

Installation Manual  
P/N 0307-ABIP



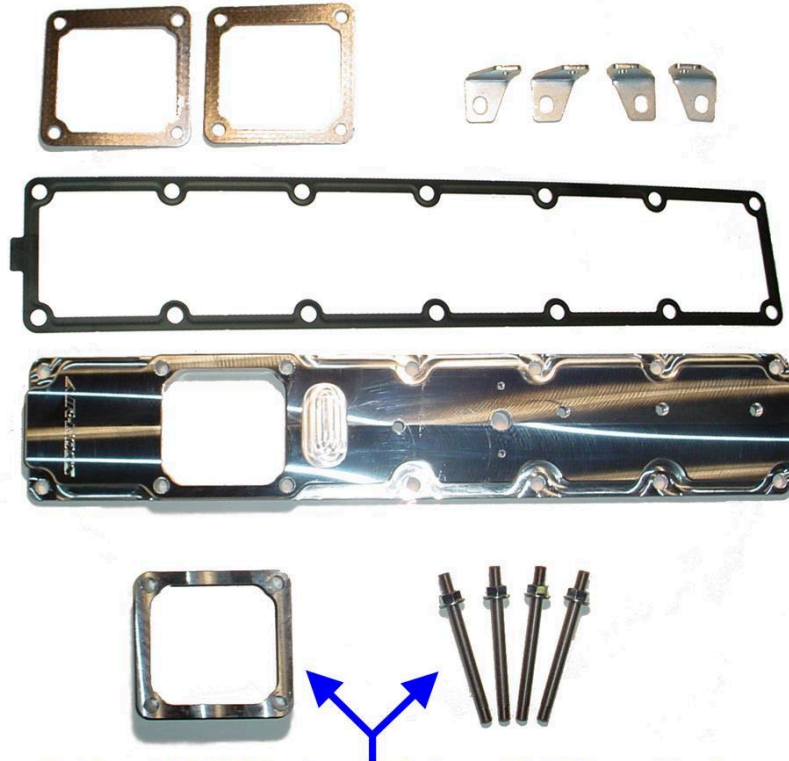
2003-07 DODGE CUMMINS  
**Air-Boss CR Intake Plenum**

Installation Instructions

P/N 0307-ABIP  
GDP Air-Boss CR Plenum Installation

**PLEASE READ ALL INSTRUCTIONS BEFORE BEGINNING INSTALLATION**

## Air-Boss CR Intake Plenum Kit Contents



**Optional Grid Heater Delete or Stainless Studs**

<u>Qty</u>	<u>Item Description</u>
1	Air-Boss CR Billet Intake Plenum
1	Intake Plenum Gasket
2	Intake Manifold Gasket
2	Right Hand Line Retainer Brackets
2	Left Hand Line Retainer Brackets
1	Optional: Grid Heater Delete Block
1	Optional: Custom Length Stainless Studs

Please check your parts inventory against the above parts list before beginning your installation.

## **FUEL RAIL, INJECTOR LINE & STOCK PLENUM REMOVAL**

**CAUTION:** Cleanliness cannot be overemphasized when handling or replacing diesel fuel system components. This especially includes the fuel injectors, high-pressure fuel lines and fuel injection pump. Very tight tolerances are used with these parts. Dirt contamination could cause rapid part wear and possible plugging of fuel injector nozzle tip holes. This in turn could lead to possible engine misfire.

**Always wash/clean any fuel system component thoroughly before disassembly and then air dry. Cap or cover any open part after disassembly. Before assembly, examine each part for dirt, grease or other contaminants and clean if necessary. When installing new parts, lubricate them with clean engine oil or clean diesel fuel only.**

1. Disconnect the battery negative cables.
2. Remove the charge air cooler outlet tube connection from the intake manifold.
3. Remove the engine oil dipstick tube mounting bolt.
4. Remove dipstick support at fuel filter housing. Position dipstick tube to the side.
5. Disconnect the air grid heater power cable at the cable mounting stud.

**Caution!!!** If a grid heater will **not** be re-installed this wire **must** also be disconnected at the relay on the passenger side battery tray to avoid a short circuit!!!

6. Remove the engine wiring harness support bolt from the back of the intake manifold.
7. Remove the four (4) intake manifold mounting bolts and remove the intake manifold from top of the grid heater element.
8. Remove the intake air grid heater from the plenum.
9. Remove the high pressure fuel lines and fuel rail.

