

2008 Ford Mustang

2008 ENGINE PERFORMANCE Engine Emission Control - Mustang

2008 ENGINE PERFORMANCE

Engine Emission Control - Mustang

SPECIFICATIONS

TORQUE SPECIFICATIONS

Description	Nm	lb-ft
EGR system module bolts	25	18
EGR system module tube-to-EGR system module fitting (4.0L SOHC)	39	29
EGR system module tube-to-EGR system module fitting (5.4L 4V)	42	31
EGR system module tube-to-exhaust manifold fitting (4.0L SOHC)	39	29
EGR system module tube-to-exhaust manifold fitting (5.4L 4V)	42	31

DESCRIPTION AND OPERATION

ENGINE EMISSION CONTROL

NOTE: 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.

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 oxides of nitrogen (NOx) in the exhaust emissions.

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:

2008 Ford Mustang

2008 ENGINE PERFORMANCE Engine Emission Control - Mustang

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

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 also prevents the entry of combustion backfiring into the crankcase.

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 **ENGINE - 4.6L (3V)** article.

Vehicle Emission Vacuum Routing

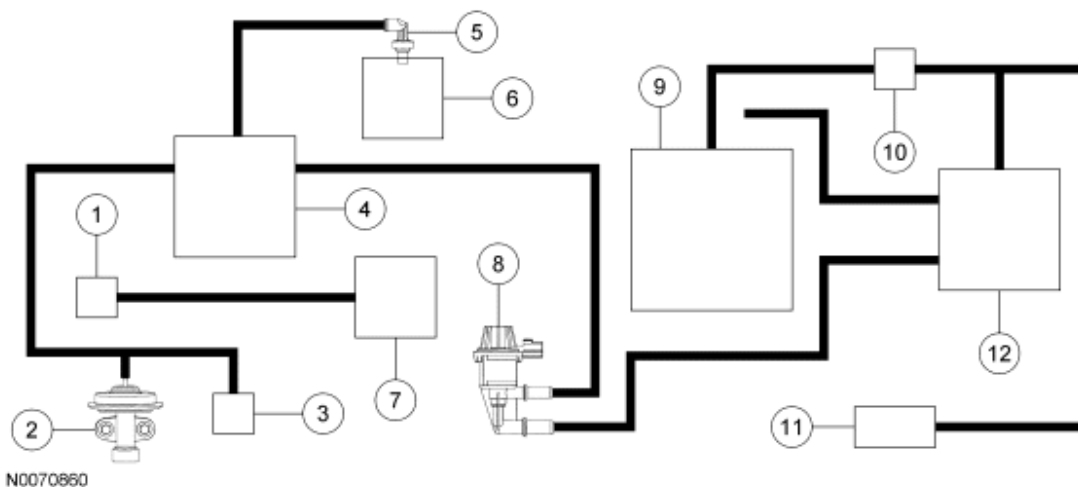


Fig. 1: View Of Vehicle Emission Vacuum Routing - 4.0L SOHC
Courtesy of FORD MOTOR CO.

Item	Part Number	Description
1	9B659	Air cleaner 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

2008 Ford Mustang

2008 ENGINE PERFORMANCE Engine Emission Control - Mustang

10	-	Fuel tank pressure (FTP) sensor (part of 9E325)
11	9034	Fuel tank filler pipe
12	9E857	EVAP canister

