

9300™

VEHICLE INJECTION APPARATUS

Reference Manual



TM



BG DPF & Emissions System Restoration Service

OVERVIEW

Diesel engines with exhaust gas recirculation (EGR) can quickly accumulate hydrocarbon residues in the air intake system. These deposits build rapidly and can restrict proper airflow through the air intake manifold. Reduced airflow can disrupt proper engine balance and function. This leads to reduced power output, increased exhaust emissions, rough idle and a drop in fuel efficiency. Diesel Oxidation Catalysts (DOC) and Diesel Particulate Filters (DPF) can become coated with heavy soot and engine oil residue, impeding their effectiveness as aftertreatment emissions reduction devices.

The BG DPF & Emissions System Restoration Service uses the BG 9300™, PN 9300P, to heat and install BG 258 DPF & Emissions System Restoration, PN 2581P, into the vehicle's air intake to safely remove and disperse accumulated hydrocarbon deposits. The BG 9300™ triggers the diesel particulate filter (DPF) into regeneration mode to conduct an effective cleaning. This service is designed to clean intake and emissions system components, restoring proper function to reduce harmful emissions, prolong component life and restore power and performance.

The BG DPF & Emissions System Restoration Service must be performed in conjunction with a diagnostic scan tool to closely monitor vehicle RPM and exhaust temperatures during service. Due to this requirement, the technician must remain with the vehicle. Along with the service, a BG Diesel Performance Oil Change is required using BG 109 Premium Engine System Cleaner, PN 109P, BG 112 Diesel Oil Supplement, PN 112P, and BG 244 Premium Diesel Fuel System Cleaner, PN 244P.

Follow all safety requirements required by BG Products before attempting this service.



BG DPF & Emissions System Restoration Service PRODUCTS



BG 258 DPF & Emissions System Restoration
PN 2581P



**BG 109
Premium Engine
System Cleaner**
PN 109P



**BG 112
Diesel Oil
Supplement**
PN 112P



**BG 244
Premium Diesel Fuel
System Cleaner**
PN 244P



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PN 9300P



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Specifications

- Height: .997 Meter/ 39.25 inches
- Width: .737 Meter/ 29 inches
- Depth: .426 Meter/ 16.75 inches
- Fluid Capacity: 15 Liters/ 4 gallons
- Filters: 1 cleanable strainer
- Construction: Steel frame with heavy duty casters
 - PVC plastic skin and console
 - Custom-engineered, stainless steel tank assembly
 - Stainless steel plumbing
 - High pressure, high temperature, chemical-resistant stainless steel hose
 - Dual stainless block heating elements
- Power Requirements: 220V
- Process Rate: 35 minutes per gallon using 3.5 GPH nozzle. Process rate differs depending on nozzle size, condition and model of vehicle
- Process Method: Through vehicle's intake using appropriate nozzle and atomizer size. Service is performed monitoring engine vacuum from gauge, engine RPM and exhaust gas temperatures (EGT) using scanner.

MADE IN U.S.A.

Limited Warranty

This product is warranted by BG Products, Inc., to be free of defects in workmanship and materials for a period of 1 year from the date of purchase by original purchaser. If the product fails within this period, it will be repaired or replaced at seller's option, provided (1) the product is submitted with proof of purchase date and (2) transportation charges are prepaid to the nearest Service Center. Liability under this warranty is expressly limited to repairing or replacing the product or parts thereof. This warranty does not apply to product or parts broken by accident, negligence, overload, abuse or if they have been tampered with or altered in any way. This warranty does not apply to service hoses and adaptors which may need replacing due to normal wear. If this warranty does not apply, then the purchaser shall pay all costs for labor, material and transportation. Note: Only a properly trained and certified technician may operate this apparatus. The use of this apparatus for any purpose other than the services described will render this warranty null and void, as will the use of any chemicals other than the BG products described in this manual. No other warranties are expressed or implied.



Safety Requirements



Wear safety goggles to protect your eyes.



Wear Nitrile,[®] Neoprene[®] or PVC gloves to protect your hands.



Wear a long-sleeved shirt to protect your arms.

The following instructions must be read and understood before attempting to set up or use the BG 9300™.

