

DESCRIPTION AND OPERATION

ENGINE

The 4.0L SOHC engine consists of the following:

- single overhead camshafts
- sequential multiport fuel injection (SFI)
- distributorless ignition system
- aluminum cylinder heads
- cast iron, 60-degree V cylinder block
- balance shaft
- jackshaft
- unique engine timing configuration

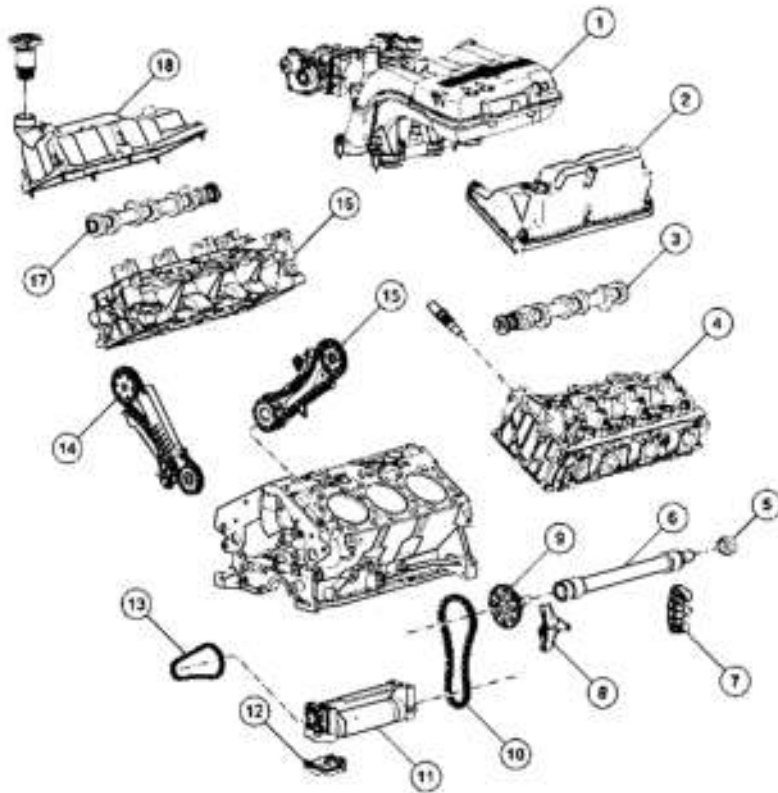
For quick identification, refer to the vehicle control information decal mounted under the hood.

- For additional information, refer to **IDENTIFICATION CODES** .

An engine identification label is attached to the engine. The label:

- Identifies the symbol code for determining parts usage. For additional information, refer to **IDENTIFICATION CODES** .

