

Engine - Overview

Overview

The 6.2L (2V) is a V-8 engine with the following features:

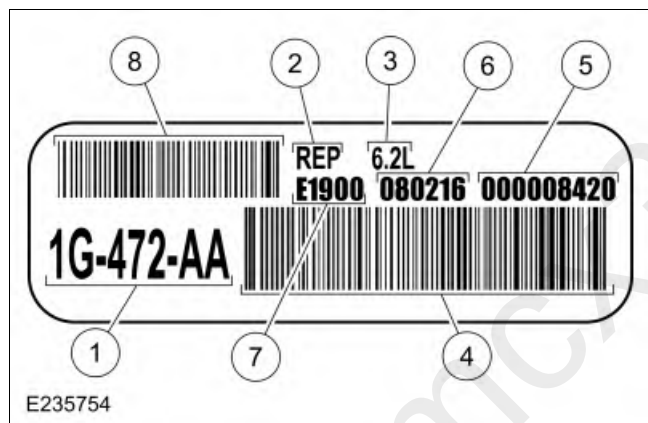
- Single overhead camshafts
- Two valves per cylinder
- Sequential Multi-Port Fuel Injection (SFI)
- Aluminum cylinder heads
- Cast iron, 90-degree V-cylinder block
- Individually chain-driven camshafts with a hydraulic timing chain tensioner on each timing chain
- Distributorless ignition system with 2 spark plugs per cylinder
- Electronic Returnless Fuel System (ERFS)

Engine Identification

Always refer to these labels when installation of new parts is necessary or when checking engine calibrations. The engine parts often differ within a CID (cubic inch displacement) family. Verification of the identification codes will make sure the correct parts are obtained. These codes contain all the pertinent information relating to the dates, optional equipment and revisions.

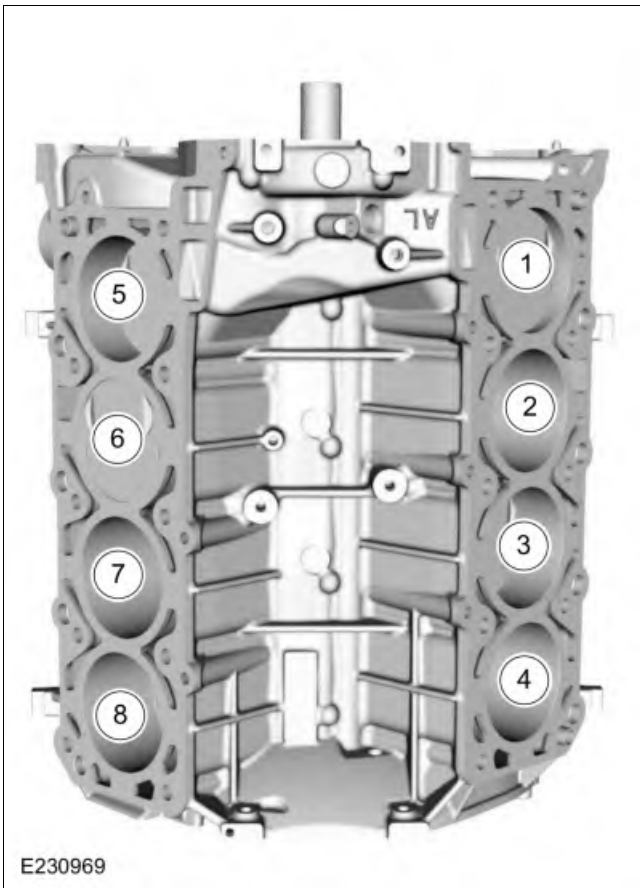
Engine Code Information Labels

The engine code information label, located on the front side of the valve cover, contains the following:



Item	Description
1	Engine part number
2	Romeo engine plant
3	Engine displacement
4	Bar code
5	Serial number
6	Engine build date (DDMMYY)
7	Plant shift line

Engine Cylinder Identification



Exhaust Emission Control System

Operation and necessary maintenance of the exhaust emission control devices used on this engine are covered in the Powertrain Control/Emissions Diagnosis (PC/ED) manual.

Induction System

The SFI system provides the fuel/air mixture needed for combustion in the cylinders. The 8 solenoid-operated fuel injectors:

- are mounted in the intake manifold.
- meter fuel into the air intake stream in accordance with engine demand.
- are positioned so that their tips direct fuel just ahead of the engine intake valves.
- supply fuel from the fuel tank with a fuel pump mounted in the fuel tank.

