

banks

with Installation Instructions

Owner's Manual

Banks Ram-Air[®] Intake System

2013-2017 Ram 6.7L Cummins Pickup Trucks

THIS MANUAL IS FOR USE WITH KIT 42255

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Products available from Banks Power for the 2007-17 Ram 6.7L

Monster-Ram™ Intake System

- Improves airflow from the intercooler.
- Raises boost without increasing backpressure at the turbine.



Banks AutoMind® Programmer

- Clear and view OBDII Diagnostic Trouble Codes (DTC).
- Loaded with dyno-proven tuning files
- Speed Limiter adjustment capabilities



Banks Straight-Shot® & Double-Shot® Water-Meth Injection

- Maximizes Engine Performance
 - Cools Intake Temperatures
 - Digital Controller (included)
 - Greater flow than the competition
 - Higher Pump Volume than others



Banks iDash® Digital Monitors

- 1.8", 4.3" or 5" touchscreen interface
- Interchangeable gauge display, read and clear codes, monitor engine diagnostics, log data, time your vehicle's runs and much more.



Techni-Cooler® Intercooler System

- Cooler EGTs, more MPG & constant-duty power. Reduces boost pressure loss.



Monster® Exhaust System

- Virtually eliminates backpressure, lowers exhaust gas temps, choice of chrome or black tip



Note: Product availability, contents, features, and performance varies by year, make, and model. Please contact us for details.

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

General Installation Practices

Dear Customer,

If you have any questions concerning your Banks Ram-Air Intake System, please call us at (800) 438-7693 between 7:00 am and 4:00 pm (PT). 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 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:

- 3/8" drive ratchets with metric sockets
- Standard and Phillips head screwdrivers
- Standard and needle-nose pliers
- Clean shop towels or rags
- 5/16" nut driver
- T-30 driver

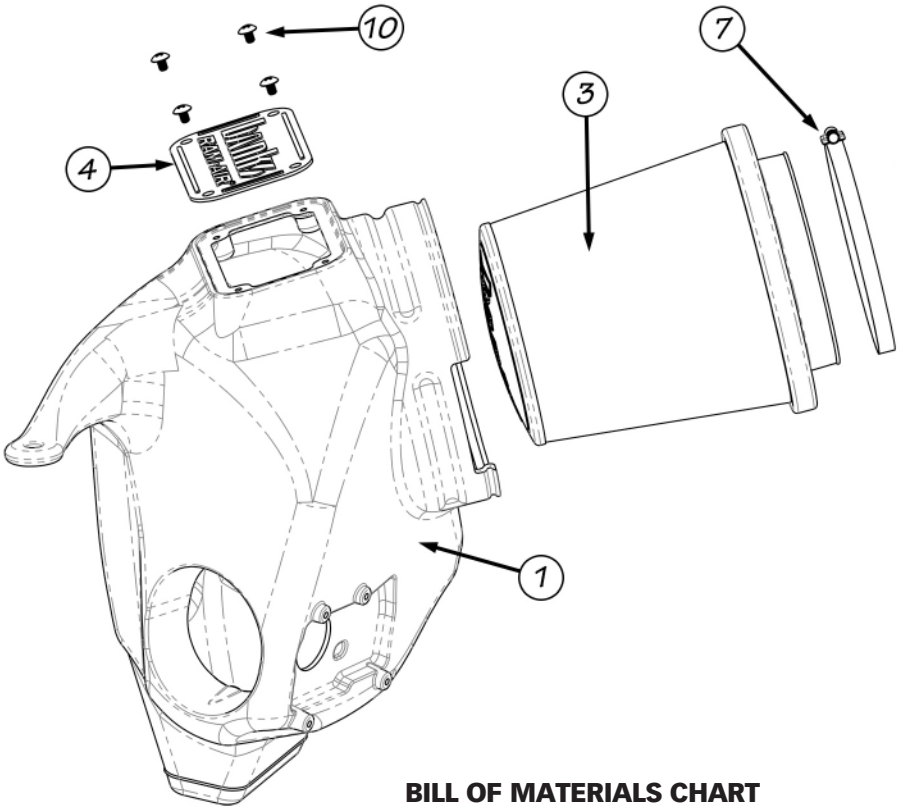
Table of Contents

Section 1	4
General Assembly	
Section 2	6
Ram-Air Installation	
Section 3	18
Filter Maintenance	

