

DESCRIPTION AND OPERATION

ENGINE

NOTE: Refer to the exploded view under the ASSEMBLY procedure.

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
- Variable Camshaft Timing (VCT)
- 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 family. Verification of the identification codes will make sure that the correct parts are obtained. These codes contain all the pertinent information relating to the dates, optional equipment and revisions. The Ford Catalog Advantage™ or equivalent contains a complete listing of the codes and their application.

Engine Code Information Label

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

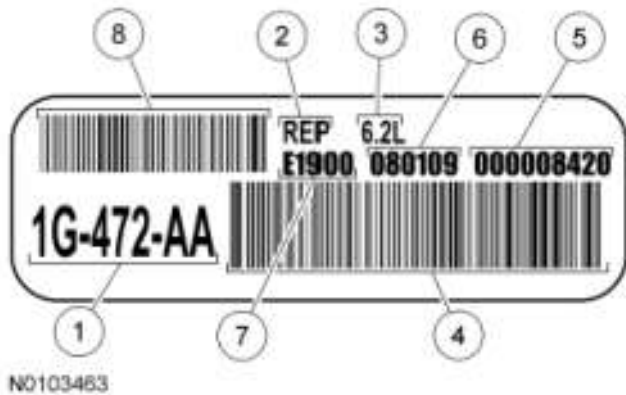


Fig. 1: Identifying Engine Code Information Label
Courtesy of FORD MOTOR CO.

ITEM DESCRIPTION CHART

Item	Description
1	Engine part number

2	Romeo engine plant
3	Engine displacement
4	Bar code
5	Running number
6	Engine build date (DDMMYY)
7	Plant shift line
8	Bar code

Engine Cylinder Identification

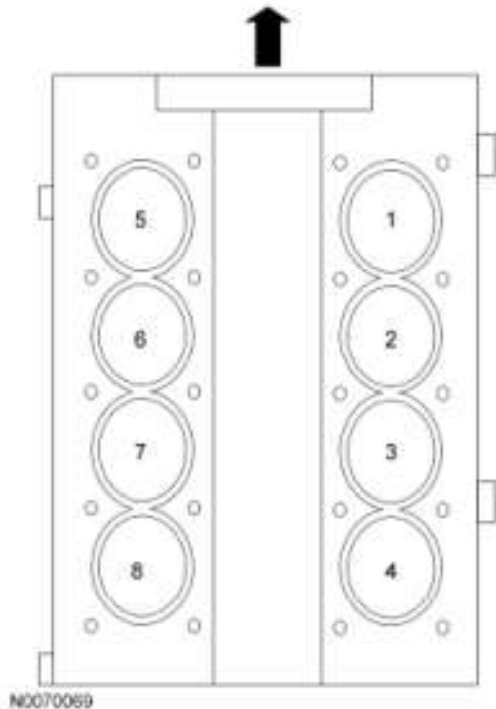


Fig. 2: Identifying Engine Cylinder Identification
 Courtesy of FORD MOTOR CO.

Exhaust Emission Control System

Operation and necessary maintenance of the exhaust emission control devices used on this engine are covered in the **INTRODUCTION - GASOLINE MODELS** .

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:

- Ball-tip hydraulic lash adjusters provide automatic lash adjustment.
- Roller followers ride on the camshaft lobe, 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 upper 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 on the left front side of the cylinder block.
- Oil enters the main gallery where it is distributed to the crankshaft main journals, both cylinder heads and the piston oil cooler valves.
- From the main journals, the oil is routed through cross-drilled passages in the crankshaft to lubricate the connecting rod bearings. Controlled leakage through the crankshaft main bearings and connecting rod bearings is slung radially outward to cool and lubricate the cylinder walls as well as the entire connecting rod, piston and piston ring assembly.
- The left cylinder heads are fed from a drilling into the supply passage feeding the main gallery at the front of the cylinder block. Main gallery pressure is reduced as it enters the cylinder head galleries through fixed serviceable orifices, located at the upper part of the feed passages. It is this reduced pressure in the cylinder head galleries which feeds the camshaft journals, the hydraulic lash adjusters and the primary and secondary timing chain tensioners.
- The oil pressure feed for the camshaft phaser and sprockets is reduced.
- The camshaft lobe and roller rocker arms are lubricated by splash created through valve train operation.

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.