NAVISTAR DIESEL PRO 210109/210110 TO DIESEL PRO 243 CONVERSION

Diesel Pro 243210DAVK7-07

1. 243952RRDAVK02-07 Diesel Pro 243 Asm.
2. 232007DAV Wrench
3. 102376 Harness, Pre-heater

Diesel Pro 210 Mounting Kit (P/N 103254)

4. 102291 Mounting Bracket
5. 103200 Shut-off Valve
6. 102889 Bolt, 3/8"-16 X 1.50
7. 014045 Hex Nut 3/8"-16
8. 103137 Flat Washer, 3/8"
9. 560095 Lock Washer, 3/8"

Diesel Pro 210 Fuel Bypass Kit (P/N 103255)

10. 103203 Fuel Bypass Asm.
11. 100565 Plug, 1/4" NPTF

210109/210110 replacement-specific installation components (P/N 103257)

12. 103125 Voss Kit
13. 103202 Packard Plug
14. 103201 Butt Connector
15. 103199 Sleeve, Seal
16. 102939 Dual Cable Clamp
17. 102862 15" Tie Wrap
18. 100290 8" Tie Wrap
Overview
The Diesel Pro 210 is mounted on the pressure side of the fuel system. In this installation, the Diesel Pro 210 is removed and the Diesel Pro 243 is mounted on the suction side of the fuel system.

In addition to these instructions, refer to instructions on F3028 (included in this kit) for using the Voss Assembly tool.

The installation consists of the following sections: Diesel Pro 243 mounting (Steps 1-12), Fuel supply to Diesel Pro (Steps 13-19), Fuel supply to engine (Steps 20-24), Electrical routing to engine bay (Steps 25-27), Diesel Pro 210 removal (Steps 28-34), Diesel Pro 210 bypass manifold installation (Steps 35-38), Priming the fuel system (Steps 39-46), Electrical connection (Steps 47-55).

Diesel Pro 243 mounting
1. Locate a suitable mounting location for the Diesel Pro 243. Keep the following items in mind:
   - The Diesel Pro 243 is intended for the suction side of the fuel system
   - The clear cover needs to be pointing upwards
   - 3.5" clearance is required above the vent cap for priming and filter servicing
   - Mount the unit so the clear cover is at least 12" away from the turbo or exhaust system
   - Depending on the mounting location, the inlet and outlet bushings can be swapped from side to side or the same side to optimize fuel line routing. (The Diesel Pro 243 in the kit comes configured with the fuel in right and fuel out right).
2. Install the shut-off valve in the inlet bushing of the Diesel Pro 243.

3. Install the VOSS fittings as shown.

4. Temporarily install the mounting bracket as shown.

5. Install the 90° VOSS hose ends as shown (for spacing purposes only – remove after step 7).

6. Locate an acceptable location on the frame rail for mounting the Diesel Pro 243 and bracket and mark as shown.

7. Using the bracket, mark the mount holes as shown. Confirm that the back of the frame is clear for drilling the mounting holes.
8. Drill two clearance holes for the 3/8" mounting hardware.

9. Install the bracket as shown using the 3/8" mounting hardware.

10. Attach the chassis harness grounding (serrated) eyelet to one of the mounting bolts and tighten.

11. Install the Diesel Pro 243 on the mount bracket using the 3/8" hardware and tighten.

12. Attach the chassis harness to the Diesel Pro 243 pre-heater.

**Fuel supply to Diesel Pro**

13. Install a 90° VOSS hose end into the ½" fuel tubing using VOSS assembly tool or the simple process listed on form F3028 (included in kit).
14. Attach the 90° VOSS hose end to the inlet of the Diesel Pro 243 and route the fuel tubing toward fuel tank pickup.

15. Locate the engine fuel supply hose and disconnect by pushing the white button inward or squeezing the white tabs in and wiggling the hose end upward.