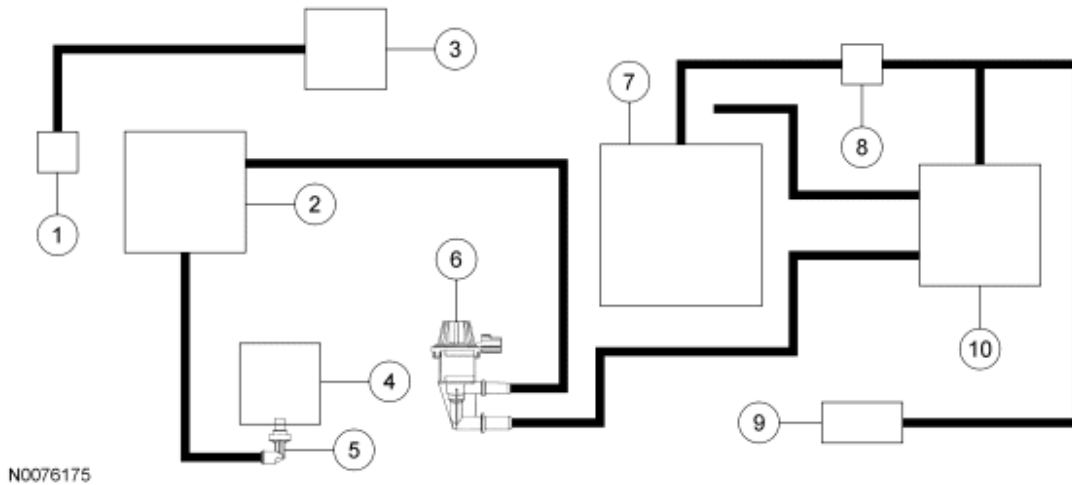


Fig. 2: View Of Vehicle Emission Vacuum Routing - 4.6L (3V)
 Courtesy of FORD MOTOR CO.

Item	Part Number	Description
1	9B659	Air cleaner outlet pipe
2	9425	Intake manifold
3	6582	RH valve cover
4	6A505	LH valve cover
5	-	PCV valve (part of LH valve cover)
6	9G683	Evaporative emission (EVAP) canister purge valve
7	9002	Fuel tank
8	-	Fuel tank pressure (FTP) sensor (part of 9E325)
9	9034	Fuel tank filler pipe
10	9E857	EVAP canister

2008 Ford Mustang

2008 ENGINE PERFORMANCE Engine Emission Control - Mustang

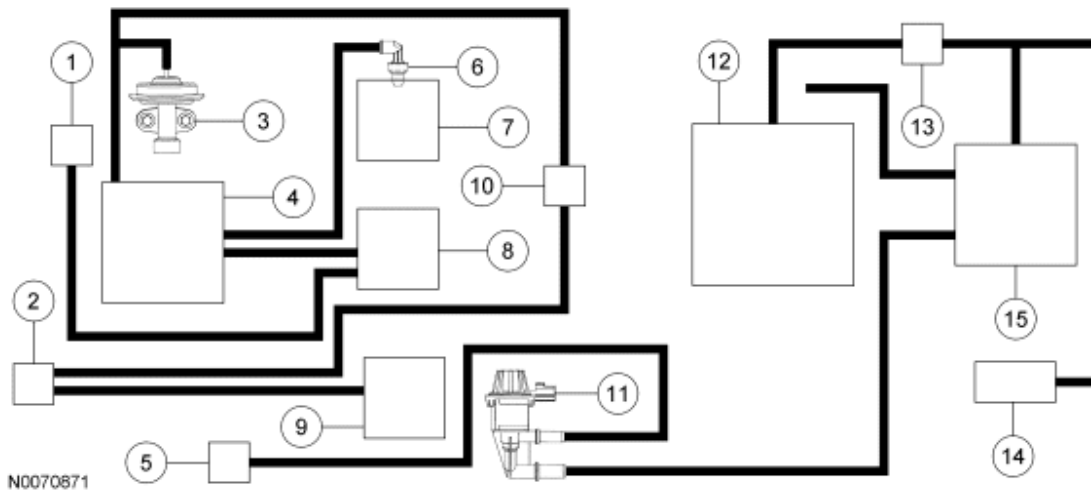


Fig. 3: View Of Vehicle Emission Vacuum Routing - 5.4L (4V)
Courtesy of FORD MOTOR CO.

