

banks

with Installation Instructions

Owner's Manual

Banks Ram-Air[®] Intake System

**1999-2003 Ford Power Stroke 7.3L
Turbo-Diesel F250/F350/F450 Trucks**

THIS MANUAL IS FOR USE WITH SYSTEM 42210

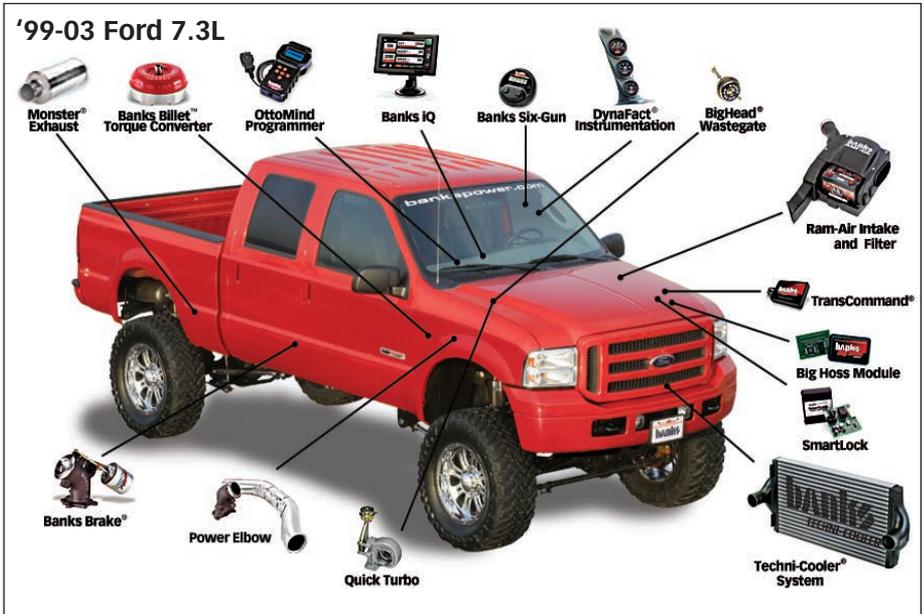
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(626) 969-9600 • Fax (626) 334-1743

Product Information & Sales: (888) 635-4565

bankspower.com

banks

Also Available from Banks Power for '99-03 Ford 7.3L



Banks Power Elbow (P/N 48651-48652, 48661-48663)

- Reduces stock outlet and pipe backpressure

Banks Monster® Exhaust System Sport (P/N 48789) **Single and Dual** (P/N 48653-48660, 47391-47399)

- Increases exhaust flow, cuts backpressure, lowers exhaust gas temperatures (EGTs) and increases power.

Banks Techni-Cooler® System (P/N 25971-25973)

- Provides increased air flow to the engine by increasing air density for more increased power, lower EGTs and improved fuel economy.

Banks Brake (P/N 55202-55207)

- Increases the stopping power of your truck and extends the service life of your brakes

Banks SmartLock (P/N 55266)

- Reduces wear on transmission
- Locks Torque Converter and raises trans-line pressure
- Works with Banks Exhaust Brake

Banks TransCommand (P/N 62570)

- Produces smooth, firm, light-throttle shifts and solid, decisive heavy-load shifts.
- Eliminates excessive clutch slippage

Banks Billet Torque Converter (P/N 72521)

- Higher torque capacity over stock
- Lockup clutch is slip-resistant so transmission fluids stay cooler and transmission life is prolonged.

