

FLA COE
FLB COE
> FLD Conventional
Business Class

FLC 112 Conventional
> Century Class Conventional
Argosy COE
Cargo

> Columbia
Condor
Coronado
Business Class M2

**Freightliner
Service Bulletin**

General Information

Reports of exhaust odors in and around the cab on Century Class, Columbia, and FLD Conventionals have been attributed to two primary sources.

These are exhaust leaks at either the exhaust flex tubing (at or beyond the turbocharger) or on the engine itself. If the vehicle is equipped with a 2003 or 2004 Detroit Diesel Series 60 or MBE4000 engine, check the following areas:

- the exhaust manifold;
- the EGR cooler;
- the EGR valve;
- related piping for these components.

The engine-related exhaust leak issues are addressed by several Detroit Diesel publications. See Table 1 below for information on these publications.

Leaks around the exhaust flex tubing were addressed in 1999 with Freightliner Service Bulletin 49-19, "New Supplier for Exhaust Flex Tubing."

An additional issue is engine compartment odors entering the cab during idling or at very low vehicle speeds. This may be due to leaks around the gasket for the HVAC fresh-air duct on the rain tray (all affected vehicles) or around the filter door on the main HVAC intake duct (Century Class and Columbia vehicles).

Procedure

Detroit Diesel Series 60 EGR and MBE4000 EGR Exhaust Leaks

For exhaust leaks on the engine itself, contact Detroit Diesel Corporation at 313-592-5800.

See Table 1 for the applicable Detroit Diesel publication(s).

Detroit Diesel Publications	
Publication Number	Title
04 TS-19	<i>Nuisance Exhaust Odors in the Truck Cab (April 14, 2004)</i>
04 TS-64	<i>MBE4000 EGR Exhaust Manifold Gas Leaks</i>
04M-7	<i>Series 60 EGR Cooler and Exhaust Manifold</i>

Table 1, Detroit Diesel Publications

Exhaust Flex Tubing Checking (all engines)

1. Park the vehicle on a level surface, apply the parking brakes, shut down the engine, and chock the tires.
2. Tilt the hood.
3. Check the exhaust flex tubing for leaks and the clamps for correct tightness.
4. Check the turbo pipe (at the rear of the turbocharger) for cracks, especially at the 20-degree flare. Also check it for tightness. You should not be able to rotate the turbo pipe by hand.
5. Check the torque of the V-clamp that holds the turbo pipe to the turbocharger. If necessary, tighten it to 85 lb-in (940 N-cm).
6. Replace leaking exhaust flex tubing and any clamps as needed. Use only Westfalia brand flex tubing, and clamps of the most current design.

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For complete instructions and the correct part numbers, see Service Bulletin 48-19, "New Supplier for Exhaust Flex Tubing."

Checking/Correcting for Engine Compartment Odors in the Cab of Century Class and Columbia Vehicles

1. If not already done, park the vehicle on a level surface, apply the parking brakes, shut down the engine, and chock the tires.
2. Tilt the hood.
3. Confirm that there are no exhaust piping or engine leaks. See "Detroit Diesel Series 80 EGR and MBE4000 EGR Exhaust Leaks" and "Exhaust Flex Tubing Checking" in this bulletin.
4. Inspect the engine crankcase breather tube for damage or incorrect routing and repair as needed. See Service Bulletin 01-51, "Exhaust Odors from 1998 Detroit Diesel Series 80 Engines" and Detroit Diesel Technical Service Letter 04 TS-19.

5. Check the foam seal around the HVAC fresh-air inlet on the rain tray for correct positioning and possible damage. See Fig. 1.

Reposition the seal if necessary to ensure complete sealing. If the seal is damaged, replace it as follows; otherwise, go to the next step.

- 5.1 Remove the passenger-side windshield wiper arm.
- 5.2 Starting from the outboard side, remove and save about four of the fasteners that hold the rain tray to the passenger side of the front wall. Remove enough fasteners so you can pry up the rain tray from the HVAC fresh-air intake duct.
- 5.3 Remove the old foam rubber seal from the top of the fresh-air intake duct.
Use a scraper to remove all the adhesive and old seal material from the intake duct.
- 5.4 Clean the inside of the intake duct to remove any residue that may cause future odors.
- 5.5 Install a new foam rubber seal on the top of the intake duct. The seal has pressure-sensitive adhesive on the mating surface.
- 5.6 Put the rain tray in place over the intake duct. Make sure it fits snugly. The new foam rubber seal should be positioned correctly above and below the surface of the rain tray.
- 5.7 Install and firmly tighten the fasteners that hold the rain tray to the front wall.
- 5.8 Install the passenger-side windshield wiper arm.
6. Locate the HVAC fresh-air filter door on the passenger side of the vehicle. See Fig. 2. On vehicles built before June 24, 2002, the filter door is attached with screws instead of a retaining clip and has a foam rubber gasket attached to it.