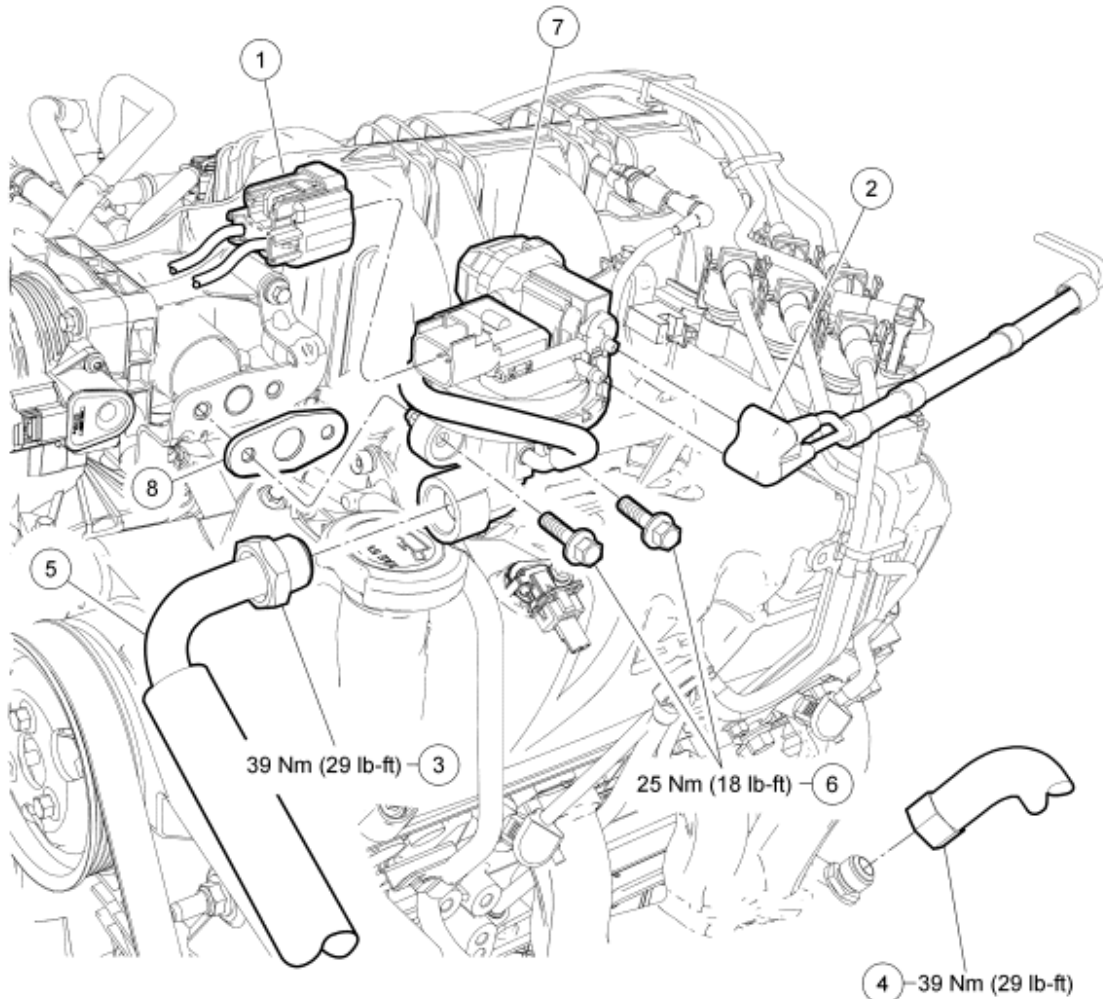
Item	Part Number	Description
1	9G756	Fuel rail pressure and temperature sensor
2	9R504	Air cleaner outlet pipe
3	9Y456	EGR system module
4	6F066	Supercharger (SC)
5	9E822	Throttle body (TB) spacer assembly
6	6A666	PCV valve
7	6582	RH valve cover
8	9424	Upper intake manifold
9	6A505	LH valve cover
10	6F066	SC 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	EVAP canister

DIAGNOSTIC TESTS

ENGINE EMISSION CONTROL

Refer to the [Introduction - Gasoline Engines](#) article.

REMOVAL AND INSTALLATION

EXHAUST GAS RECIRCULATION (EGR) SYSTEM COMPONENTS - EXPLODED VIEW

N0070831

Fig. 4: Exploded View Of Exhaust Gas Recirculation (EGR) System Components With Torque Specifications - 4.0L SOHC Engine
Courtesy of FORD MOTOR CO.

