

BG DPF & Emissions System Restoration Service

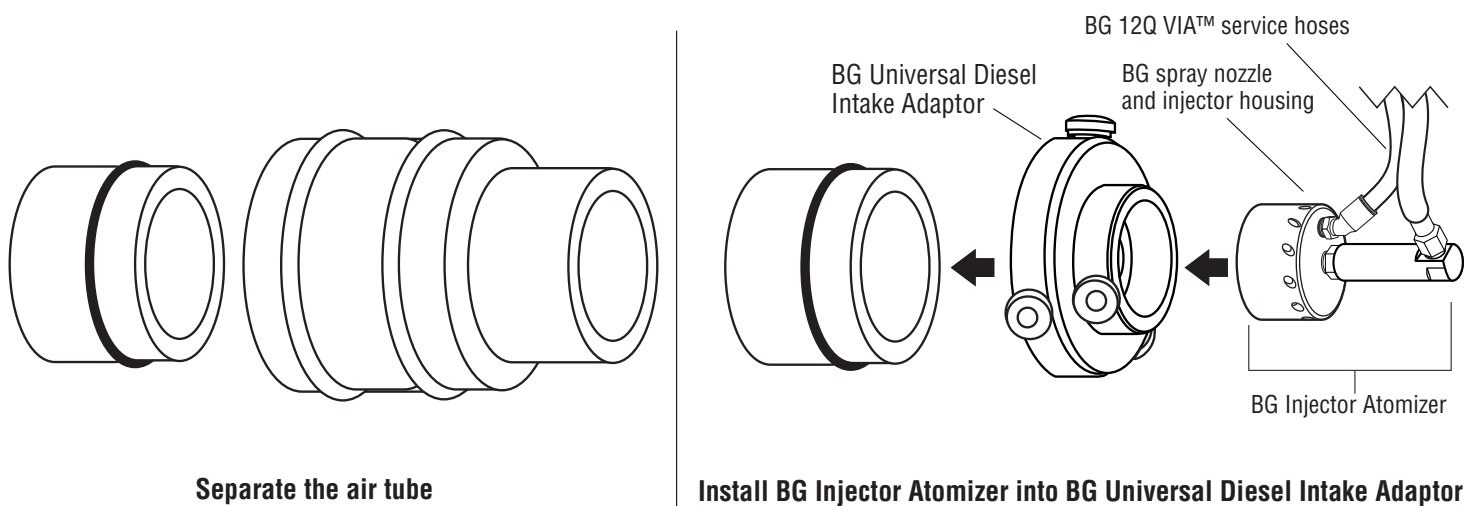
Heavy Duty General Instructions

Six Important Steps

1. Talk to the customer. Ensure the vehicle is a proper candidate for this service. It's crucial that the customer communicates any and all drivability issues.
2. Verify the complaint. Identify the root problem. It may not be what you expected. Look at set codes and proper EGR function.
3. Perform visual inspection. If any component on the intake, the engine, or the exhaust system (e.g. EGR cooler) appears to have been tampered with, confer with the customer before proceeding.
4. Apply the correct, necessary BG procedure. A BG Diesel Induction Service may need to be performed prior to a BG DPF & Emissions System Restoration Service. Make sure you have the adequate training to perform the service properly
5. Perform the BG DPF & Emissions System Restoration Service as instructed. If you have followed steps 1–4, this service has a greater chance of success.
6. Always test drive and clear all codes after the service.

Preparing for Service

1. Install one quart (32 oz.) BG 244® Diesel Fuel System Cleaner, PN 24432, per 40 gallons of diesel fuel into the fuel tank.
2. Hook up a recommended OEM or similar diagnostic scanner to the ALDL connector in the vehicle.