Banks QuickTurbo (P/N 24456-24457)

- More boost through the powerband
- Does not over-boost
- Turbo-diesel efficiency

Banks Diesel Tuner

Six-Gun (P/N 66513-66515)

Big Hoss (P/N 66505)

- Adds power safely to your vehicle
- Engine and transmission safeguards
- Change power levels on-the-fly

Thermocouple

- Add a temperature limiting function to your Diesel Tuner

OttoMind Programmer

(P/N 66064)

- 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- Has upgradeable functionality, so it will never be out of date

Banks Git-Kit Systems

(P/N 47401, 47511-47514)

Contains:

- Monster Exhaust
- Big Hoss Module

Banks Stinger Systems

Contains:

- Ram-Air Intake Filter
- Monster Exhaust
- Big Hoss Module
- Big Head Wastegate Actuator

Banks PowerPack Systems

Contains:

- Ram-Air Intake Filter
- Monster Exhaust
- Quick-Turbo
- TransCommand
- Techni-Cooler System
- Big Head Wastegate Actuator

Banks Six-Gun Bundle

(P/N 46594-46613)

Contains:

- Ram-Air Intake Filter
- Monster Exhaust
- Six-Gun Tuner
- TransCommand
- Big Head Wastegate Actuator

Banks Big Hoss Bundle

(P/N 46623-46643)

Contains:

- Ram-Air Intake Filter
- Monster Exhaust
- Six-Gun Tuner
- TransCommand
- Big Head Wastegate Actuator
- Techni-Cooler System
- Big Hoss Module
- Power Elbow

Banks Power Combo 1

Contains:

- Big Hoss Module
- TransCommand
- Big Head Wastegate Actuator

Banks Power Combo 2

Contains:

- Six-Gun Tuner
- TransCommand
- Big Head Wastegate Actuator

Banks Power Combo 3

Contains:

- Big Hoss Module
- Monster Exhaust

Banks Power Combo 4

Contains:

- Big Hoss Module
- TransCommand
- Big Head Wastegate Actuator
- Six-Gun Tuner

**For More Information please call (888) 635-4565
or Visit us online @ www.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 (888) 839-2700 between 7:00 am and 5:00 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.

2. The exploded view of the Ram-Air assembly (pages 6-7) 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
- Clean shop towels or rags
- 5/16 nut driver