Item	Part Number	Description
1	14A464	EGR system module electrical connector
2	9E498	Engine vacuum harness-to-EGR system module connector
3	-	EGR system module tube-to-EGR system module fitting (part of 9E469)
4	-	EGR system module tube-to-exhaust manifold fitting (part of 9E469)

2008 Ford Mustang

2008 ENGINE PERFORMANCE Engine Emission Control - Mustang

5	9E469	EGR system module tube
6	W500224	EGR system module bolts (2 required)
7	9Y456	EGR system module
8	9D476	EGR system module gasket

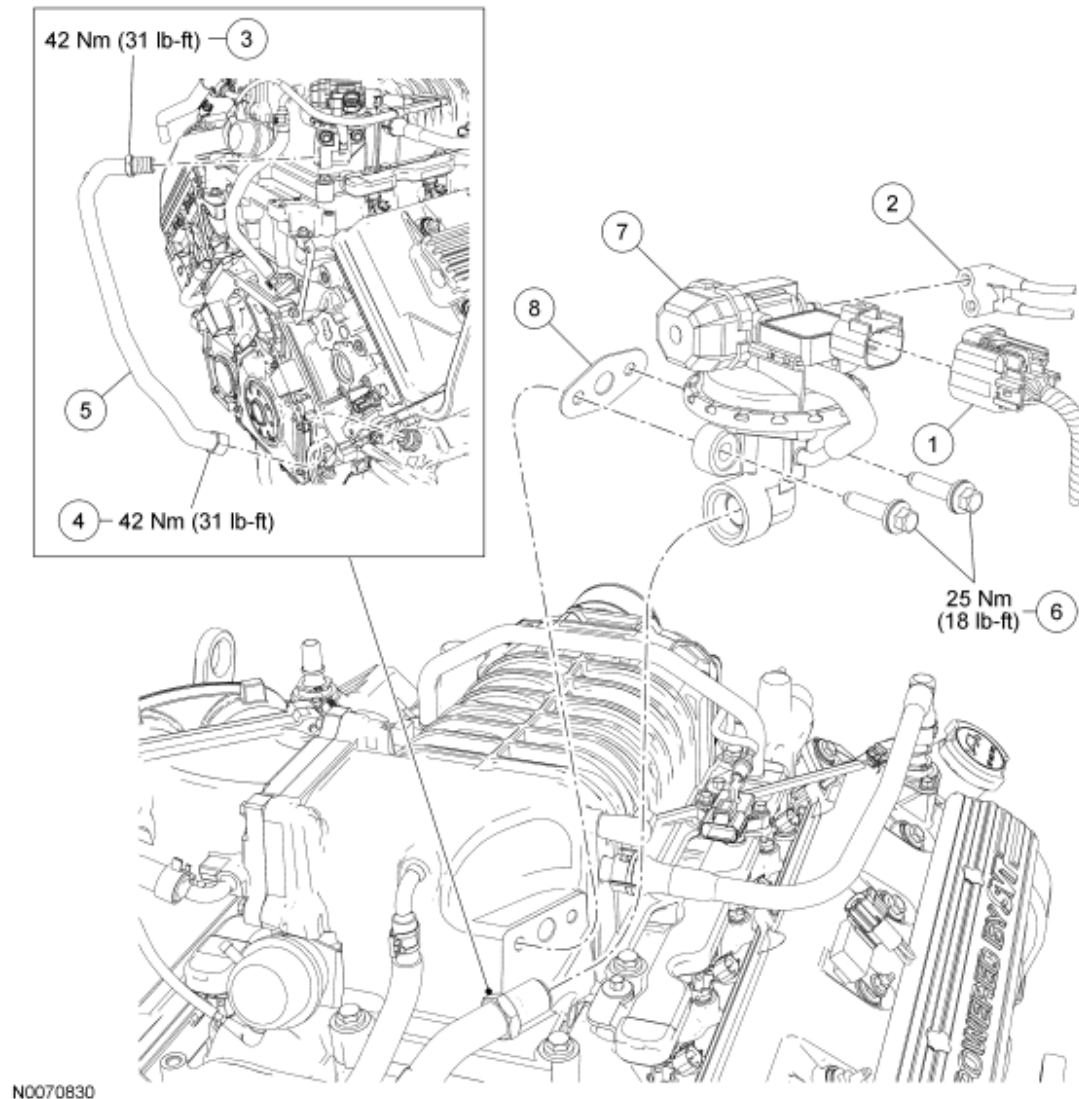


Fig. 5: Exploded View Of Exhaust Gas Recirculation (EGR) System Components With Torque Specifications - 5.4L 4V Engine
Courtesy of FORD MOTOR CO.

