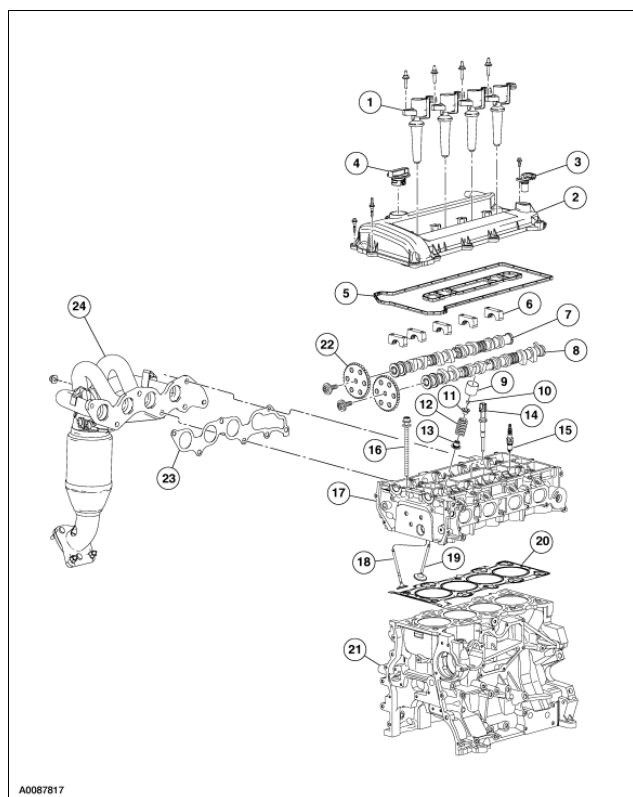


22	6010	Cylinder block
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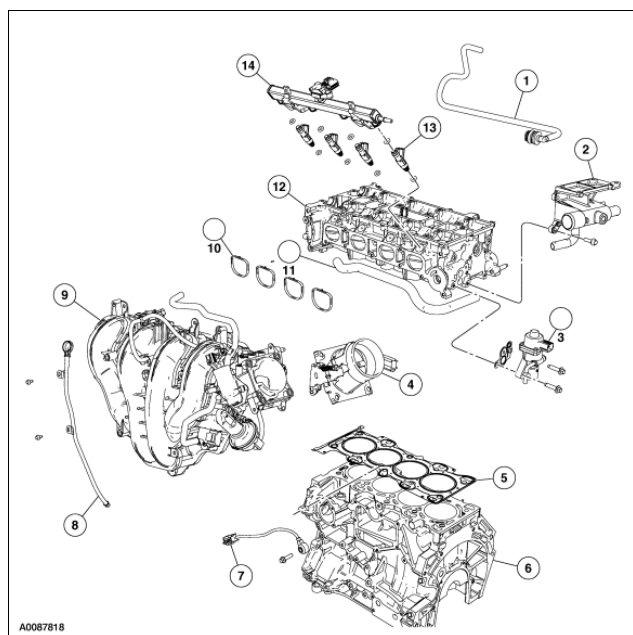
Cylinder Head



Item	Part Number	Description
1	12A366	Coil-on-plug assembly (4 req'd)
2	6M293	Valve cover
3	12K073	Camshaft position (CMP) sensor
4	6766	Oil filler cap
5	6M293	Valve cover gasket
6	6A284	Camshaft bearing caps
7	6A272	Camshaft (exhaust)
8	6A271	Camshaft (intake)
9	6500	Valve tappet (16 req'd)
10	6518	Valve collet (16 req'd)
11	6514	Valve spring retainer (16 req'd)
12	6513	Valve spring (16 req'd)
13	6A517	Valve stem seal (16 req'd)
14	6G004	Cylinder head temperature (CHT) sensor
15	12405	Spark plug (4 req'd)
16	6065	Cylinder head bolt (10 req'd)
17	6049	Cylinder head
18	6505	Exhaust valve (8 req'd)
19	6507	Intake valve (8 req'd)

20	6051	Head gasket
21	6010	Cylinder block
22	6C251	Camshaft sprocket (2 req'd)
23	9448	Catalytic converter gasket
24	5E211	Catalytic converter