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General Assembly

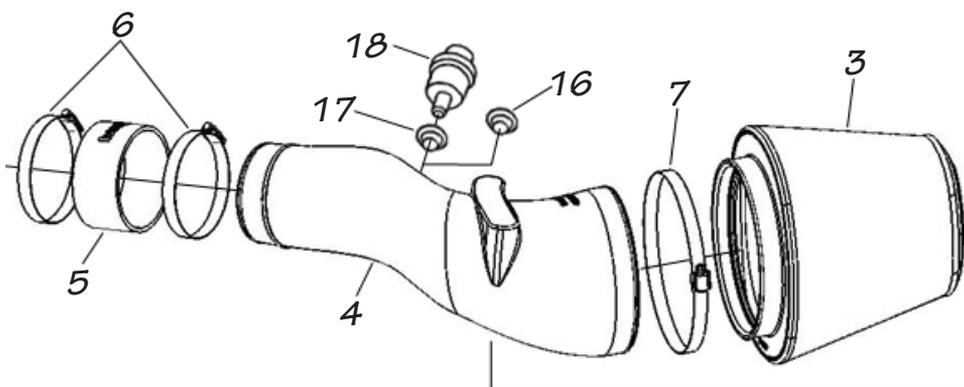
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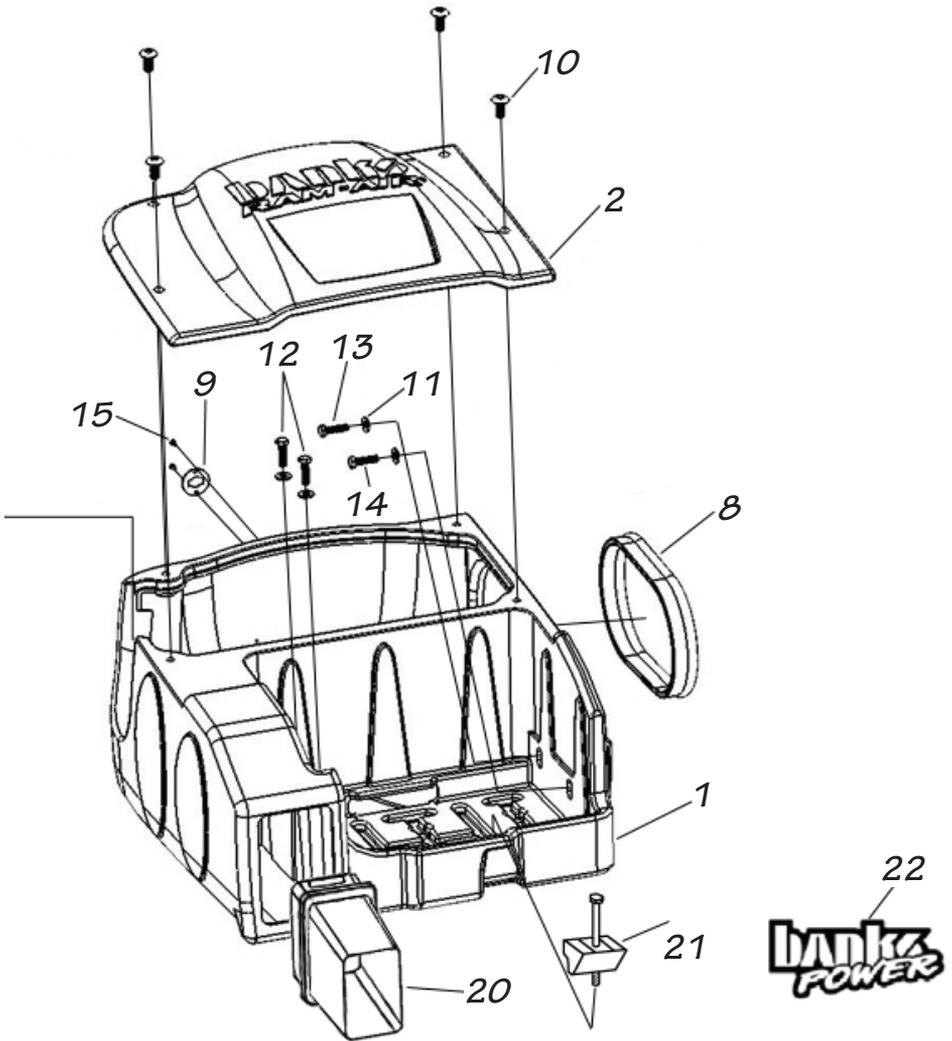
Section 1

GENERAL ASSEMBLY

Figure 1



| Item | Description | P/N | Qty |
|------|---|----------|-----|
| 1 | Housing, Ram-Air Filter | 42211 | 1 |
| 2 | Cover, Ram-Air Housing | 42212 | 1 |
| 3 | Air Filter Element, Ram-Air System | 42188 | 1 |
| 4 | Intake Tube, Ram-Air System | 42213 | 1 |
| 5 | Hose | 94303 | 1 |
| 6 | Hose Clamp, #64 | 92864 | 2 |
| 7 | Hose Clamp, #104 | 92904 | 1 |
| 8 | Edge Grip seal | 93140 | 1 |
| 9 | Retainer Plate | 42210-09 | 1 |
| 10 | Screw, #4 Truss Head, Phillips, $\frac{5}{16}$ "-18 x $\frac{3}{4}$ " | 91226 | 4 |
| 11 | Washer, M8 x 24mm | 91702 | 4 |
| 12 | Hex bolt, 8mm-1.25 x 30mm, Zinc - Grade 8.8 | 91790 | 2 |
| 13 | Hex bolt, 8mm-1.25 x 50mm, Zinc - Grade 8.8 | 91796 | 1 |
| 14 | Hex bolt, 8mm-1.25 x 60mm, Full Thread - Grade 8 | 91801 | 1 |
| 15 | Screw, Sheet Metal #4 x $\frac{3}{8}$ " - Pan head Phillips | 91836 | 2 |
| 16 | Plug, Filter Minder | 92446 | 1 |