Item	Part Number	Description
1	14A464	EGR system module electrical connector
2	9E498	Engine vacuum harness-to-EGR system module connector
3	-	EGR system module tube-to-EGR system module

2008 Ford Mustang

2008 ENGINE PERFORMANCE Engine Emission Control - Mustang

		fitting (part of 9D477)
4	-	EGR system module tube-to-exhaust manifold fitting (part of 9D477)
5	9D477	EGR system module tube
6	W500224	EGR system module bolts (2 required)
7	9Y456	EGR system module
8	9D476	EGR system module gasket

1. For additional information, refer to the procedures.

EXHAUST GAS RECIRCULATION (EGR) SYSTEM MODULE

REMOVAL AND INSTALLATION

1. Disconnect the EGR system module electrical connector.
2. Disconnect the engine harness vacuum-to-EGR system module connector.
3. Disconnect the EGR system module tube-to-EGR system module fitting.
 - To install, tighten to 39 Nm (29 lb-ft) (4.0L SOHC).
 - To install, tighten to 42 Nm (31 lb-ft) (5.4L 4V).

NOTE: Upon installation, make sure to install the correct EGR system module mounting gasket. Even though varying gaskets may be very similar, orifice sizes may differ thus causing performance issues.

4. Remove the 2 bolts, the EGR system module and the gasket. Discard the gasket.
 - To install, tighten to 25 Nm (18 lb-ft).

CAUTION: Do not use metal scrapers, wire brushes, power abrasive disc or other abrasive means to clean the sealing surfaces. These tools cause scratches and gouges which make leak paths. Use a plastic scraping tool to remove all traces of the old gasket.

NOTE: The EGR system module sealing surfaces are soft metals.

5. Carefully clean the EGR system module sealing surfaces.
6. To install, reverse the removal procedure.
 - Install a new gasket with the raised circle facing away from the EGR system module.

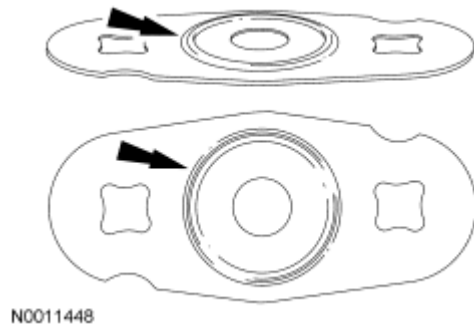


Fig. 6: Identifying EGR System Module Gasket
Courtesy of FORD MOTOR CO.

EXHAUST GAS RECIRCULATION (EGR) SYSTEM MODULE TUBE

REMOVAL AND INSTALLATION

Vehicles with 5.4L 4V engine

1. Remove the battery tray. For additional information, refer to **BATTERY, MOUNTING AND CABLES** article.

All vehicles

2. Disconnect the EGR system module tube-to-EGR system module fitting.
 - To install, tighten to 39 Nm (29 lb-ft) (4.0L SOHC).
 - To install, tighten to 42 Nm (31 lb-ft) (5.4L 4V).
3. Disconnect the EGR system module tube-to-exhaust manifold fitting and remove the tube.
 - To install, tighten to 39 Nm (29 lb-ft) (4.0L SOHC).
 - To install, tighten to 42 Nm (31 lb-ft) (5.4L 4V).
4. To install, reverse the removal procedure.