1. Only a properly trained and certified technician may operate this apparatus.
2. Carefully read the BG 9300™ Reference Manual before assembling and using any part of the system.
3. Before handling any BG product, read its Safety Data Sheet.
4. A combination of mechanical and local ventilation should be used to prevent operator exposure to noxious fumes.
5. Keep all hoses and tools away from moving engine parts.
6. Check all lines and fittings for cracks and leaks before and after service.
7. The BG 9300™ is designed to be used only with BG products described in this manual. The use of any other chemicals or fluids with this system will void all warranties and could create hazardous conditions.
8. Do not spray solvents on flow indicator; clean using mild detergents only.
9. Fluids being processed can approach 60°C (140°F) and 90 PSI (6.21 Bar).
10. Use extreme caution in handling hot hoses and adaptors.
11. Use extreme caution opening vent and when installing and removing adaptors.
12. Always bleed off pressure before and after each service or refill procedure.

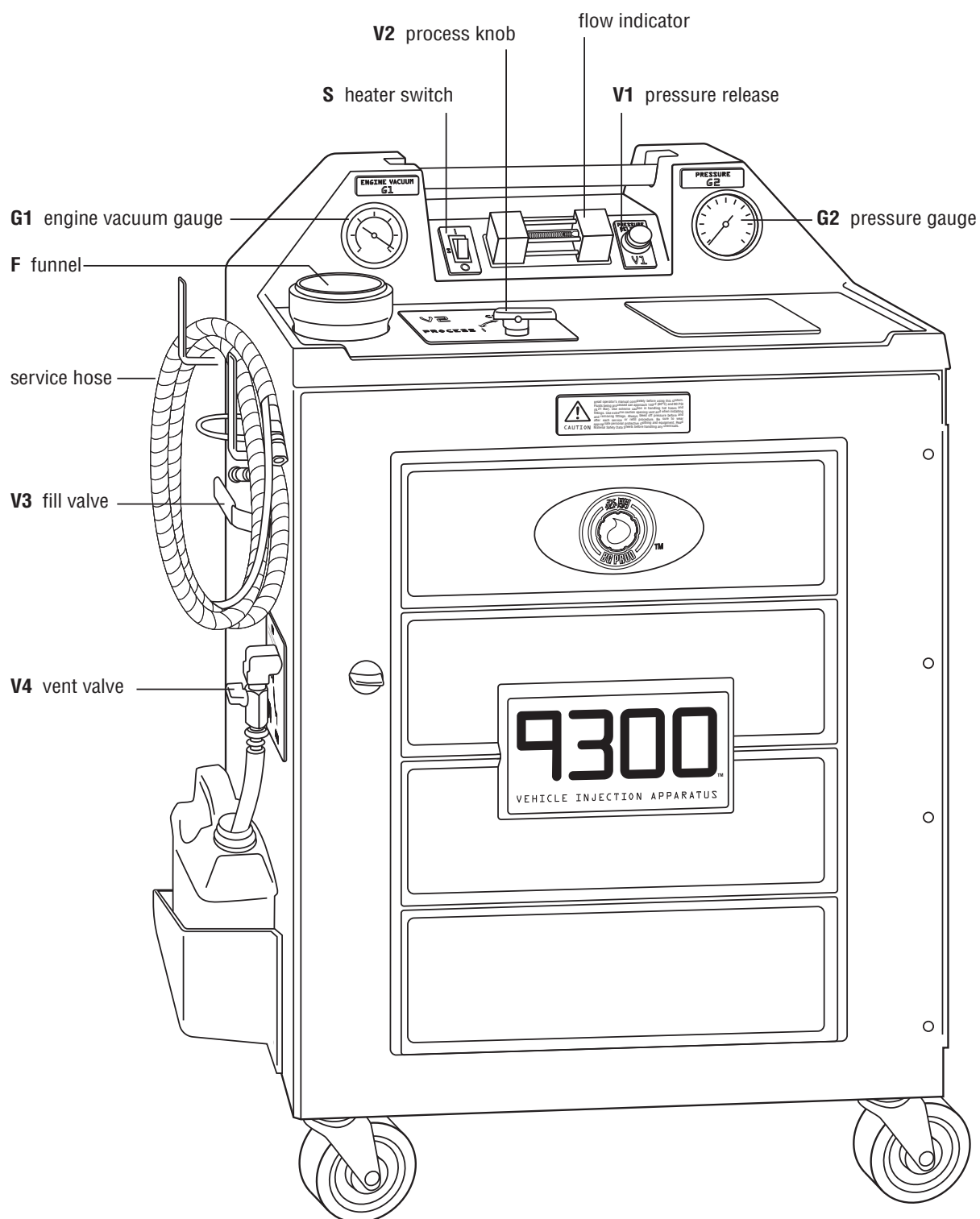


CAUTION! MAY CAUSE ENGINE DAMAGE OR FIRE IF LEFT UNATTENDED!