Upper End-4.0L SOHC Engine

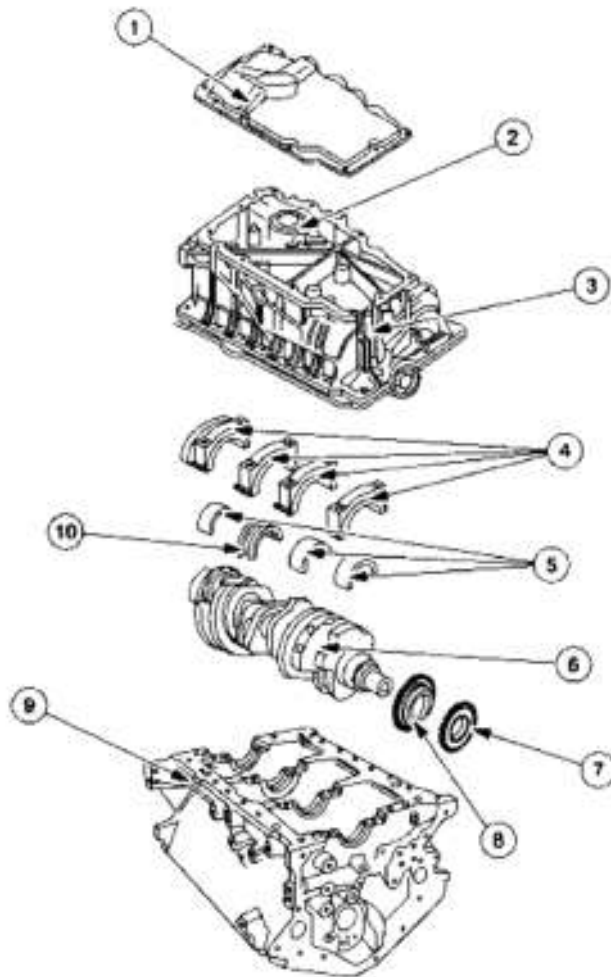


Item	Part Number	Description
1	9424	Intake manifold
2	6A505	Valve cover, LH
3	6A274	Camshaft, LH
4	6050	Cylinder head, LH
5	6M296	Spacer
6	6M262	Jackshaft
7	6M272	Jackshaft chain guide
8	6M271	Jackshaft chain tensioner
9	6M264	Jackshaft sprocket
10	6M270	Jackshaft chain assembly
11	6A311	Balance shaft
12	6K355	Balance shaft chain tensioner
13	6A364	Balance shaft chain
14	6M289	LH cassette
15	6M290	RH cassette
16	6049	Cylinder head, RH
17	6250	Camshaft, RH
18	6582	Valve cover, RH

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Fig. 1: Identifying Upper End-4.0L SOHC Engine Components
 Courtesy of FORD MOTOR CO.

Lower End-4.0L SOHC Engine



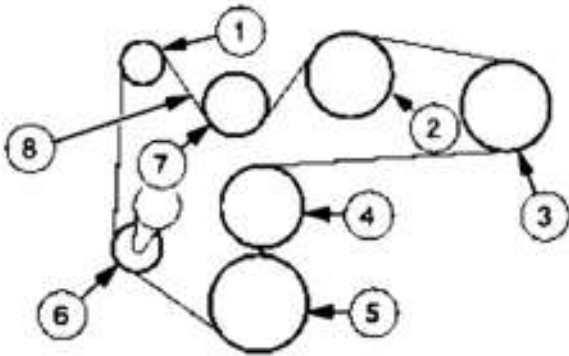
Item	Part Number	Description
1	6675	Oil pan
2	6617	Tube assembly oil pickup
3	6F092	Ladder frame
4	—	Crankshaft main bearing caps
5	6A338	Crankshaft lower main bearings
6	6303	Crankshaft
7	6306	Jackshaft sprocket
8	6K350	Balance shaft sprocket
9	6010	Cylinder block
10	6A339	Crankshaft lower thrust main bearing

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Fig. 2: Identifying Lower End-4.0L SOHC Engine Components
 Courtesy of FORD MOTOR CO.

ACCESSORY DRIVE

Component Locations 4.0L



Item	Part Number	Description
1	10300	Generator pulley
2	3A733	Power steering pump pulley
3	2E884	A/C compressor pulley
4	8509	Coolant pump pulley
5	6B321	Crankshaft damper
6	6B209	Drive belt tensioner pulley
7	6C348	Belt idler pulley
8	8620	Drive belt

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Fig. 3: Identifying Accessory Drive Component Locations 4.0L
 Courtesy of FORD MOTOR CO.

The accessory drive:

- has a single serpentine drive belt (six ribs).
- has an automatic tensioner.
- is not adjustable.