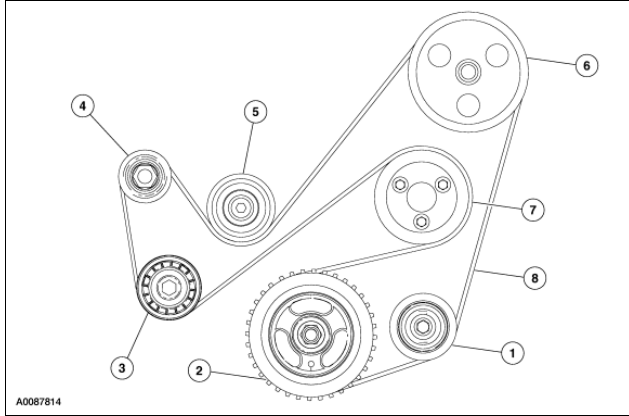
Intake Manifold



Item	Part Number	Description
1	9288	Fuel supply tube
2	8K556	Coolant outlet
3	9D475	Exhaust gas recirculation (EGR) valve
4	9F991	Throttle body
5	6051	Cylinder head gasket
6	6010	Cylinder block
7	12A699	Knock sensor (KS)
8	6754	Oil level indicator and tube assembly
9	9424	Intake manifold
10	9439	Intake manifold gasket
11	8A582	Coolant hose
12	6049	Cylinder head
13	9F593	Fuel injector (4 req'd)
14	9H487	Fuel rail

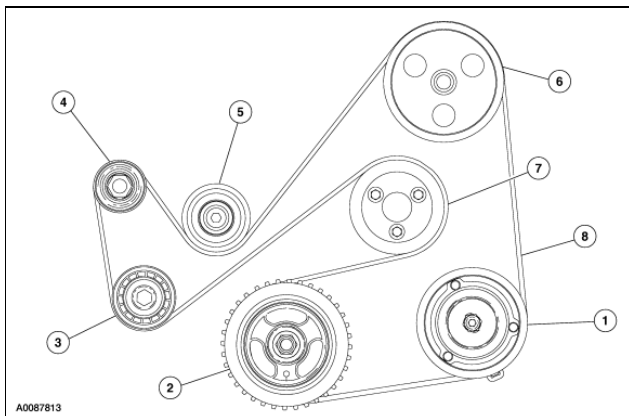
Accessory Drive  [Printable View \(160 KB\)](#)

2.3L without A/C



Item	Part Number	Description
1	6C348	Idler pulley
2	6316	Crankshaft pulley
3	6B209	Belt tensioner
4	10300	Generator pulley
5	6C348	Idler pulley
6	3A733	Power steering pump pulley
7	8509	Coolant pump pulley
8	8620	Accessory drive belt

2.3L with A/C



Item	Part Number	Description
1	19D784	A/C compressor pulley
2	6316	Crankshaft pulley
3	6B209	Belt tensioner

4	10300	Generator pulley
5	6C348	Idler pulley
6	3A733	Power steering pump pulley
7	8509	Coolant pump pulley
8	8620	Accessory drive belt

Belt Tensioner

Automatic tensioners are calibrated to provide the correct amount of tension to the belt for a given accessory drive system. Unless a spring or damping band within the tensioner assembly breaks, or some other mechanical part of the tensioner fails, there is no need to check the tensioner for correct tension.

Engine Emission Control  [Printable View \(10 KB\)](#)

⚠ CAUTION: Do not remove any part of the engine emission control system. Operating the engine without the engine emission control system intact 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.
- secondary air injection (AIR) system

Positive Crankcase Ventilation (PCV) System

The PCV system uses intake manifold vacuum to ventilate blow-by fumes from the crankcase and return the fumes to the intake manifold for combustion. The PCV valve varies the amount of blow-by gases returned to the intake manifold based on available engine vacuum. The PCV valve also prevents the entry of combustion backfiring into the crankcase.

Exhaust Gas Recirculation

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 (NO_x) in the exhaust emissions.

The engine incorporates a stepper motor-controlled EGR valve which receives its signal from the PCM. Engine coolant is used to cool the EGR valve. The EGR valve and stepper motor are serviced as an assembly.

The amount of recirculated exhaust gas depends on:

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

Exhaust Emission Control System

The vehicle emission control information (VECI) decal is located on the upper radiator support and shows:

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

Engine  [Printable View \(7 KB\)](#)

Refer to [Section 303-00](#) for basic mechanical concerns or refer to the Powertrain Control/Emissions Diagnosis (PC/ED) manual for driveability concerns.