Section 1

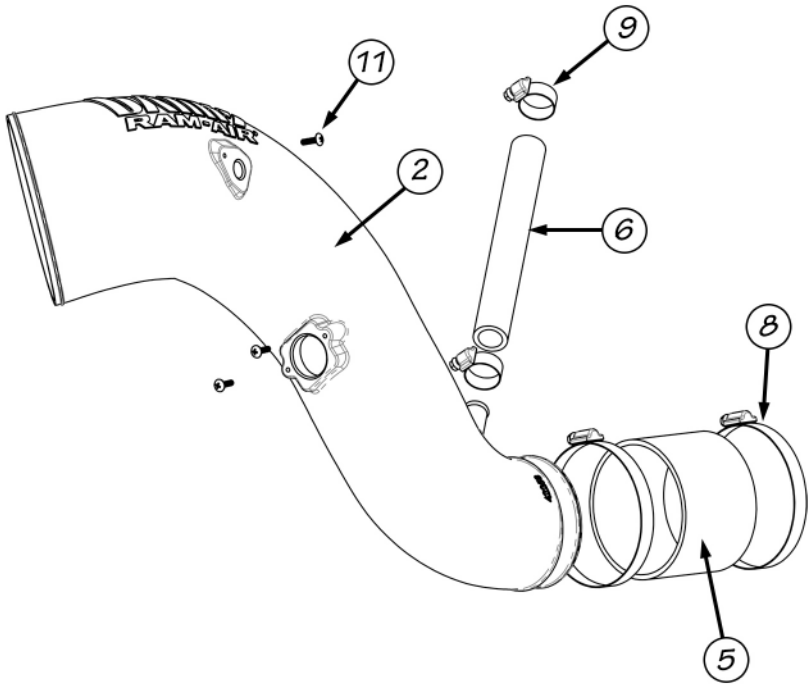
GENERAL ASSEMBLY DRAWING

Figure 1



BILL OF MATERIALS CHART

ITEM NO.	PART NO.	DESCRIPTION	QTY.
1	42256	HOUSING	1
2	42258	INTAKE TUBE	1
3	42141	AIR FILTER	1
4	41788	WINDOW	1
5	94303	HOSE, COMPRESSOR INLET	1
6	94143	HOSE, PCV, 3/4"	7.5"
7	92904	HOSE CLAMP, #104	1
8	92864	HOSE CLAMP, #64	2
9	92816	HOSE CLAMP, #16	2
10	91128	SCREW, 1/4-20 X 3/8"	4
11	91843	SCREW, 8-32 X 5/8"	3



Section 2

RAM-AIR INSTALLATION

Use the **Bill of Materials Chart** and the **General Assembly Drawing** in **Figure 1** to reference component nomenclature and location.