Remove the filter and replace it with a new one.

Check that the filter door seals completely. Check for dirt tracks that indicate a leak. Clean the inside surfaces of the filter compartment. Replace the door and the wire retaining clip (or screws) as needed.

7. Check the rubber vacuator valve at the bottom of the air inlet duct to make sure it is present, undamaged, and not held open by debris. See Fig. 2. Clean or replace the vacuator valve, as needed.
8. Close the hood. Remove the chocks from the tires.

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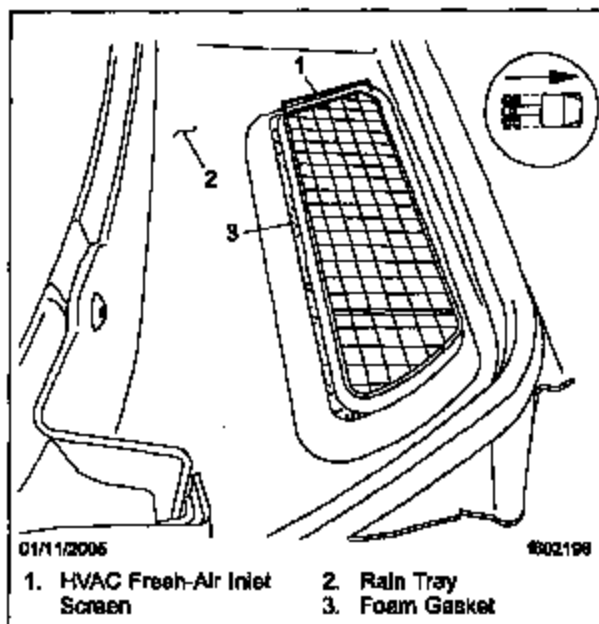


Fig. 1, HVAC Fresh-Air Intake (Century Class and Columbia)

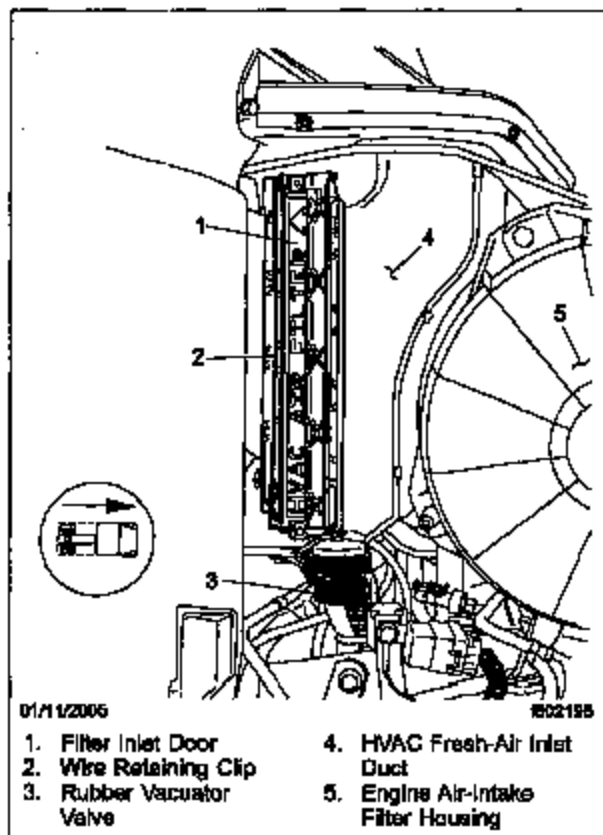


Fig. 2, Filter Inlet Door and Vacuum Valve (current Century Class and Columbia)