| Item | Description | P/N | Qty |
|------|--|-------|-----|
| 17 | Stock Grommet, Filter Minder | * | 1 |
| 18 | Stock Filter Minder | * | 1 |
| 19 | Stock Intake Air Temperature Sensor (Not shown) | * | 1 |
| 20 | Stock Fresh Air Inlet Tube <i>(For Vehicles equipped with fresh air inlet tube only)</i> | * | 1 |
| 21 | Stock Retainer Bolt | * | 1 |
| 22 | Urocal, Banks Power | 96009 | 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 both battery terminals (if there is more than one battery, disconnect both).
- 2.** Remove the battery cover by releasing the tabs and pulling the cover up. See **Figure 2**.
- 3.** Unfasten and remove the battery retainer bolt located to the front of

Figure 2



the vehicle. See **Figure 3**. Retain for re-use.

- 4.** Remove the Battery from the vehicle and set aside.
- 5.** Locate the Intake Air Temperature (IAT) sensor, see **Figure 4**. Remove the sensor by gently twisting and pulling out.
- 6.** Remove the Air Filter Minder by gently twisting and pulling out of the rubber grommet. See **Figure 5**.
- 7.** Loosen the hose clamp on the air inlet and unlock the filter cover. Remove the hose clamp, intake tube and filter cover assembly from the vehicle. See **Figure 5**.
- 8.** Loosen and remove the Four (4) bolts that hold the Factory Battery tray and Air Filter box assembly in place.
- 9.** Disconnect the front fresh air inlet tube from the factory battery tray and air filter box assembly. See **Figure 6**.