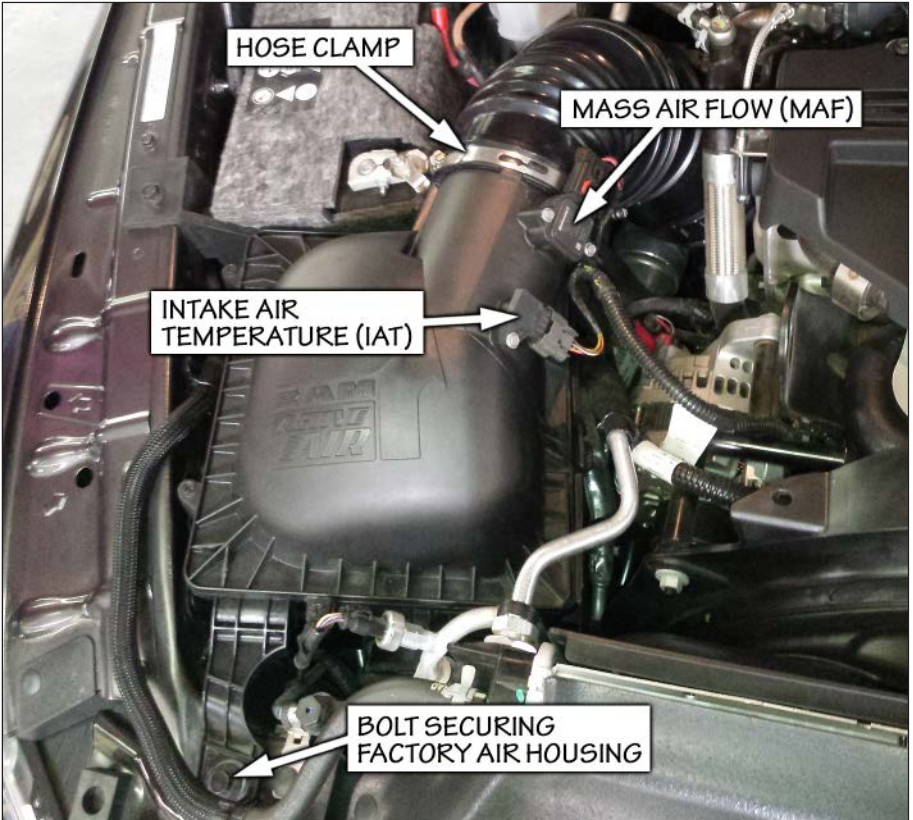
Use caution when working in the engine compartment. Make sure the engine has been OFF for several hours and cool.

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.** Remove the bolt, using a 13mm socket, from the radiator core support that secures the factory air housing and save for reuse. See **Figure 2**.
- 2.** Loosen the hose clamp to the stock intake tube attached to the air housing.
- 3.** Slide the red locking mechanism up on the Mass Air Flow (MAF) sensor connector. Press the tab on the connector and remove the connector. Press the tab on the Intake Air