Accessory Drive  [Printable View \(62 KB\)](#)**Inspection and Verification**

1. Verify the customer concern by operating the system.
2. Visually inspect for obvious signs of mechanical damage.

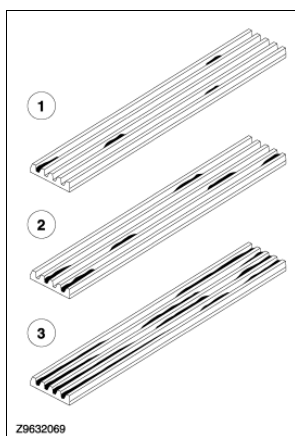
Visual Inspection Chart

Mechanical
<ul style="list-style-type: none"> • Damaged or contaminated belt • Belt tension • Belt tensioner • Belt idler • Pulleys • Loose hardware

3. If an obvious cause for an observed or reported concern is found, correct the cause (if possible) before proceeding to the next step.

NOTE: Up to 15 cracks in a rib over a distance of 100 mm (3.93 in) can be considered acceptable. If damage exceeds the acceptable limit or any chunks are found to be missing from the ribs, a new belt must be installed.

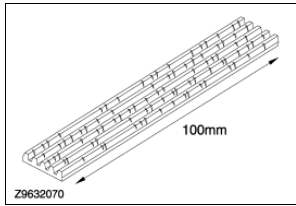
Under no circumstances should the belt or tensioner be lubricated as potential damage to the belt material construction and tensioner damping mechanism can occur.



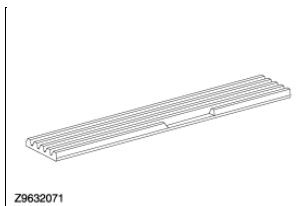
4. The condition of the drive belt should be compared against the illustration and appropriate action taken.
 1. Small scattered deposits of rubber material. This is not a concern, therefore, installation of a

new belt is not required.

2. Longer deposit areas building up to 50 percent of the rib height. This is not considered a concern but it can result in excessive noise. If noise is apparent, install a new belt.
3. Heavy deposits building up along the grooves resulting in a possible noise and belt stability concern. If heavy deposits are apparent, install a new belt.



5. Check the belt for cracks. Up to 15 cracks in a rib over a distance of 100 mm (3.93 in) can be considered acceptable. If cracks exceed this standard, install a new belt.



6. There should be no chunks missing from the belt ribs. If the belt shows any evidence of this, install a new belt.
7. If the concern is not visually evident, verify the symptom and GO to [Symptom Chart](#) .

Symptom Chart

Symptom Chart

Component Tests

Belt Tensioner Mechanical

The only mechanical check that needs to be made is a check for tensioner stick, grab or bind.

1. With the engine not running, check routing of the belt. For additional information, refer to the illustrations under Description and Operation in this section.
2. Detach the belt in the area of the tensioner.
3. Using the correct tool, move the tensioner from its relaxed position, through its full stroke and back to the relaxed position to make sure there is no stick, grab or bind, and to make sure that there is tension on the tensioner spring.
4. Rotate the tensioner pulley and check for a binding, contaminated or seized condition. Install a new tensioner if necessary. For additional information, refer to [Accessory Drive Belt, Tensioner and Pulley](#) in this section.

5. Inspect the area surrounding the tensioner for oil leaks or contamination. Repair any leaks before installing a new tensioner. If the tensioner is contaminated, do not attempt to clean it as the damping mechanism inside may be damaged. Install a new tensioner if necessary. For additional information, refer to Accessory Drive Belt, Tensioner and Pulley in this section.
6. If the tensioner meets the above criteria, proceed to test the tensioner dynamically. If the tensioner does not meet the above criteria, install a new tensioner. For additional information, refer to Accessory Drive Belt, Tensioner and Pulley in this section.

Belt Tensioner Dynamic

The automatic belt tensioner can be checked dynamically as follows:

1. With the engine running, observe the belt tensioner movement. The tensioner should move (respond) when the air conditioning clutch cycles (if equipped), or when the engine is accelerated rapidly. If the tensioner movement is excessive without air conditioning clutch cycling or engine acceleration, a pulley or shaft is possibly bent, or out of round or the damper mechanism inside the tensioner may be damaged. Excessive belt rideout (uneven depth of grooves in the belt) can cause excessive tensioner movement. Check condition by installing a new belt. For additional information, refer to Accessory Drive Belt, Tensioner and Pulley in this section.
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