Figure 3

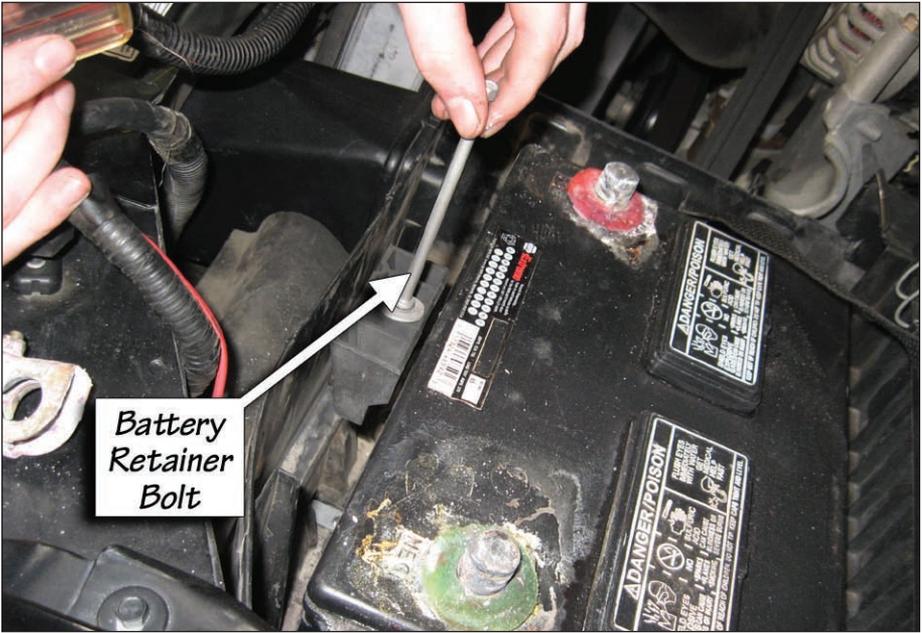


Figure 4 IAT Sensor location behind Air box Assembly

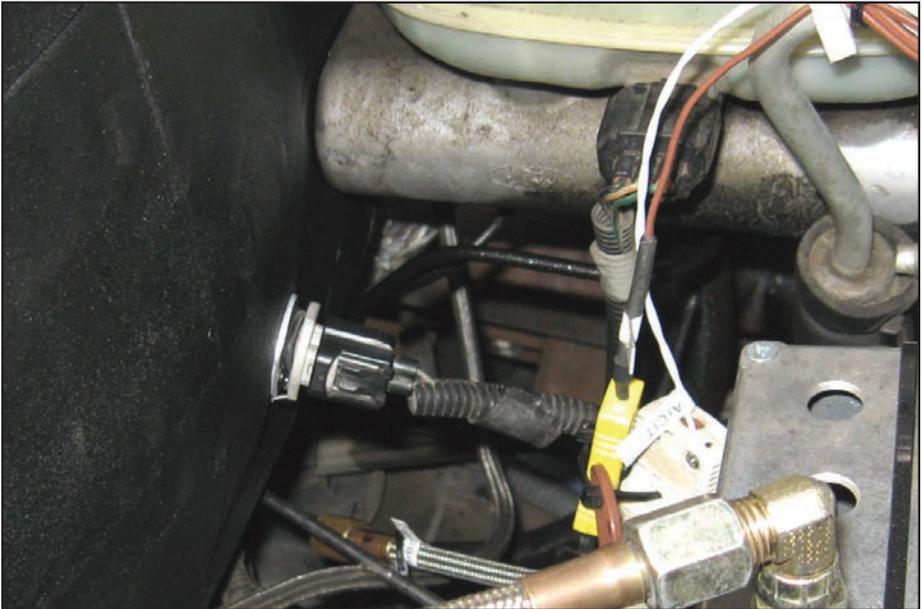


Figure 5

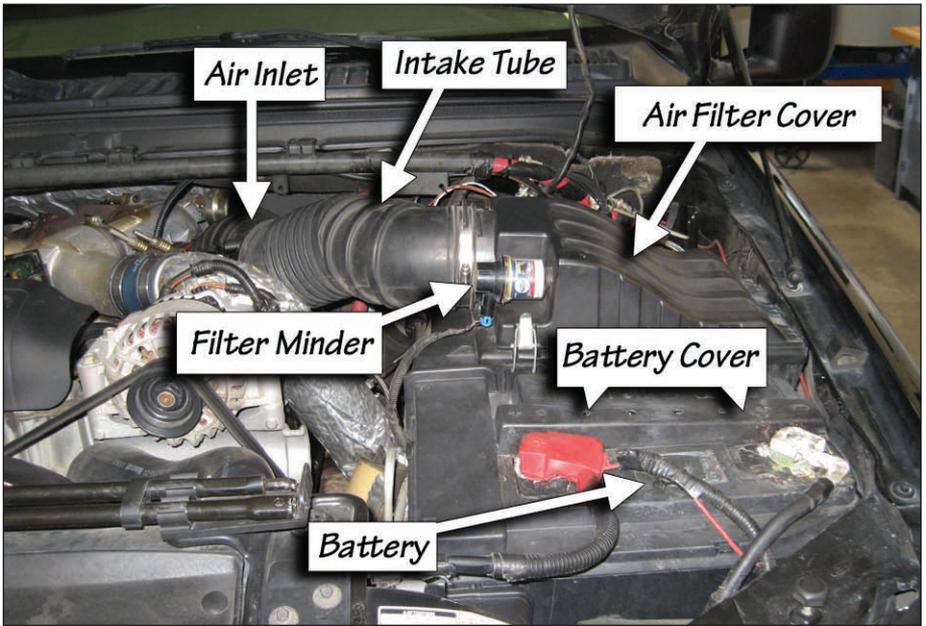
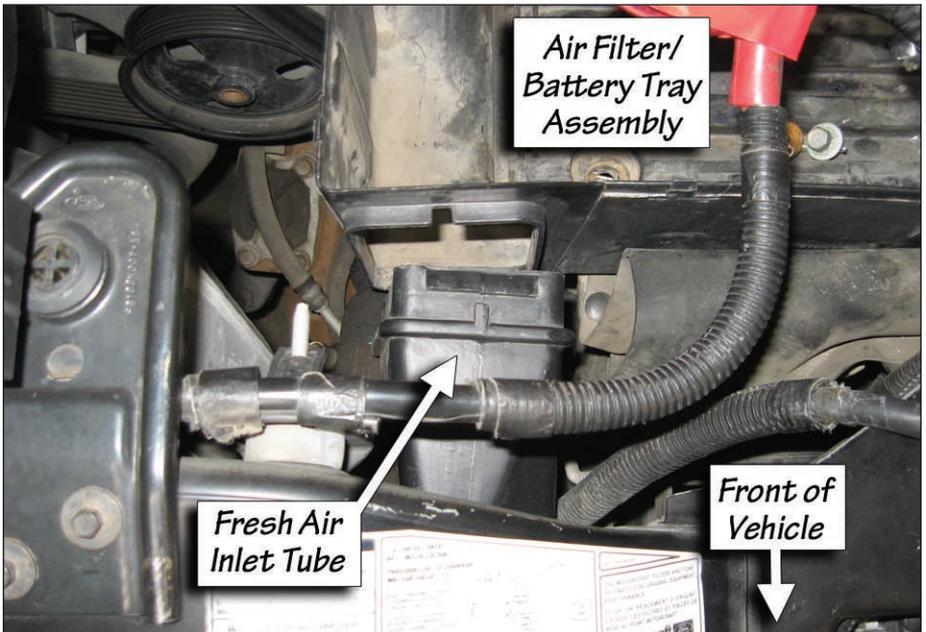