Figure 2

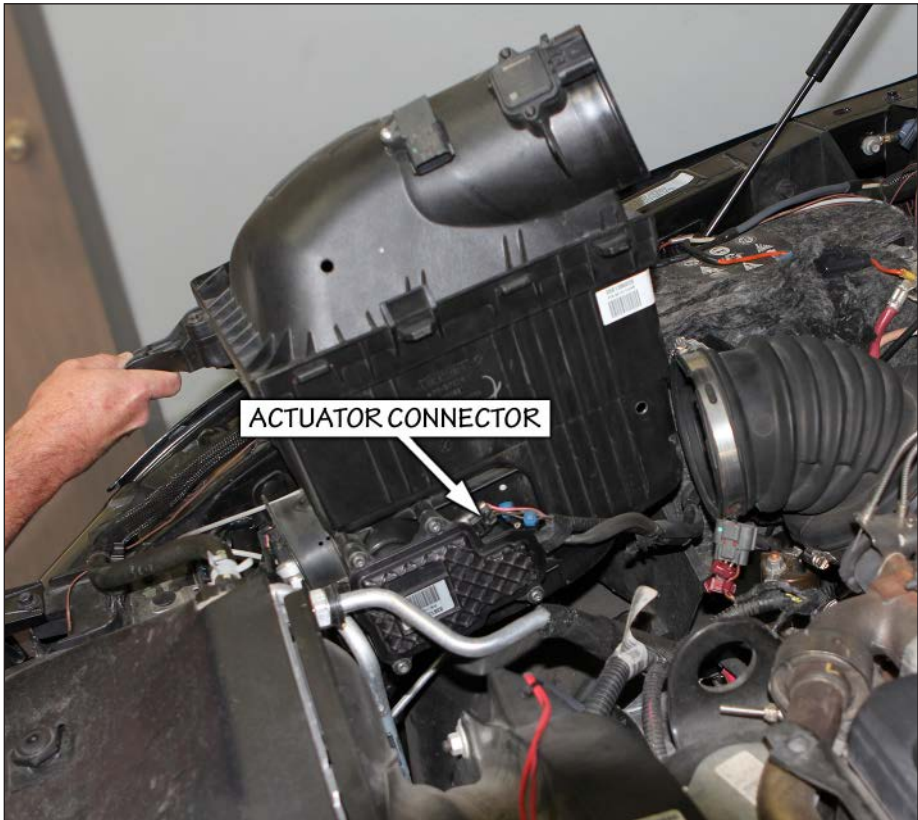


Temperature (IAT) sensor connector and remove the connector. Pull the plastic anchor holding the wiring harness to the air housing lid and move the harness out of the way.

4. Lift the air housing up and partially out of the engine compartment to gain access to the Ram Active Air[®] actuator connector on the actuator motor on the side near the bottom of the housing. See **Figure 3**. Be careful not to pull the housing up too far to damage the wiring harness. Once the housing is pulled out enough to gain access to this connector depress

the tab on the end of the connector and disconnect the connector from the motor. The housing can now be removed completely from the vehicle and set aside for disassembly later.

Figure 3



5. Locate the spring clamp retaining the PCV hose. See **Figure 4**. Using appropriate pliers loosen the clamp and slide it up over the metal tube and out of the way. With the clamp out of the way pull the hose to disconnect from the metal tube. Remove the spring clamp and set aside.

6. Loosen the hose clamp holding the intake tube to the compressor inlet and remove the intake tube from the vehicle. See **Figure 5**.

7. The factory Ram Active Air® actuator and door must be removed from the stock air housing and installed in the Banks Ram-Air housing.

Note: It is important that the electrical connector be disconnected from the actuator motor before beginning to remove the actuator. Do not plug the connector back into the actuator until instructed to do so below after the actuator is completely reinstalled. Failure to do so can cause the actuator motor to rotate to a position that makes it impossible to install.

8. Remove the screws retaining the air housing lid and remove the lid and filter. Looking inside the housing you can see the stock Ram Active Air® doors and linkage. See **Figure 6**.

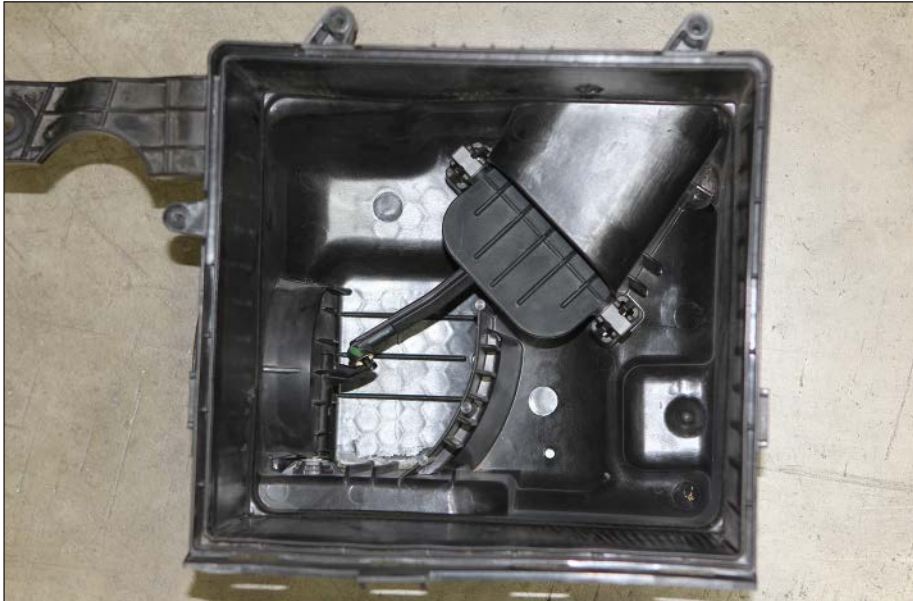
Figure 4



Figure 5



Figure 6



9. Remove the four screws retaining the actuator motor on the side of the housing using a T-30 Torx driver. See **Figure 7**.

