

Engine Emission Control

NOTICE: Do not permanently remove or render inoperative any part of the vehicle emission control system including related hardware. Failure to comply may violate applicable state and federal laws.

The engine emission control consists of the:

- EGR system (4.0L SOHC and 5.4L 4V).
- PCV system.

EGR System

The EGR system returns a small amount of exhaust gas into the intake manifold. This reduces the overall combustion temperature. Cooler combustion temperatures provide a significant reduction of the Nitrogen Oxides (NOX) in the exhaust emissions.

EGR System Module Tube

The EGR system module tube:

- connects the exhaust manifold to the EGR system module and provides a path to deliver exhaust vapors to the EGR system module.

The EGR vacuum regulator solenoid uses input from the PCM to achieve the calibrated level of EGR flow for various engine operating conditions.

The PCM controls the EGR system module opening via the vacuum regulator solenoid. When the EGR system module opens, exhaust gas flows to the intake manifold. The EGR system module transducer measures the delta pressure across the orifice located in the EGR system module gasket. This delta pressure signal is sent to the PCM providing an indication of the EGR mass flow that was delivered.

The amount of recirculated exhaust gas depends on:

- engine rpm.
- intake manifold vacuum.
- exhaust backpressure.
- engine coolant temperature.
- throttle position.

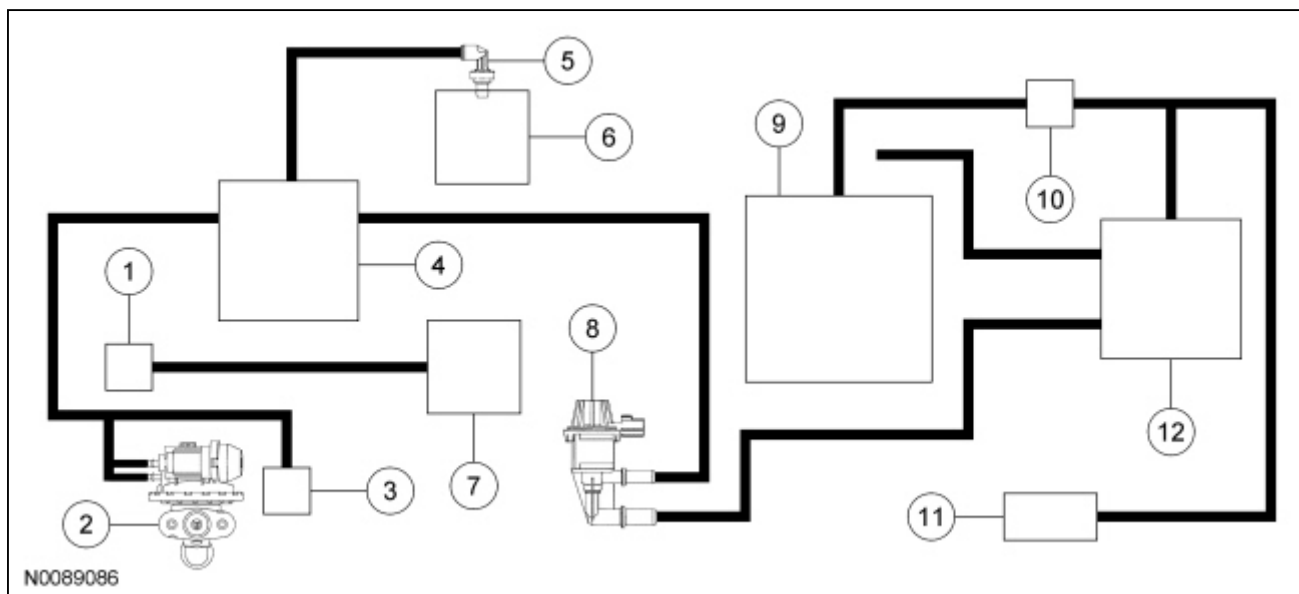
PCV System

The PCV system uses intake manifold vacuum to ventilate blow-by vapors from the crankcase and return the vapors to the intake manifold for combustion. The PCV valve varies the amount of blow-by vapors returned to the intake manifold based on available engine vacuum.

The PCV valve on the 4.6L (3V) engine is integral to the LH valve cover. If a new PCV valve is required, a new valve cover must be installed. Refer to [Section 303-01B](#).

Vehicle Emission Vacuum Routing

4.0L SOHC



Item	Part Number	Description
1	9B659	Air Cleaner (ACL) outlet pipe
2	9Y456	EGR system module
3	9G756	Fuel rail pressure and temperature sensor
4	9424	Intake manifold
5	6A666	PCV valve
6	6582	RH valve cover
7	6A505	LH valve cover
8	9G683	Evaporative Emission (EVAP) canister purge valve
9	9002	Fuel tank
10	—	Fuel Tank Pressure (FTP) sensor (part of 9E325)
11	9034	Fuel tank filler pipe
12	9E857	EVAP canister

4.6L (3V)

4	6F066	Supercharger (SC)
5	9E822	Throttle Body (TB) spacer assembly
6	6A666	PCV valve
7	6582	RH valve cover
8	9424	Upper intake manifold
9	6A505	LH valve cover
10	6F066	<u>SC</u> bypass vacuum actuator
11	9G683	Evaporative Emission (EVAP) canister purge valve
12	9002	Fuel tank
13	—	Fuel Tank Pressure (FTP) sensor (part of 9E325)
14	9034	Fuel tank filler pipe
15	9E857	<u>EVAP</u> canister