Figure 6 Vehicles equipped with Fresh Air Inlet tube only



10. Remove the factory battery tray and air filter box assembly from the vehicle.

11. From the air filter box assembly remove the factory Air Filter Minder rubber grommet.

12. Locate the Banks Intake tube and install the factory Air Filter Minder rubber grommet. See **Figure 7**.

NOTE: For Vehicles without a factory Filter Minder, insert Banks Filter Minder Plug into hole on the Banks Intake Tube if your vehicle does not come equipped with a Filter Minder.

13. Locate the Banks Air Filter Housing assembly. Install the supplied Edge Grip seal around the side opening facing the left side of the vehicle.

14. Install the supplied retainer plate and screws to the back of the Housing assembly. Insert the IAT sensor into the Air Filter Housing assembly.

15. Install the Banks Air Filter Housing assembly into place. Make

sure to align the side air inlet opening to the vehicle frame opening. Connect IAT sensor connector if previously disconnected.

NOTE: Route all wiring so that it is not obstructed by the Air Filter assembly.

16. Locate the supplied bolts and secure Banks Air Filter Housing assembly into place. See **Figure 8**. The two short bolts will go over the holes on the bottom of the Housing assembly. The longer bolt will go over the front side hole of the housing.

17. For Vehicles equipped with front fresh air inlet tube, connect the fresh air inlet tube to the air filter housing assembly. See **Figure 8**.

NOTE: Earlier production models may not be equipped with fresh air inlet tube.

18. Locate the Hose and Hose Clamps. Install the Hose onto the outlet of the Intake tube and secure in place with the Hose Clamps. See **Figure 7**.