10. Using a flat blade screwdriver inserted between the Ram Active Air® door and the side of the housing gently pry the door from the actuator motor shaft and pull the actuator motor from the housing. See **Figure 8**.

11. With the actuator motor removed the actuator door can now be disconnected from the linkage.

See **Figure 9**. The lever arm on the door is fragile so care must be taken to disconnect the door from the linkage without breaking the arm on the door. To accomplish this, the arm on the door must be supported as close to the joint as possible and disconnect the joint by twisting and pulling simultaneously. Go slow. If the arm does break this will not affect the performance of this Banks Ram-Air Intake system but will prevent the stock function if ever returned to stock.

Figure 7



Figure 8



Figure 9



12. Install the Ram Active Air® door and actuator motor into the Banks housing. See **Figure 10**. Begin to insert the actuator motor from the side and hold the door inside the housing. Slide the door over the actuator motor shaft. Make sure the door and actuator motor are oriented correctly. When the door is fully inserted over the shaft you will feel a click and the door will not pull from the shaft easily.

13. Reinstall the four screws to retain the actuator motor.

14. Remove the IAT and MAF sensors from the stock intake using a 7mm socket. Install these sensors in the Banks Intake Tube using the supplied screws and a Phillips screw driver. See **Figure 11**.

15. Install the PCV hose and two hose clamps along with the compressor inlet hose and its two hose clamps onto the Banks Intake Tube in the orientation shown in **Figure 11**. Tighten the clamps retaining the hoses to the tube and leave the other clamps loose.

16. Install the Banks Ram-Air Filter onto the Intake Tube and secure with the hose clamp. The hose clamp must be held up against the base of the filter while tightening the clamp. See **Figure 12**.

Figure 10



Figure 11



Figure 12



17. Install the clear window to the Banks housing using the four supplied screws. Do not over tighten these screws. They just need to be snug. See **Figure 13**.

18. Install the filter into the housing ensuring that the filter is completely inserted into the housing. See **Figure 14**.

19. Begin to install the Banks Ram-Air assembly into the vehicle as shown in **Figure 15**. Before completely install the housing, make sure to reconnect the wiring to the actuator motor. Also reconnect the wiring to the IAT and MAF sensors and push the red locking mechanism down on the MAF connector.

20. Install the compressor inlet hose over the inlet of the compressor.

Figure 13



Figure 14



Figure 15



21. Insert the Banks housing down into the engine compartment pushing the pins on the bottom of the housing into the rubber grommets on the fender well. See **Figure 16**. Ensure the pins are engaged into the grommets by making sure the housing is held in position and is not easily removed.

22. Reinstall the bolt retaining the housing to the radiator core support.

23. Ensure the hose is still completely installed over the compressor inlet and tighten the clamp to secure the hose to the compressor.

24. Install the PCV hose over the metal tube of the PCV system along with the hose clamp. Once the hose is fully installed over the metal tube tighten the clamp to secure the hose.

***Note:** On some vehicles the metal tube can become loose and move out of position. It may be necessary to move this metal tube in order for the PCV hose to fit correctly. Take care when repositioning this metal tube to not use excessive force and damage the tube. If the PCV hose is too long it may need to be trimmed to prevent the hose from kinking.*

25. This completes the installation of the Banks Ram-Air Intake System. Check all hose clamps for tightness and connectors for a sure fit. Ensure there is proper clearance around the intake tube and that all wiring is secured away from hot or moving parts.

Figure 16



**Note: See following pages for
Air Filter Cleaning Instructions.**

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"–H₂O.

⚠ 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"–H₂O.

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"–H₂O.

-END, SECTION 3-

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