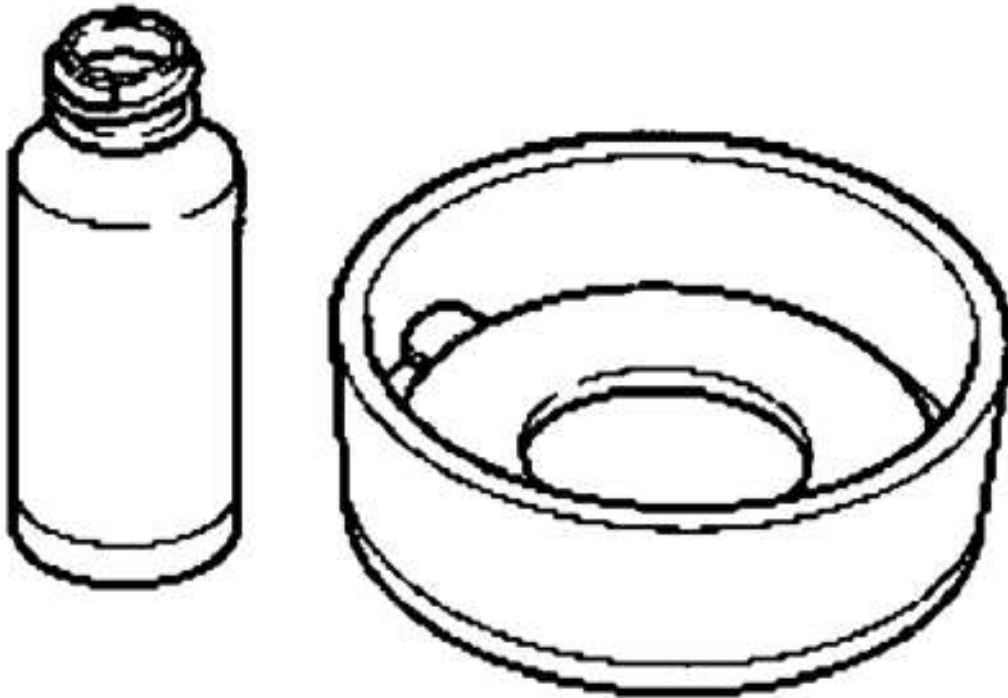
ENGINE EMISSION CONTROL

CAUTION: Do not remove any part of the engine emission control system. Operating the engine without the engine emission control system will reduce fuel economy and engine ventilation. This will weaken engine performance and shorten engine life.

The engine emission control system consists of the:

- positive crankcase ventilation (PCV) system.
- exhaust gas recirculation (EGR) system.

Typical Vehicle Emission Control Information (VECI) Decal



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Fig. 4: Identifying Vehicle Emission Control Information Sheet
Courtesy of FORD MOTOR CO.

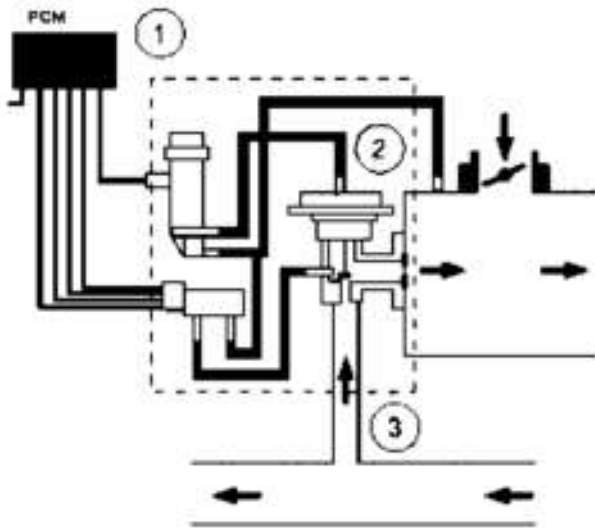
The Vehicle Emission Control Information (VECI) decal shows:

- components of the emission control system.
- the correct vacuum hose routing.
- the color stripe of the vacuum hoses.

For additional information, refer to **IDENTIFICATION CODES** .

The PCV system uses intake manifold vacuum to ventilate the crankcase and return the fumes to the intake manifold for combustion.

EGR System Components



Item	Part Number	Description
1	12A650	Powertrain control module (PCM)
2	9Y456	EGR system module
3	9D477	EGR system module-to-exhaust manifold tube

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Fig. 5: Identifying EGR System Components
 Courtesy of FORD MOTOR CO.

The EGR system returns a portion of the exhaust gas to the intake manifold to reduce the combustion temperature. This results in lower nitrous oxide formation.

The PCM controls the EGR system module. When the EGR system module valve opens, exhaust gas flows to the intake manifold.

The PCV valve:

- controls the amount of ventilating air and blow-by gases going to the intake manifold.
- prevents a backfire from reaching the crankcase.

The EGR system module to exhaust manifold tube:

- connects the exhaust manifold to the EGR valve.

The EGR system module transducer:

- monitors the EGR system module flow rate through the EGR to exhaust manifold tube.

- sends an EGR system module flow rate signal to the PCM.

The EGR vacuum regulator solenoid uses input from the PCM to change the EGR system module operation.