Figure 7



Figure 8

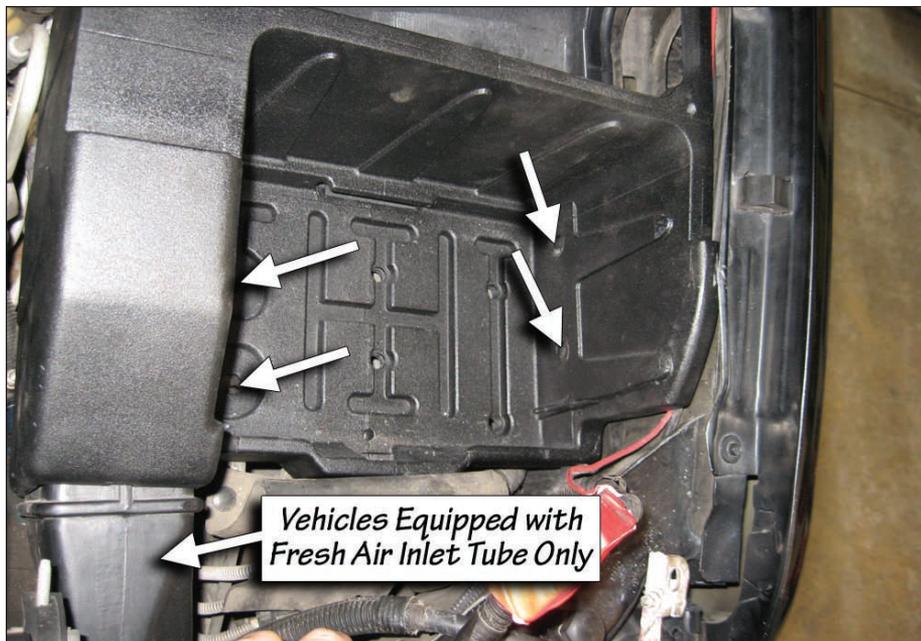


Figure 9

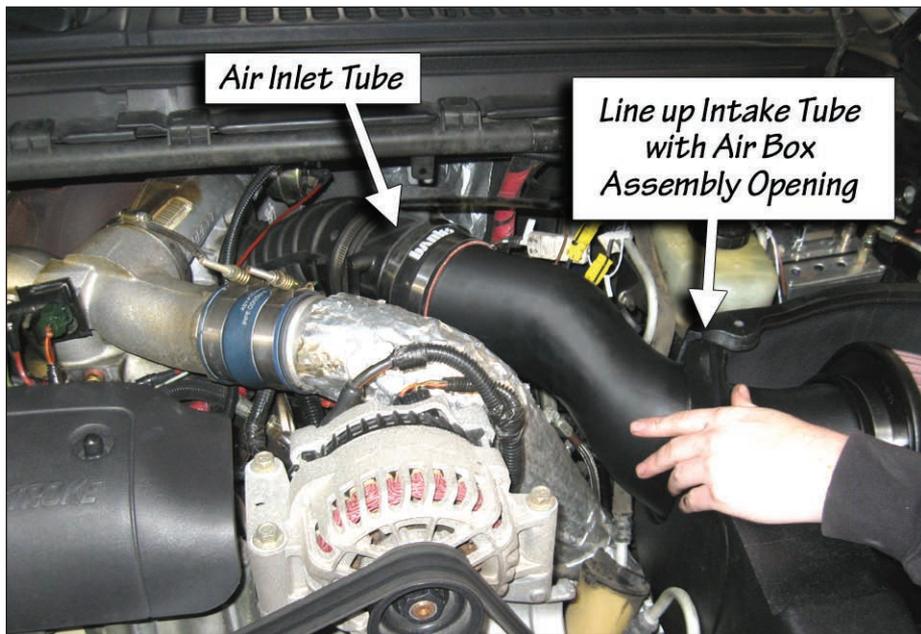
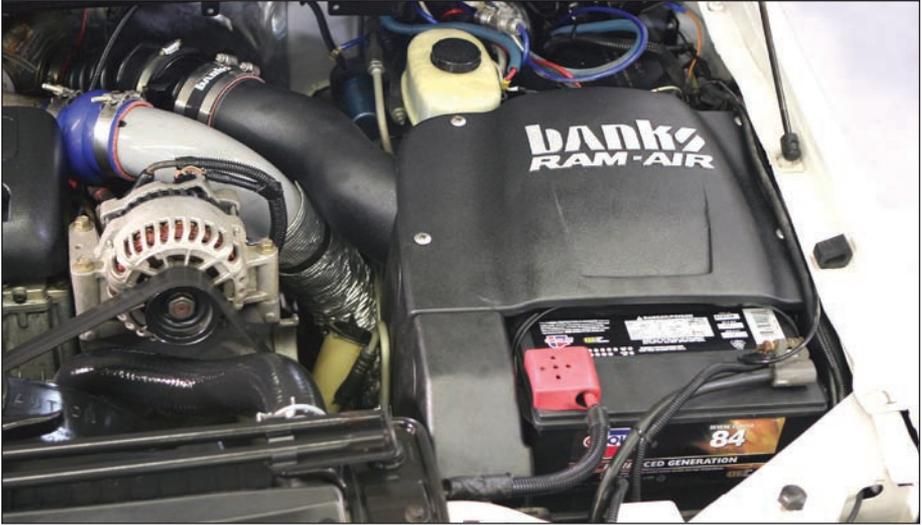