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VEHICLE INJECTION APPARATUS



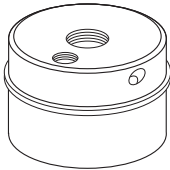


Preparing for Service

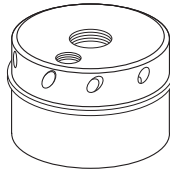
1. Add 325 mL (11 oz.) BG 244 Premium Diesel Fuel System Cleaner, PN 244P, to the fuel tank.
2. Hook up a recommended OEM or similar diagnostic scanner to the ALDL connector in the vehicle.
3. Start the engine. Verify the scanner is communicating.
4. Run engine to reach normal operating temperature (82°C/180°F).
5. Attach appropriate spray nozzle to injector housing:
 - For 1.0L to 1.9L engine, use 1.50 GPH spray nozzle and 4 hole injector housing
 - For 2.0L to 2.9L engine, use 2.50 GPH spray nozzle and 5 hole injector housing
 - For 3.0L to 3.9L engine, use 2.50 GPH spray nozzle and 6 hole injector housing
 - For 4.0L to 7.0L engine, use 3.50 GPH spray nozzle and 12 hole injector housing
6. Attach BG 9300™ service hose to injector housing.
7. Turn V3 Fill Valve to “Fill” (I) and V4 Vent Valve to “ Open” (I).
8. Fill the BG 9300™ with 3.7 L (1 gallon) of BG 258 DPF & Emissions System Restoration, PN 2581P.
9. Turn V3 Fill Valve to “Close” (O) and V4 Vent Valve to “Close” (O).
10. Apply shop air to the BG 9300™ coupler. G2 Pressure Gauge should read 90 psi.
11. Plug in to power source.
12. Turn vehicle engine off.



BG 9300™ Adaptor Set For Light Duty Diesel Passenger Vehicles PN 9300-200



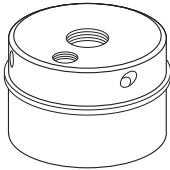
9300-203
Injector housing,
3 hole



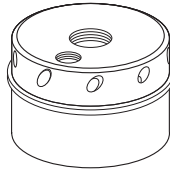
9300-208
Injector housing,
8 hole



9300-055
1/8" MNPT, 45°
push-to-connect,
1/4" hose (10ea)