**CAUTION:** When loosening or tightening high-pressure lines at the cylinder head, use a back-up wrench on the crossover tube nut at the head. Do not allow fitting to rotate. Loss of crossover tube torque will result.

10. When removing fuel line at No. 6 cylinder, a bracket (1) is located above fuel line connection at cylinder head. Two bolts secure this bracket to rear of cylinder head. The upper bolt hole is slotted. Loosen (but do not remove) these 2 bracket bolts. Tilt bracket down to gain access to No. 6 fuel line connection.

11. Remove engine lift bracket (if necessary).
12. Remove necessary insulated fuel line support clamps (4) at intake plenum. Remove insulators from fuel lines and save for reinstallation on new line retainer brackets.
13. Place shop towels around fuel lines at fuel rail and injectors. If possible, do not allow fuel to drip down side of engine.
14. Carefully remove each fuel line from engine. Note position of each while removing.

**Do not bend lines while removing.**

15. Disconnect manifold air temperature/pressure sensor connector.
16. Remove the remaining intake plenum cover-to-cylinder head bolts.
17. Remove the intake plenum cover and gasket. Keep the gasket material and any other material out of the air intake!
18. Clean the cylinder head sealing surface.

**AIR-BOSS CR INTAKE PLENUM INSTALLATION**

19. Using the new gasket, install the Air-Boss CR plenum.
20. Install the cover-to-cylinder head bolts that do not hold down the fuel rail. Tighten the bolts to **18 ft. lbs.** torque.
21. Check torque on the high pressure crossover tube connector nut at the cylinder head. **Torque nut to 50 N·m (37 ft. lbs).**

Install the high pressure rail and injector lines.

22. Position fuel rail on top of the Air-Boss CR and install 3 mounting bolts. Tighten bolts to 24 N·m (18 ft. lbs) torque.

**CAUTION: Anytime a high-pressure line is removed from the engine, its fuel connector nut at the cylinder head must first be retorqued. Refer to Torque Specifications.**

23. Install plastic fuel line support inserts on new injector line retainer brackets. Position and install fuel line support brackets. Tighten finger tight.
24. Position proper fuel line to proper injector on engine. Tighten fittings hand tight at both ends of line.

25. Tighten fuel line at cylinder head. **Torque nut to 30 N·m (22 ft. lbs).**
26. Tighten fuel lines at fuel rail. **Torque nut to 37 N·m (27 ft. lbs).**
27. If removed, install engine lifting bracket (1) and bolt. **Torque nut to 77 N·m (56 ft. lbs).**
28. Tighten line clamp support to intake plenum cover bolts.
29. Reinstall the manifold air temp/pressure sensor in Air-Boss CR intake plenum. Connect the sensors electrical connector.

## **GRID HEATER OPTIONS**

### **A) Stock Grid Heater Installation**

30. If reinstalling the factory grid heater your kit will include extended length stainless steel studs and new nuts.
31. Install the short, threaded end into the cylinder head. For aftermarket manifolds with thinner than stock flanges the studs can be reversed resulting in less stud protrusion.
32. Use the two (2) supplied gaskets and install the grid heater and intake manifold.
33. Install and tighten the air intake heater power supply nut.
34. Install oil dipstick tube support at fuel filter housing.
35. Install the engine oil dipstick tube and mounting bolt.
36. Position the charge air cooler outlet tube onto the air inlet housing. Tighten the clamps to **100 in. lbs.** torque.
37. Attach the engine wire harness to the air inlet housing.
38. Connect the battery negative cables.
39. Prime the fuel system. Start vehicle and check for leaks.

### **B) Grid Heater Delete Block Installation**

30. Using the two (2) supplied gaskets install grid heater delete block and intake manifold.

31. Install oil dipstick tube support at fuel filter housing.
32. Install the engine oil dipstick tube and mounting bolt.
33. Position the charge air cooler outlet tube onto the air inlet housing. Tighten the clamps to **100 in. lbs.** torque.
34. Attach the engine wire harness to the air inlet housing.
35. Connect the battery negative cables.
36. Prime the fuel system. Start vehicle and check for leaks.

Installation complete! Enjoy the new power and lower EGT's of the Air-Boss CR high rise intake plenum!!!

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