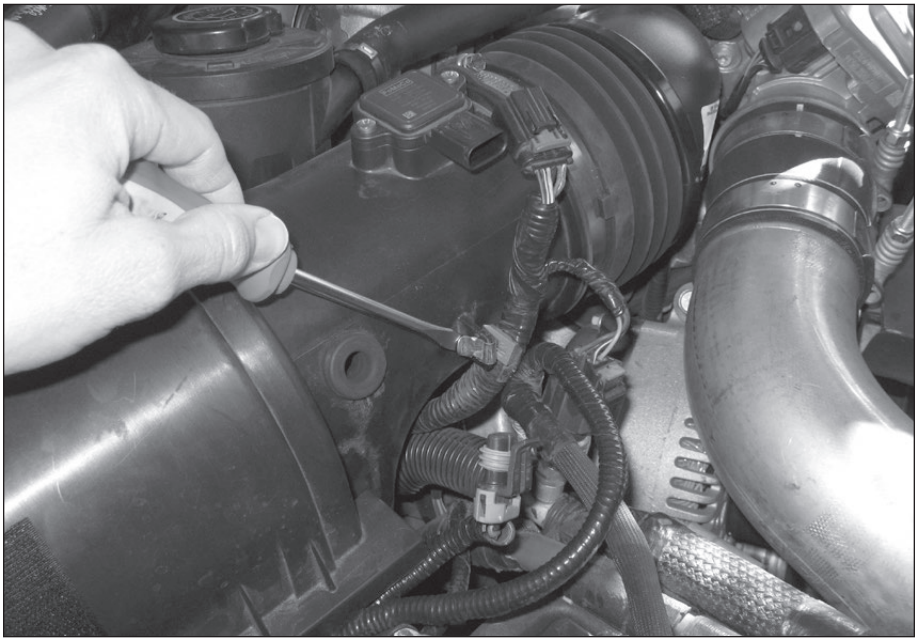


Figure 6



9. Push the air cleaner bellows away from the air filter housing while pulling up on the MAF side of the air filter. Lift and remove the air filter housing in the direction shown in **Figure 7**.

10. Locate the supplied Banks MAF sensor gasket. Install the supplied gasket under the MAF sensor.

11. Install the MAF sensor to the Banks Intake Tube using the supplied screws. Make sure the MAF sensor connection is on the same side as where the restriction gauge will go.

Note: Do not over tighten the screws.

12. Attach the Banks Air Filter Element to the Banks Intake Tube with the supplied hose clamp. An audible snap should be heard when installing the Filter to the Tube. Tighten to 44 lb-in (5 Nm).

CAUTION: Filter may come loose at connection point due to oil residue. Clean the air filter connection points with a non-oil based solvent such as Acetone, Mineral Spirits, Denatured Alcohol, or Lacquer Thinner. Read and follow the manufacture's operation instruction for non-oil based solvent cleaner. Be careful not to apply cleaner to cotton filter media or damage to media may result.

13. Install the restriction gauge's rubber grommet to the Banks Intake tube.

14. Install the Banks Ram-Air Filter Housing. Line up the fresh air intake with the matching opening on the Banks Ram-Air Filter Housing (**Figures 8**, **9**). The three feet on the bottom of the Filter Housing will go into the