continued



BG DPF & Emissions System Restoration Service Instructions *continued*

3. Start the engine. Verify the scanner is communicating.
4. Run engine to reach normal operating temperature (180°F/82°C).
5. Attach appropriate spray nozzle to injector housing:
 - For 6.0-7.0L engine, use 3.50 GPH spray nozzle and 12 hole injector housing
 - For 7.0-8.0L engine, use 3.50 GPH spray nozzle and 14 hole injector housing
 - For 8.0-9.0L engine, use 3.50 GPH spray nozzle and 16 hole injector housing
 - For 9.0-10.0L engine, use 3.50 GPH spray nozzle and 18 hole injector housing
 - For 10.0-11.0L engine, use 3.50 GPH spray nozzle and 20 hole injector housing
6. Attach BG 12Q VIA™ service hose to injector housing.
7. Turn V3 Fill Valve to “Fill” (I) and V4 Vent Valve to “Open” (I).
8. Fill the BG 12Q VIA™ with BG DPF & Emissions System Restoration, PN 2581.
 - For every 13 quart/liter volume crankcase capacity, use 1 gallon (3.7 L) of BG DPF & Emissions System Restoration.
9. Turn V3 Fill Valve to “Close” (O) and V4 Vent Valve to “Close” (O).
10. Apply shop air to the BG 12Q VIA™ coupler. G2 Pressure Gauge should read 90 psi.
11. Plug in to power source.
12. Turn vehicle engine off.

Service Procedure

1. Separate the air tube located at the engine air intake manifold.
2. Install BG Universal Diesel Intake Adaptor to the air intake, make sure there is a solid seal, then install BG Injector Atomizer into the BG Universal Diesel Intake Adaptor.
3. Start engine and at idle and confirm:
 - a. Engine is at operational temperature (180°F/82°C).
 - b. G1 Engine Vacuum Gauge should reflect 1” Hg/100 RPM. Note: 10” Hg at 1,000 RPM is the minimum.
 - c. Scanner data stream is communicating and monitoring each system.
 - d. Scanner is set to read vehicle RPM, EGR temperature sensor and all Exhaust Gas Temperatures (EGTs).
 - e. Identify sensor position pre- and post-DOC, DPF and SCR.
 - f. Disconnect MAF sensor if equipped. If not, disconnect the EGR and throttle motor.
4. Accelerate engine to 1,200 RPM, check G1 Engine Vacuum reading and allow the EGT sensor (pre-DPF) to reach approximately 500–550°F/232–287°C and stabilize.

Note: In general, the DPF inlet temperature should exceed the DOC temperature within approximately 15 minutes from the setting of the RPM level in a properly functioning system. If this is not observed, there is a reason. Common reasons include the DOC being coated with engine oil or coolant. The DOC may need time to

continued



BG DPF & Emissions System Restoration Service Instructions *continued*

bake off contaminants. Leave the RPM level set at 1,200 RPMs and monitor temperatures. It may take as long as one hour for the DOC to bake. Success is observed by two things: 1. A large billow of white smoke coming out of the exhaust stack and 2. The DPF inlet temperature will begin climbing as expected.

5. Turn (S) Heater Switch on (I) and wait 5 minutes for BG 12Q VIA™ to reach operating temperature.
6. With all the engine parameters stable, turn V2 knob to “Process” (I). Make sure the flow indicator shows fluid flowing.
7. Closely monitor the scanner data for any sign of rapid increase in Exhaust Gas Temperatures. RPM/vacuum may need to be adjusted to maintain DPF temperature of 900–1,150°F/510–620°C. **WARNING: Reaching the maximum temperature differential could activate the vehicle’s protection parameters and shut down the engine. If maximum temperature differential is reached, turn V2 knob to “Close” (O) immediately. If for any other reason the engine shuts down, turn V2 knob to “Close” (O) immediately.**

Note: Raising RPM will increase temperatures and vacuum; lowering RPM will decrease temperatures and vacuum. Adjust in 100 RPM increments. If any of the exhaust temperature sensors reach 1,200°F/650°C or rapid increase in temperature is observed, turn V2 knob to “Close” (O), allowing the temperature to decrease and stabilize. Turn V2 knob to “Process” (I) to complete service.

8. After flow indicator is clear, turn V2 knob to “Close” (O).
9. Turn (S) Heater Switch off (O). Remove shop air and press and hold the V1 Pressure Release until G2 Pressure Gauge reads “0.”
10. Return vehicle to Idle and run for at least 15 minutes.
11. Monitor scanner data to make sure engine and cooling cycle of the DPF system are functioning properly .
12. After engine systems have cooled, turn engine off.
13. Remove adaptors.
14. Reconnect air tube and EGR.
15. Perform BG Diesel Performance Oil Change installing one quart/liter BG EPR,® PN 109, and BG DOC,® PN 112, per 10–16 quarts/liters of diesel engine oil.
16. Test drive vehicle and clear any codes set during the service.



Scan this code or visit
<http://bgfor.me/12qviaref>
to access instructions
in other languages
and additional information.