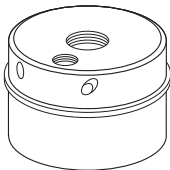
9300-204
Injector housing,
4 hole



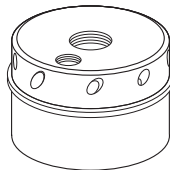
9300-209
Injector housing,
9 hole



9255-052
1.50 GPH spray
nozzle



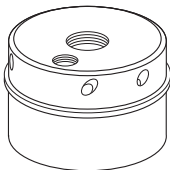
9300-205
Injector housing,
5 hole



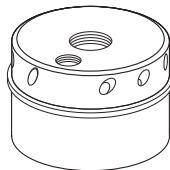
9300-210
Injector housing,
10 hole



9255-051-2
2.50 GPH spray
nozzle



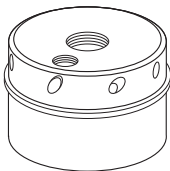
9300-206
Injector housing,
6 hole



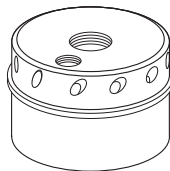
9300-211
Injector housing,
11 hole



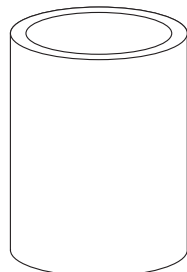
9300-072
3.50 GPH spray
nozzle



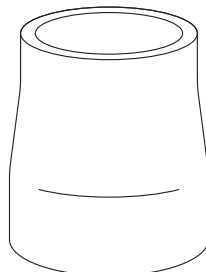
9300-207
Injector housing,
7 hole



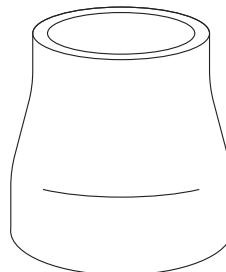
9300-212
Injector housing,
12 hole



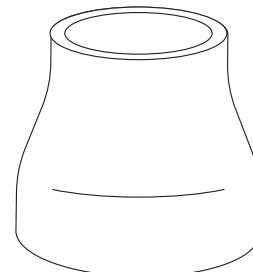
9300-213
2" adaptor hose
for 9300-200



9300-214
2.25" adaptor hose
for 9300-200



9300-215
2.5" adaptor hose
for 9300-200

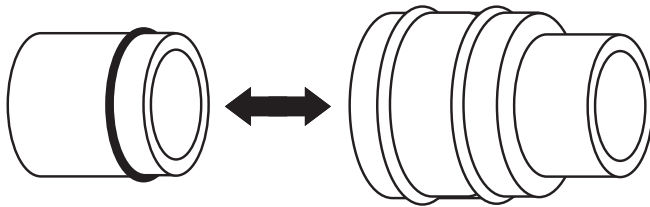


9300-216
2.75" adaptor hose
for 9300-200

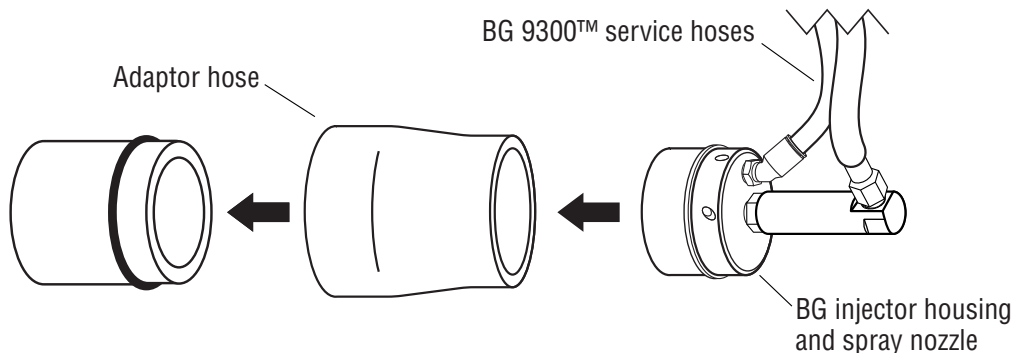


BG DPF & Emissions System Restoration Service PROCEDURE

1. Separate the air tube located at the engine air intake manifold.
2. Install BG adaptor hose on the air intake, make sure there is a solid seal, then install BG Injector housing into the BG adaptor hose.



Separate the air tube



Install BG adaptor hose and injector housing with spray nozzle

3. Start engine, run at idle and confirm:
 - a. Engine is at operational temperature (82°C/180°F).
 - b. G1 Engine Vacuum Gauge should reflect 1" Hg/100 RPM. Note: 10" Hg at 1,000 RPM is the minimum. If Hg needs to increase, replace the current injector housing with the next injector housing with fewer holes (e.g. replace 5 hole injector housing with 4 hole injector housing). Repeat this process until minimum 10" Hg is reached.
 - c. Scanner data stream is communicating and monitoring each system.

continued on next page



Procedure *continued from previous page*

- 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. EGR is set to 0%. Disconnect the EGR.
4. Accelerate engine to 1,200 RPM, check G1 Engine Vacuum Gauge reading and allow the EGT sensor (pre-DPF) to reach 315–480°C/600–900°F and stabilize.
 5. Turn (S) Heater Switch on (I) and wait 5 minutes for BG 9300TM 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 315–480°C/600–900°F.

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 650°C/1,200°F or rapid increase in temperature is observed, turn V2 knob to “Close” (O), remove throttle depressor and allow engine to idle.
 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. Complete BG Diesel Performance Oil Change with BG 109, PN 109P, and BG 112, PN 112P.
 16. Test drive vehicle and clear any codes set during the service.



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Inspection and Maintenance

Before each use, inspect the general condition of the BG 9300.™ Check for loose screws, misaligned or binding part of moving parts, cracked or broken parts, and any other condition that may affect the safe operation of the BG 9300.™ If any of these conditions exist, have the problems corrected before further use. Do not use damaged equipment.



CAUTION! All maintenance, service or repairs not mentioned in this manual must only be performed by a qualified service technician.





Scan this code or visit
<http://bgfor.me/9300ref>
to access instructions
in other languages and
additional information. This
code can also be found on
the serial plate on the back
of the BG 9300™



BG Products, Inc.