16. Rotate the hose end so it aims towards the rear of the truck or the Diesel Pro 243 mounting location.

17. Install 90° VOSS hose end onto the fuel tank pickup and mark the hose length and orientation.

18. Cut the hose to length and install the 90° VOSS hose end with the orientation as marked.

19. Install the complete hose assembly onto the inlet of the Diesel Pro 243 and the pickup at the fuel tank.

**Fuel supply to engine**

20. Install a female VOSS hose end into the ½” fuel tubing.
21. Attach the new VOSS hose assembly to the existing hose going to the engine (the one that was rotated).

![Image of hose assembly being attached](image1.jpg)

22. Route the fuel tubing towards the Diesel Pro 243 outlet and mark length and orientation.

![Image of fuel tubing routing](image2.jpg)

23. Cut hose to length and install 90° VOSS end with the orientation as marked.

24. Install VOSS hose assembly to the Diesel Pro 243 outlet.

26. Attach/support the fuel supply tubing as needed.

![Image of fuel supply tubing](image3.jpg)

27. Route the chassis up and over the transmission towards the firewall with the existing fuel plumbing to the engine.

![Image of fuel tubing on chassis](image4.jpg)

**Diesel Pro 210 removal**

28. Disconnect the electrical connections at the Diesel Pro 210 (save for later use).

![Image of electrical connections](image5.jpg)

**Electrical routing to engine bay**

25. Route the chassis harness along the fuel supply tubing.

![Image of harness routing](image6.jpg)
29. Drain the Diesel Pro 210 and remove the spin on filter.

30. Disconnect the fuel inlet and outlet connections.

31. Remove the two Diesel Pro 210 mounting bolts and unit from the vehicle.

32. Install the mounting bracket to bypass manifold as shown using the supplied hardware.

Remove the primer pump, outlet fitting and Compu-check test port from the Diesel Pro 210 and install them into the bypass manifold as shown (using liquid thread sealant).

33. Remove and discard the sleeve/seals on the hard tubing.
**Diesel Pro 210 bypass manifold installation**

34. Replace with new sleeve/seals supplied in the kit.

35. Install the Diesel Pro 210 bypass manifold onto the engine using the OEM hardware. Leave the bolts loose for alignment.

36. Connect the fuel inlet and outlet tubing by hand – adjust Diesel Pro 210 bypass manifold and tighten mounting hardware.

37. Tighten the tube nuts using a wrench to OEM torque specifications.

38. Remove the vent cap from the Diesel Pro 243 and fill it with clean diesel fuel (leave cap off).

39. Rotate the red knob on the primer pump counter clockwise (or so it points to the primer plunger).

**Priming the fuel system**
40. Loosen and stroke the primer pump until the fuel level in the Diesel Pro 243 drops to near the black collar, refill the Diesel Pro 243 with clean diesel fuel.

41. Repeat this process ten times.

**Note:** This process primes the new fuel lines and up to the primer pump.

42. Loosen the tube nut on the rail and replace the sleeve/seal. Repeat step #42 two additional times, use a shop towel to catch any spilled fuel.

**Note:** This process purges any trapped air up to the rail.

43. Tighten the tube nut to OEM specifications.

44. Tighten the primer pump handle and rotate the red knob clockwise (or back towards the engine).

45. Top off Diesel Pro 243 and install the vent cap.

**Electrical connection**

46. Remove the convoluted tubing from the Diesel Pro 210 preheater harness.
47. Remove the cover from the back of the connector as shown, then remove the ground wire and discard.

48. Install the green seal in the vacant cavity (from the black wire) and replace the cover on the back of the connector.

49. Cut the red wire from the connector to length and trim the black wire from the chassis harness accordingly.

50. Strip both wires and attach using a yellow 10-12 AWG heat shrink but splice.

51. Shrink the butt splice using a heat gun or a micro torch.

52. Attached the connector to the existing truck harness and cable tie as needed.
53. Start the engine and increase the idle for two minutes, this will help clear the fuel system of any air introduced during installation.

54. Return to idle and check for leaks.

*Installation is complete.*