Figure 7

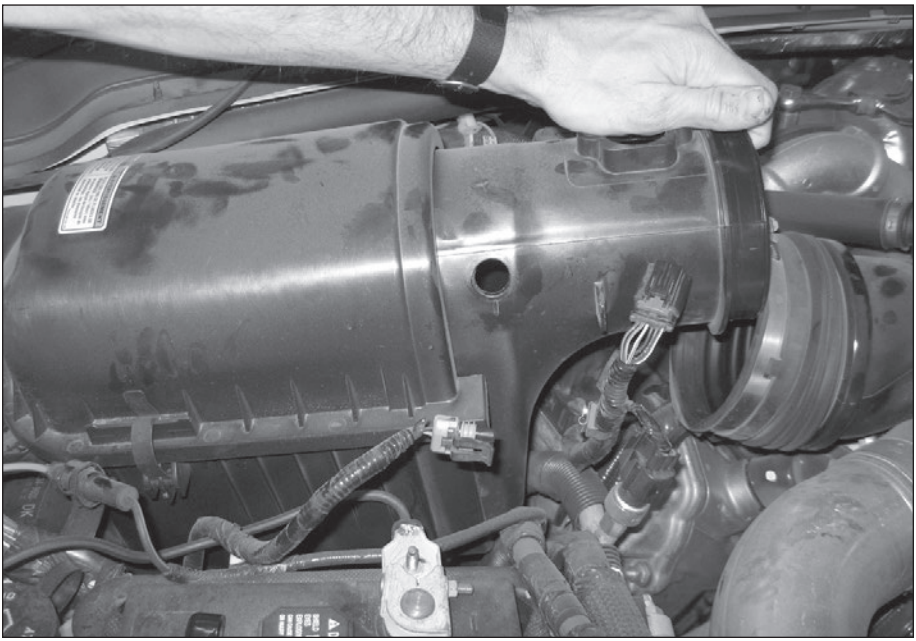


Figure 8

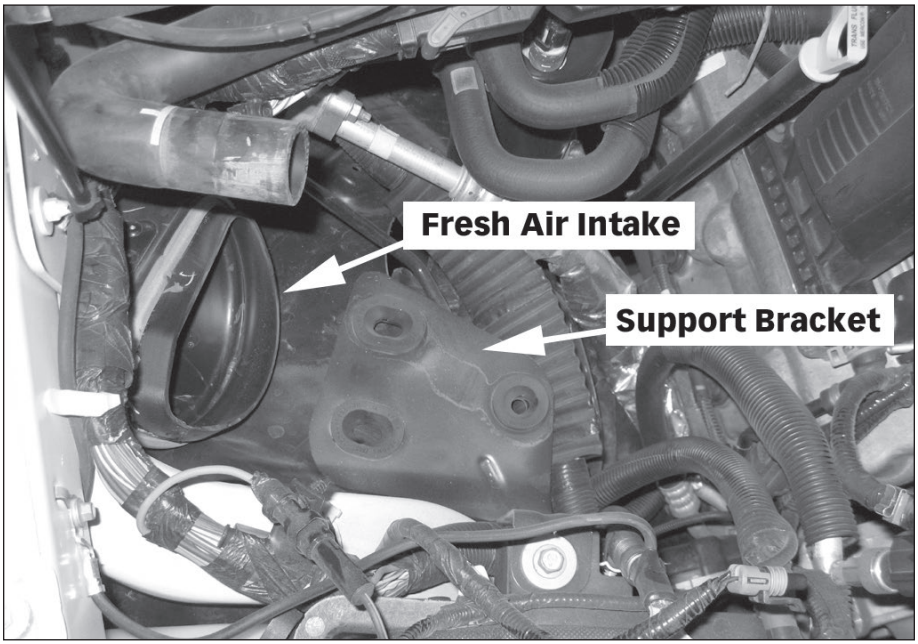
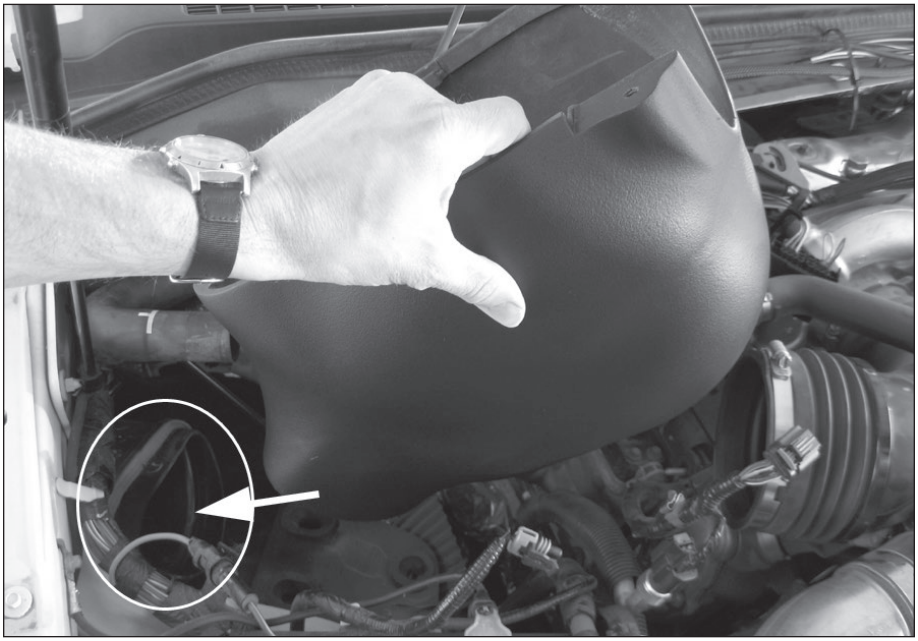