Checking/Correcting for Engine Compartment Odors in the Cab of FLD Conventionals

1. If not already done, park the vehicle on a level surface, apply the parking brakes, shut down the engine, and chock the tires.
2. Tilt the hood.
3. Confirm that there are no exhaust piping or engine leaks. See "Detroit Diesel Series 60 EGR and MBE4000 EGR Exhaust Leaks" and "Exhaust Flex Tubing Checking" in this bulletin.
4. Inspect the engine crankcase breather tube for damage or incorrect routing and repair as needed. See Service Bulletin 01-51, "Exhaust Odors from 1998 Detroit Diesel Series 60 Engines" and Detroit Technical Service Letter 04 TS-19.
5. Check the fresh-air intake gasket between the top of the HVAC fresh-air intake duct and the cowl. See Fig. 3. If the gasket is leaking or damaged, replace it, following the procedure below; otherwise, close the hood and remove the chocks from the tires. Nothing more needs to be done.
6. For vehicles with a center-mounted engine air intake, remove the HVAC fresh-air intake duct from the front wall by removing the fasteners holding the duct to the front wall.

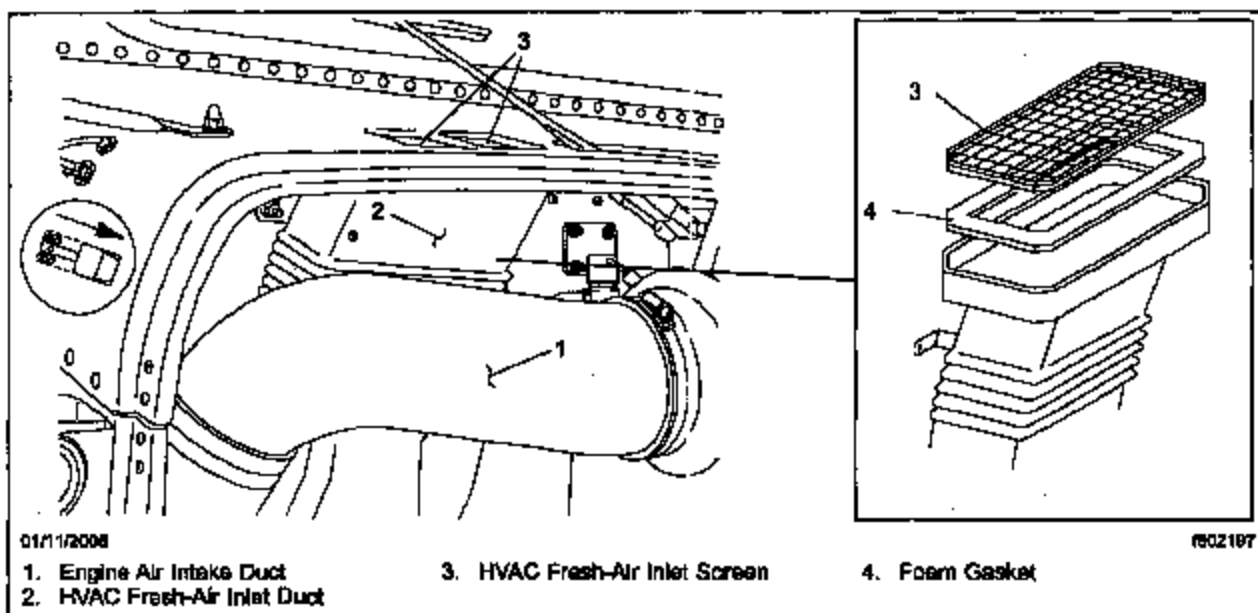
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Fig. 3, HVAC Fresh-Air Intake (FLD Conventional with center-mounted engine air intake)

For vehicles with dual cowl-mounted air cleaners, remove the passenger-side air cleaner canister and the necessary sections of the engine air intake tubing in order to gain access to the fasteners for the HVAC fresh-air intake duct.

- 6.1 Disconnect the wiring for the canister mounting-bracket lights (if so equipped).
- 6.2 Remove the lower external mirror brace.
- 6.3 Disconnect the short silicone hose from the canister tube and the engine air intake tubing in the engine compartment.
- 6.4 Remove the fasteners that hold the canister mounting bracket to the cowl, then remove the canister and its mounting bracket as a unit from the vehicle.
- 6.5 Remove the engine intake tubing necessary to access the fasteners for HVAC fresh-air intake duct.
- 6.6 Remove the fasteners that hold the HVAC fresh-air intake duct to the frontwall, then remove the duct.
7. With the HVAC fresh-air intake duct removed, clean the inside surfaces of it to remove any deposits that may cause future odors.
8. Remove the old silicone sealant from the opening at the cab-mounting flange of the fresh-air intake duct and from the square opening on the frontwall.
9. Check the rubber vacuator valve at the bottom of the fresh-air inlet duct to make sure it is present, undamaged, and not held open by debris. Clean or replace the vacuator valve, as needed.
10. Clean the inlet screen, then install a new foam rubber gasket on it.
11. Apply a bead of new silicone sealant around the cab-mounting flange of the fresh-air intake duct.