POSITIVE CRANKCASE VENTILATION (PCV) VALVE

2008 Ford Mustang

2008 ENGINE PERFORMANCE Engine Emission Control - Mustang

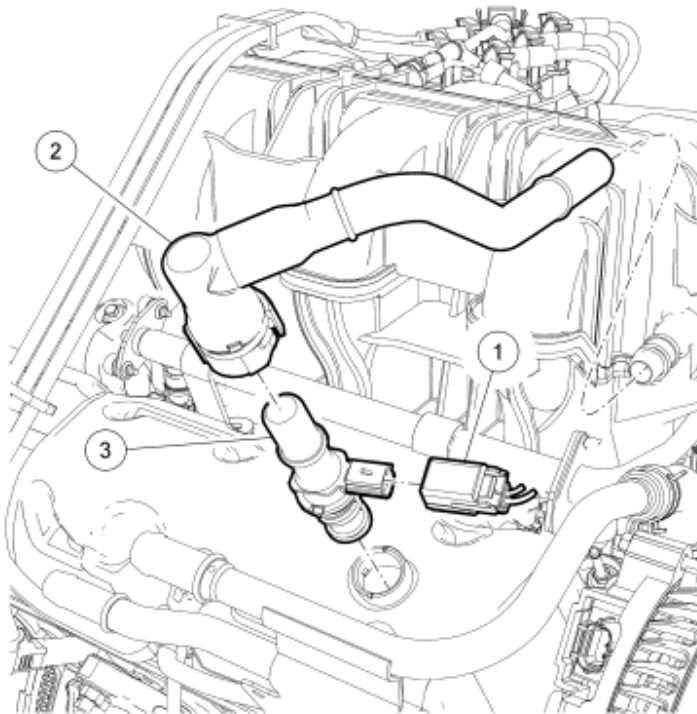
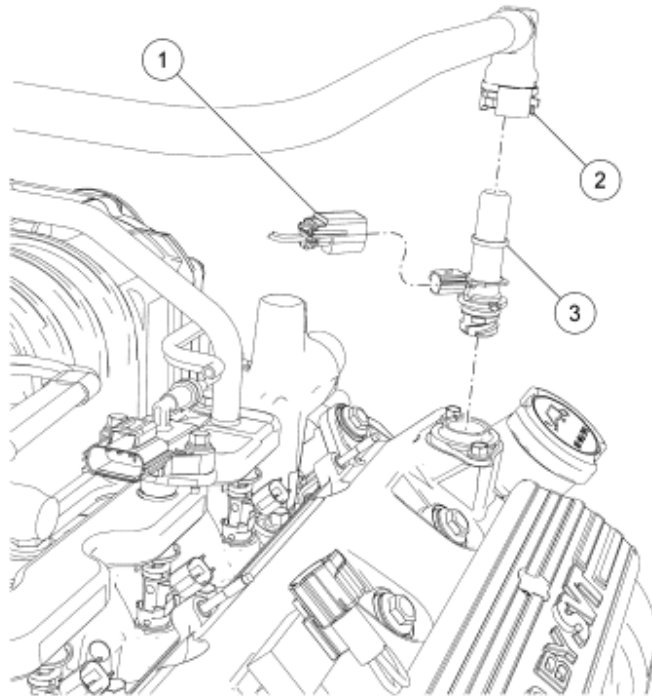


Fig. 7: Exploded View Of Positive Crankcase Ventilation (PCV) Valve - 4.0L SOHC Engine
Courtesy of FORD MOTOR CO.

Item	Part Number	Description
1	14A464	PCV valve electrical connector
2	-	Crankcase ventilation tube-to-PCV valve quick connect coupling (part of 6K817)
3	6A666	PCV valve



N0049384

Fig. 8: Exploded View Of Positive Crankcase Ventilation (PCV) Valve - 5.4L 4V Engine
Courtesy of FORD MOTOR CO.

Item	Part Number	Description
1	14A464	PCV valve electrical connector
2	-	Crankcase ventilation tube-to-PCV valve quick connect coupling (part of 6K817)
3	6A666	PCV valve

REMOVAL AND INSTALLATION

1. Disconnect the PCV valve electrical connector.
2. Disconnect the crankcase ventilation tube-to-PCV valve quick connect coupling. For additional information, refer to **FUEL SYSTEM - GENERAL INFORMATION** article.

CAUTION: A new positive crankcase ventilation (PCV) valve must be installed if removed. Upon removal, the plastic retaining ears of the PCV valve are sheared.

3. Rotate the PCV valve counterclockwise to remove from the valve cover.
 - Discard the PCV valve.
4. To install, reverse the removal procedure.
 - Install a new PCV valve.