Valve Train

The valve train operates as follows:

- Rocker arm mounted hydraulic lash adjusters provide automatic lash adjustment.
- Rocker arms are mounted to a shaft and ride on the camshaft lobes and the valve tips, transferring the up-and-down motion of the camshafts to the valves in the cylinder heads.

PCV System

All engines are equipped with a closed-type PCV system recycling the crankcase vapors to the intake manifold.

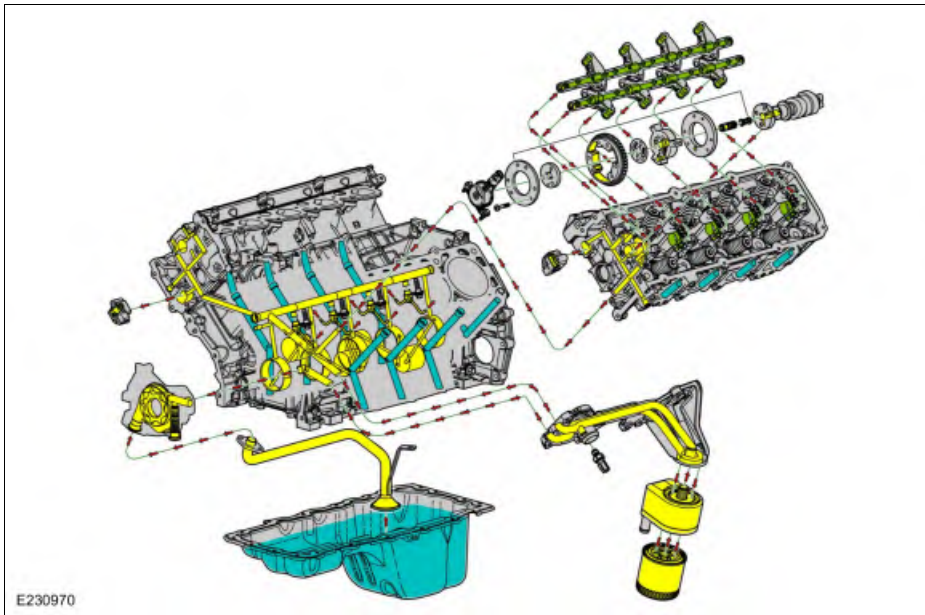
Lubrication System

The engine lubrication system operates as follows:

- Oil is drawn into the oil pump through the oil pump screen cover and tube in the sump of the oil pan.
- Oil is pumped through the oil filter adaptor on the left side of the cylinder block, through the filter the oil cooler and back through the adaptor to the cylinder block.
- Oil enters the cylinder block and is fed to the cylinder block main gallery where it is distributed to the crankshaft main journals, piston oil coolers and to both cylinder heads.
- From the main journals, the oil is routed through cross-drilled passages in the crankshaft to lubricate the connecting rod bearings.
- Oil enters the cylinder heads from the passages in the front of the cylinder block and full oil pressure is fed to the timing chain tensioner, rocker shafts and camshaft phasers. Oil pressure that is fed to the camshaft bearings is reduced through a restrictor plug that is pressed into the cylinder head oil passage.

- Oil enters the rocker arm shafts which are hollow and feeds oil to the rocker arms. The rocker arms have passages to send oil to the lash adjusters and to lubricate the cam lobes and camshaft rocker arm rollers.

Oil Flow Diagram



Item	Description
Yellow	High pressure oil flow
Blue	Oil return/low pressure oil flow

Oil Pump

The lubrication system is designed to provide optimum oil flow to critical components of the engine through its entire operating range. The heart of the system is a positive displacement internal gear oil pump using top seal rotors. Generically this design is known as a gerotor pump, which operates as follows:

- The oil pump is mounted on the front face of the cylinder block.
- The inner rotor is piloted on the crankshaft post and is driven through flats on the crankshaft.
- System pressure is limited by an integral, internally-vented relief valve which directs the bypassed oil back to the inlet side of the oil pump.
- Oil pump displacement has been selected to provide adequate volume to make sure of correct oil pressure, both at hot idle and maximum speed.
- The relief valve calibration protects the system from excessive pressure during high viscosity conditions.
- The relief valve is designed to provide adequate connecting rod bearing lubrication under high- temperature and high-speed conditions.