Figure 9



rubber isolators in the support bracket. Make sure to push the Filter Housing all the way down into the rubber isolators.

15. Install the Banks Intake Tube into the air cleaner bellows as shown in **Figure 10**.

16. Twist the Banks Intake Tube 180º as shown in **Figures 11**, **12**. Make sure the bellows fully seat against the stop on the Banks Intake Tube. The Intake Tube tabs should line up with the Filter Housing. Be careful not to damage the MAF sensor while twisting.

17. Insert the warm air intake tube into the Banks Ram-Air Housing Cover. Install the Housing Cover onto the Filter Housing.

18. Install the supplied Phillips Truss Head Screws into the cover. The longer Screws go on the engine side (**Figure 13**). Tighten the Screws with a #3 Phillips screwdriver.

Note: Take care not to over tighten the Screws and damage the Housing.

19. Re-install the restriction gauge and re-attach it's connector.

20. Re-attach the MAF connector to the MAF sensor. Slide it's connector lock into the locked position.

21. Tighten the air filter bellows' hose clamp to 44 lb-in (5 Nm).

22. You have successfully completed the installation of the Banks Ram-Air Intake system. See **Figure 14**. Make sure to go over all hose clamps for tightness and connectors for a secure fit.

-END, SECTION 2-

Figure 10

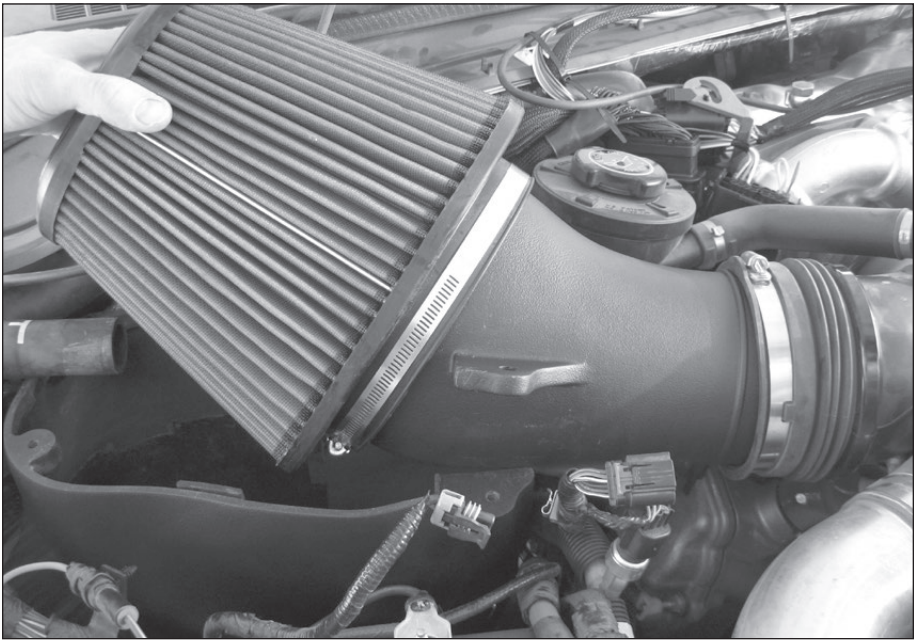


Figure 11