Figure 10



19. Locate the Banks Air Filter and Filter Hose clamp. Place the Air Filter hose clamp on the Banks Air filter. Do not tighten the clamp.

WARNING: 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 manufactures operation instruction for non-oil based solvent cleaner. Be careful not to apply cleaner to cotton filter media or damage to media may result.

20. Attach the Banks Air Filter to the Banks Intake Tube. Hand tighten the Air Filter clamp.

21. Insert the Banks Intake Tube to the air inlet tube making sure the Hose and Hose Clamps slide into place.

22. Drop the Banks Intake Tube with Air Filter into the air filter housing and align the tubing with the filter housing. See **Figure 9**.

23. Hand tighten the hose clamps at the air inlet tube and the air filter.

24. Insert the Air Filter Minder into the Intake tube.

NOTE: Route the Air Filter Minder and wiring under the intake tube to properly install in place. If necessary disconnect the Air Filter Minder from the wiring connector.

25. Place the battery into place making sure that it sits properly into the Banks Air Filter Housing assembly.

26. Install the battery retainer bolt into place and secure the battery.

27. Reconnect all battery connections.

28. Locate the Air Filter Housing cover and place over the filter. Secure with the supplied screws. You have successfully completed the installation of the Banks Ram-air Intake system. Make sure to go over all hose clamps for tightness and connectors for a secure fit. See **Figure 10**.

-END, SECTION 2-

Section 3

FILTER MAINTENANCE

Notification

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

1. Service Banks Ram Air Filter every 50-100,000 miles on street-driven applications. Service more often in off-road or heavy-dust conditions. If an air-filter restriction gauge is installed, then clean the element when the air-filter restriction gauge enters the restrictive red zone. See **Figure 11**.

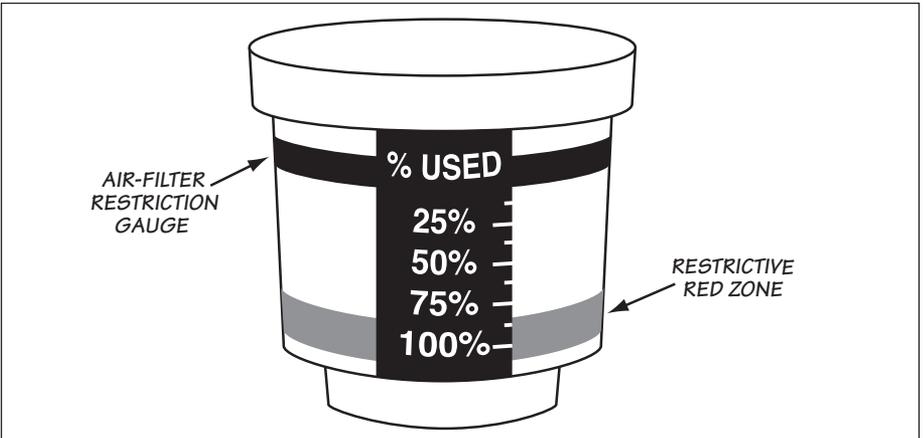
2. Use Banks Ram Air Filter cleaning system (part # 90094), available from Gale Banks Engineering to service the Air Filter. Follow the instructions included with the cleaning system to clean and re-oil your Banks Ram

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. Service only with Banks Ram-Air-filter cleaner and Banks Ram-Air-filter oil.

-END, SECTION 3-

Figure 11 Typical air-filter restriction gauge



Notes

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