PLEASE READ ALL INSTRUCTIONS BEFORE BEGINNING INSTALLATION
Safety Guidelines!

**WARNING!** Always secure the vehicle from rolling.

**WARNING!** Always disconnect vehicle batteries before working on electrical components.

**WARNING!** Always wear safety glasses when operating power tools such as drills and grinders or using punches and chisels.

**WARNING!** Always properly secure fuel lines and wiring to prevent chaffing.

**WARNING!** Always have a fire extinguisher available when working with fuel systems.

**PLEASE WORK SAFELY!**
## Spectre VGT Kit Contents

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

DO NOT REMOVE CONTROLLER BEFORE READING STEPS 18 thru 27!

1. Disconnect the battery negative cables.
2. Drain coolant.
3. Remove air filter housing and piping.
4. Remove Passenger side battery and battery tray.
5. Remove Passenger side fender liner.
6. Remove charge air cooler inlet tube at turbocharger inlet.
7. Disconnect turbocharger speed sensor electrical connector.
8. Disconnect turbocharger actuator electrical connector.
9. Remove turbocharger oil supply line at the turbo.
10. Remove turbocharger coolant lines. Save sealing washers.
11. Remove exhaust steady rest bracket from transmission. (If equipped)
12. Remove V-clamp from turbocharger exhaust outlet.
13. Bend down heat shield attached to right hand motor mount. This will give you access to the oil drain mounting bolts without removing the motor mount.
15. Remove auto transmission dipstick mounting bracket nut and tie tube back towards pass side.
16. Remove turbocharger mounting nuts and turbocharger.
VGT Controller Removal & Installation

Electronic Controller

The following steps are critical to proper controller function. Please read this section completely before proceeding with controller removal and installation. Failure to follow these steps will result in turbo failure and loss of warranty.

17. Remove the retaining bolt from the turbo speed sensor and carefully remove sensor.

18. Remove one controller bolt at a time and replace with supplied guide pins.

19. Carefully slide the controller off of turbo. **DO NOT MOVE ARM ON THE TURBO!**

20. Note the position of the control arm on your stock turbo. Measure and mark the gears position.

21. Remove the guide pins from stock turbo and install in the Spectre Hybrid.

22. Move the control arm on the Spectre Hybrid to the **exact** same location as the stock unit.

23. Slide the controller over the guide pins and onto the Spectre.
24. Remove **one** guide pin at a time and replace with stock bolt.

25. Tighten mounting bolts in a crisscross pattern to **96 in. lbs.**

26. Install turbocharger speed sensor. Tighten bolt to **70 in. lbs.**

**Spectre Installation**

**Spectre VGT Installation**

27. Clean turbocharger mounting surface and exhaust manifold flange surface.

28. Using a new gasket, position turbocharger on exhaust manifold studs.

29. Install turbocharger mounting nuts. Using across pattern, tighten nuts to **32 ft. lbs.**

30. Install coolant supply and return lines. Tighten banjo fittings **18 ft. lbs.**

31. Inspect oil drain tube O-rings for nicks or cuts. Replace if necessary.

32. Position turbocharger drain tube into engine block.

33. Install turbocharger drain tube mounting bolts. Tighten to **95 in. lbs.**

34. Use the V-clamp to connect exhaust pipe to turbocharger outlet. Tighten clamp to **95 in. lbs.**

35. Lower vehicle.

36. Install charge air tube to turbocharger inlet. Tighten clamp to 11 N·m (95 in. lbs.).

37. Pre-lube turbocharger with clean engine oil. No such thing as too much.

38. Install oil pressure line fitting and tighten.

39. Install turbocharger oil pressure line and tighten.

40. Connect turbocharger actuator and speed sensor electrical connectors.

41. Install battery tray, fender liner and battery.

42. Install air filter housing and piping.

43. Connect battery cables.
44. Fill cooling system.

45. Start vehicle, check for leaks and proper exhaust brake operation if engine is cool enough.

46. Test drive the vehicle and verify the exhaust brake function.

If you have any questions please contact Diesel Power Products at (866)379-8685. Thank you for your business and we look forward to helping you with your future performance needs.
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