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12. Put the inlet screen and gasket in place on the underside of the cowl opening with the gasket facing down, then install the intake duct on the frontwall. Make sure the top of the duct fits snugly up against the gasket and the bottom opening is firmly against the frontwall opening. Tighten the fasteners firmly.
13. *For vehicles with a center-mounted engine air intake, go to the next step.*
For vehicles with dual cowl-mounted air cleaners, install the passenger-side air cleaner and engine air intake tubing:
 - 13.1 If applicable, insert the wiring for the mounting-bracket lights through the hole in the cowl, while an assistant supports the canister and mounting bracket assembly.
 - 13.2 Install the canister and mounting bracket assembly on the cowl. Tighten the fasteners firmly.
 - 13.3 If applicable, connect the wiring for the mounting-bracket lights.
 - 13.4 Install the short silicone hose on the canister tube.
 - 13.5 Install the previously removed sections of engine air intake tubing.
 - 13.6 Check all the clamps on the engine air intake tubing for tightness.
14. Lower the hood.
15. Remove the chocks from the tires.

Parts

Parts are available from the PDCs. See Service Bulletin 49-19 for exhaust flex tubing and clamp part numbers. See Table 2 for HVAC fresh-air inlet gasket, vacuator valve, and filter door part numbers.

Repair kits for the early Series 60 EGR engines and the MBE4000 EGR engines are available from Detroit Diesel. Refer to Detroit Diesel Technical Service Letter 04 TS-64 for exhaust manifold gasket replacement on MBE4000 EGR engines.

Parts Required		
Part Number	Description (Vehicle)	Qty.
BOA 91561	Cover, Filter (Century Class/Columbia, Blend Air System)	1
BOA 91559	Filter, Ext. Air Inlet, HVAC (Century Class/Columbia, Blend Air System)	1
BOA 94438	Spring, Retainer (Century Class/Columbia, Blend Air System)	1
BOA H0663	Seal, Rain Tray/HVAC Air Intake (Century Class/Columbia, Blend Air System)	1
BOA 94537	Vacuator Valve (Century Class/Columbia, all)	1
BOA H1702	Seal, Rain Tray/HVAC Air Intake (Century Class/Columbia, built before 6/24/02)	1
APB N83 325400	Cover, Filter (Century Class/Columbia, built before 6/24/02)	1
22-44665-000	Filter, Ext. Air Inlet, HVAC (Century Class/Columbia, built before 6/24/02)	1
22-29913-000	Gasket, HVAC Fresh-Air Inlet Duct (FLD Conventional)	1
DN P149098	Vacuator Valve (FLD Conventional)	1
48-00094-501	Silicone, Clear	As Needed

Table 2, Parts Required

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Warranty

Normal warranty applies on exhaust flex tubing leaks, leaking or damaged fresh-air inlet gaskets, and filter door leaks. Use the damage code and time guide information in Table 3.

NOTE: Replacement of HVAC filters is not covered by warranty.

Refer to this bulletin by number in the story of the claim and enter the following failed part numbers as applicable:

- BOA 91561
- BOA 94438
- BOA H0663
- BOA 94537
- ABP N63 325400
- 22-29913-000
- DN P149099

NOTE: For failed part numbers on exhaust flex tubing and clamps, refer to Service Bulletin 49-19. Detroit Diesel will repair all qualifying Series 60 EGR and MBE4000 EGR engines under warranty.

Damage Code and Time Guide Information			
Damage Code	Operation Number	Description	Time: hours
701-000551609	701-5001A	Foam Gasket, HVAC Air Intake, R/R (dual cowl-mounted air cleaners)	1.6
	701-5001C	Foam Gasket, HVAC Air Intake, R/R (FLD, center-mounted air intake)	0.5
	701-5001A	Foam Seal, HVAC Air Intake, R/R (Century Class/Columbia)	0.5
	701-5001B	Filter Cover, HVAC Intake, R/R (Century Class/Columbia)	0.1
234-000803609	236-5001A	Flex Pipe, Exhaust, R/R (Century Class/Columbia)	1.2
	236-5001A	Flex Pipe, Exhaust, R/R (FLD Conventional)	0.5

Table 3, Damage Code and Time Guide Information