

Installation Manual
P/N 98502-ABIP



'98.5-'02 DODGE CUMMINS

Air-Boss VP Intake Plenum

Installation Instructions

P/N 98502-ABIP
GDP Air-Boss VP Plenum Installation

PLEASE READ ALL INSTRUCTIONS BEFORE BEGINNING INSTALLATION

Air-Boss VP Intake Plenum Kit Contents



<u>Qty</u>	<u>Item Description</u>
1	Air-Boss VP Billet Intake Plenum
1	Intake Plenum Gasket
2	Intake Manifold Gasket
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

1. Disconnect both negative battery cables from both batteries. Cover and isolate ends of cables.
2. Thoroughly clean fuel lines at cylinder head and injection pump ends.
3. Remove APPS cable cover. Cable cover is attached with 2 Phillips screws, 2 plastic retention clips and 2 push tabs. Remove 2 Phillips screws and carefully pry out 2 retention clips. After clip removal, push rearward on front tab, and upward on lower tab for cover removal. **Do not remove any cables at lever.**
4. Disconnect wiring harness connector at bottom of Accelerator Pedal Position Sensor (APPS) mounting bracket.
5. Using 2 small screwdrivers, pry front wiring clip from cable bracket housing.
6. Remove electrical connector from APPS by pushing connector tab rearward while pulling down on connector.
7. Disconnect 2 electrical cables from the mounting studs at intake air heater.
8. Remove engine oil dipstick from engine.
9. Remove engine oil dipstick tube support mounting bolt and position tube to side.
10. Disconnect clamps and remove air tube (intake manifold-to-intercooler).
11. Remove 4 intake manifold mounting bolts and remove the manifold.
12. Remove intake manifold air heater element block from engine.
13. Remove 3 APPS housing mounting bolts. Carefully move APPS assembly to the side of the engine. **Leave cables connected to lever.**
14. Remove engine lifting bracket at rear of intake manifold (2 bolts).
15. Remove bolts from all fuel injection line support brackets at intake plenum.
16. Place shop towels around fuel lines at fuel injectors. Do not allow fuel to drip down side of engine.

CAUTION: WHEN LOOSENING OR TIGHTENING HIGH-PRESSURE FITTINGS AT INJECTION PUMP, USE A BACK-UP WRENCH ON DELIVERY VALVE AT PUMP. DO NOT ALLOW DELIVERY VALVE TO ROTATE.

17. Loosen injector line fittings at injection pump beginning with cylinders 1, 2 and 4.
18. Loosen high-pressure lines at cylinder head for cylinders 1, 2 and 4.
19. Carefully remove front line bundle from engine. **Do not bend lines while removing.** When removing front line bundle, note line position.
20. Loosen high-pressure lines at injection pump beginning with cylinders 3, 5 and 6.
21. Loosen high-pressure lines at cylinder head for cylinders 3, 5 and 6.
22. Carefully remove rear line bundle from engine. **Do not bend lines while removing.** When removing rear line bundle, note line position.
23. Thoroughly clean plenum mounting gasket surface.

AIR-BOSS VP INTAKE PLENUM INSTALLATION

24. Using the new gasket, install the Air-Boss VP plenum.
25. Install the cover-to-cylinder head bolts that do not hold down the high pressure fuel line support brackets. Tighten the bolts to 18 ft. lbs. torque.
26. Lubricate threads of injector line fittings with clean engine oil.
27. Loosen, but do not remove, all fuel line support bracket bolts.
28. Install **rear** injection line bundle beginning with cylinder head (fuel injector) connections, followed by injection pump connections. Tighten all fittings finger tight.
29. Tighten fittings at fuel injector for cylinders number 6 and 5 to 28 ft. lbs. torque.

Do not tighten number 3 line at this time. It will be tightened during bleeding procedure.
30. Tighten 3 fittings at fuel injection pump ends to 18 ft. lbs. torque.
31. Install **front** injection line bundle beginning with fuel injector connections, followed by injection pump connections. Tighten all fittings finger tight.
32. Tighten fitting at fuel injector end for cylinder number 2 to 28 ft. lbs. torque.

Do not tighten lines number 1 or 4 at this time. They will be tightened during bleeding procedure.

33. Tighten remaining 3 fittings at fuel injection pump ends to 18 ft. lbs. torque.
34. Install fuel line support bracket bolts to intake manifold and tighten to 18 ft. lbs. torque.

CAUTION: Be sure fuel lines are not contacting each other or any other component. Noise will result.

35. Install rear engine lifting bracket. Tighten bolts to 57 ft. lbs. torque.

GRID HEATER OPTIONS

Option 1) Stock Grid Heater Installation

- A) If reinstalling the factory grid heater your kit will include extended length stainless steel studs and new nuts.
- B) 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.
- C) Install intake manifold using the supplied gaskets and position ground cable. Install 4 mounting bolts and tighten to 18 ft. lbs. torque.
- D) Install factory grid heater power supply wires and tighten power supply nuts.

Option 2) Grid Heater Delete Block Installation

- A) Using the two (2) supplied gaskets install grid heater delete block and intake manifold using the stock mounting bolts.

COMPLETING THE INSTALLATION

36. Install intake manifold-to-intercooler tube. Tighten clamps to 72 in. lbs. torque.
37. Install engine oil dipstick tube support mounting bolt and tighten to 18 ft. lbs. torque.
38. Install engine oil dipstick to engine.
39. Install APPS assembly and tighten 3 mounting bolts to 18 ft. lbs. torque

40. Connect electrical connector to bottom of APPS by pushing connector upward until it snaps into position.
41. Connect wiring harness (clip) at bottom of Accelerator Pedal Position Sensor (APPS) mounting bracket.
42. Connect front wiring clip to cable bracket housing.
43. Install APPS cable cover.
44. Connect both negative battery cables to both batteries.
45. Bleed air from fuel system. Do this at fuel injector ends of lines. Use cylinders numbers 1, 3 and 4 for bleeding. After bleeding, tighten fittings to 28 ft. lbs. torque.
46. Check lines/fittings for leaks.
47. Test drive the vehicle.

Thank you for your purchase of the Air-Boss VP intake plenum. If you have any questions or concerns please feel free to contact us.

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