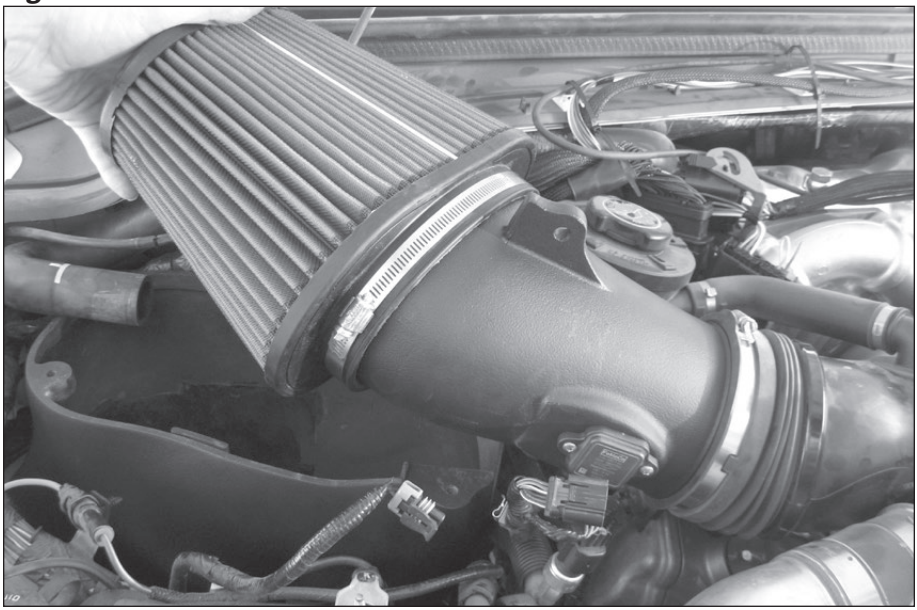


Figure 12

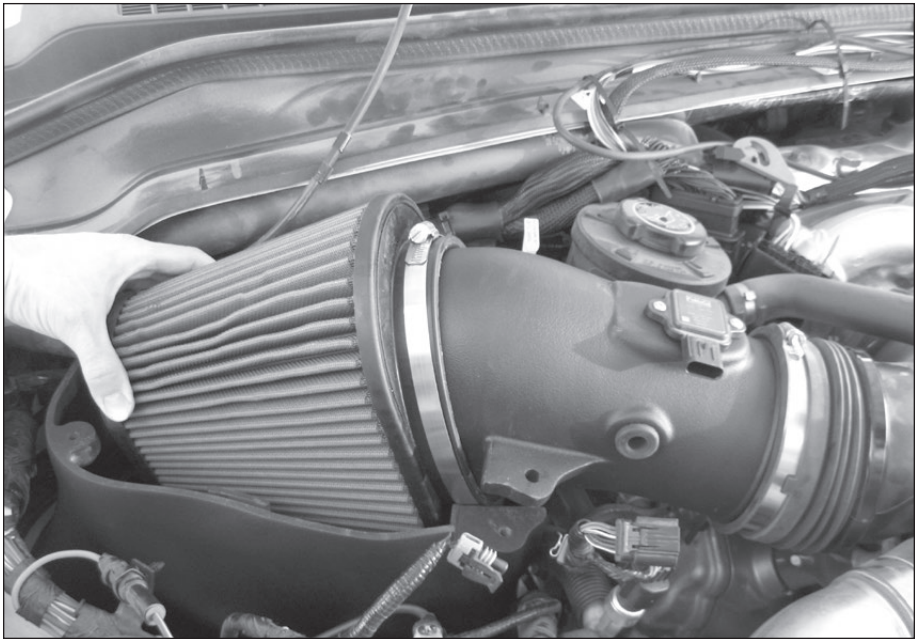


Figure 13

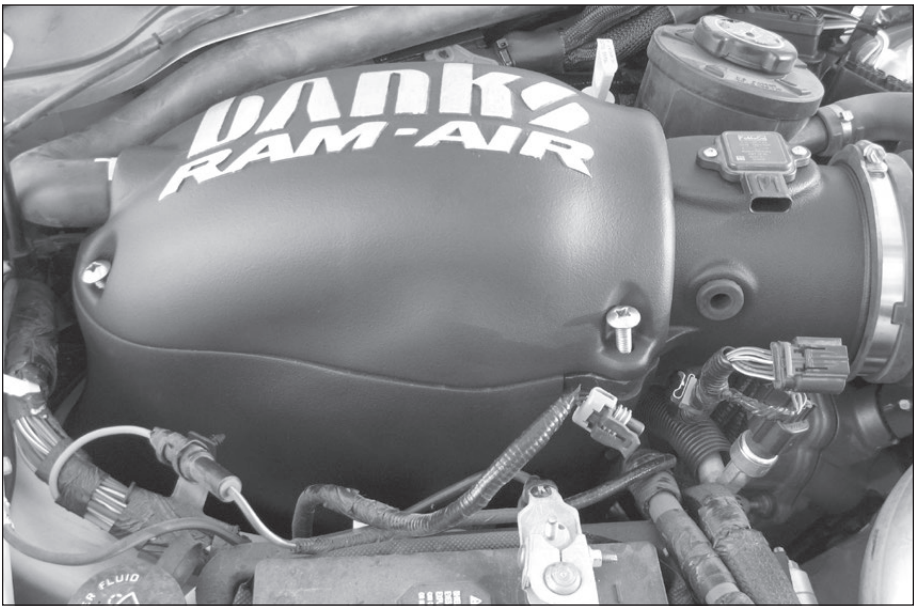
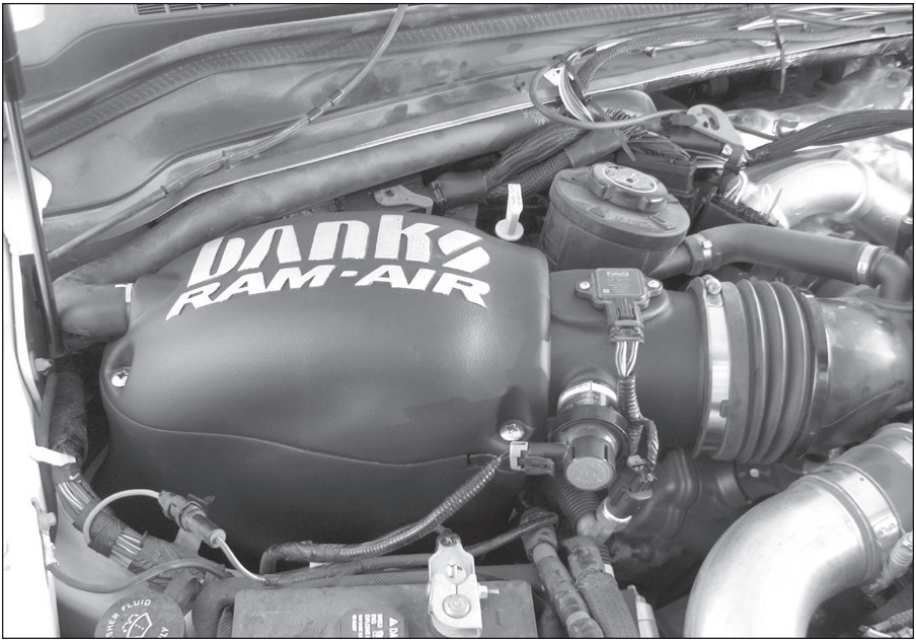


Figure 14



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_2O.

⚠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_2O.

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.

5. 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.

6. 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.

7. 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.

8. 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_2O.

-END, SECTION 3-

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