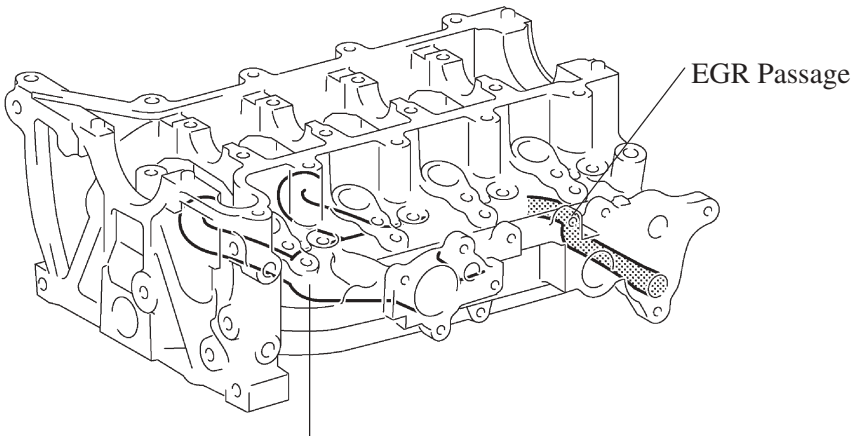
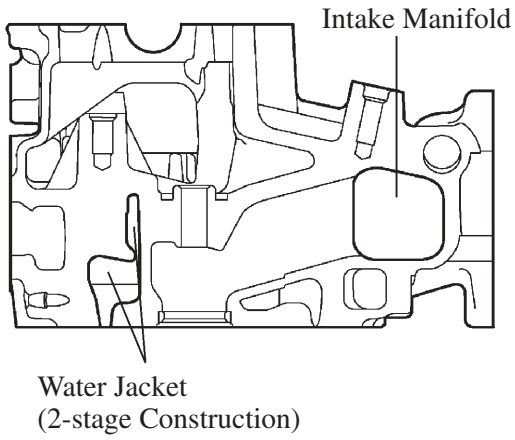
■ENGINE PROPER

1. Cylinder Head

- The cylinder head is made of aluminum alloy.
- The injector has been located near the center of the combustion chamber to promote the mixture of fuel and air.
- The intake manifold and passage for the EGR system are integrated in the cylinder head to realize lightweight and compact design.
- A 2-stage construction is used for the water jacket to realize excellent cooling performance.

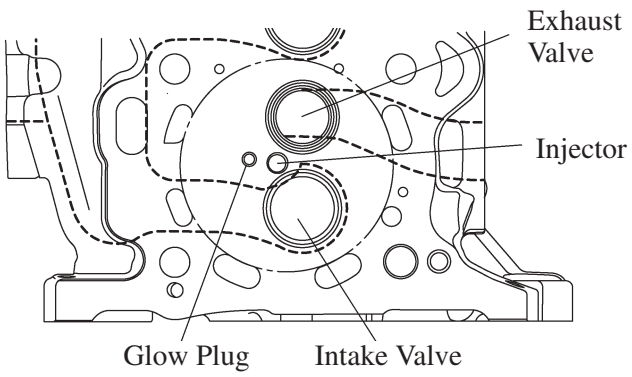


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Cylinder Head Cross Section

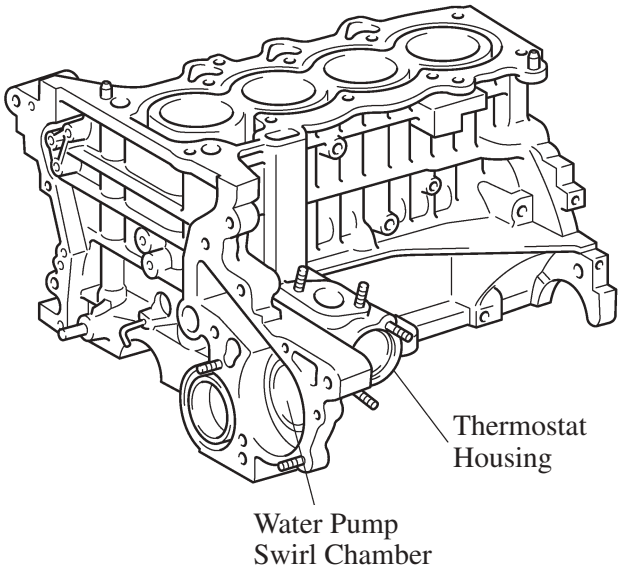


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View from Bottom

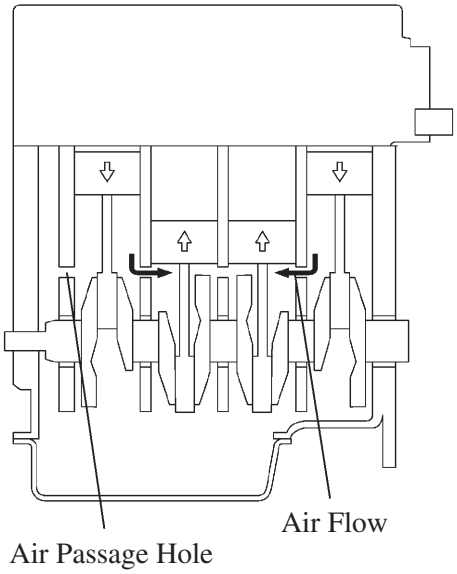
2. Cylinder Block

- The cylinder block is made of aluminum die-cast.
- By producing the thin cast-iron liners and cylinder block as a unit, compaction is realized. This liner is thin, so that boring is not possible.
- The water pump swirl chamber, thermostat housing and rear oil seal retainer are integrated in the cylinder block to reduce the number of parts.
- Air passage holes are provided in the bulkhead. As a result, the air at the bottom of the cylinder flows smooth, and pumping loss (back pressure at the bottom of the piston generated by the piston's reciprocal movement) is reduced to ensure the engine's output.
- Plastic region tightening bolts are used for tightening the crankshaft bearing cap.



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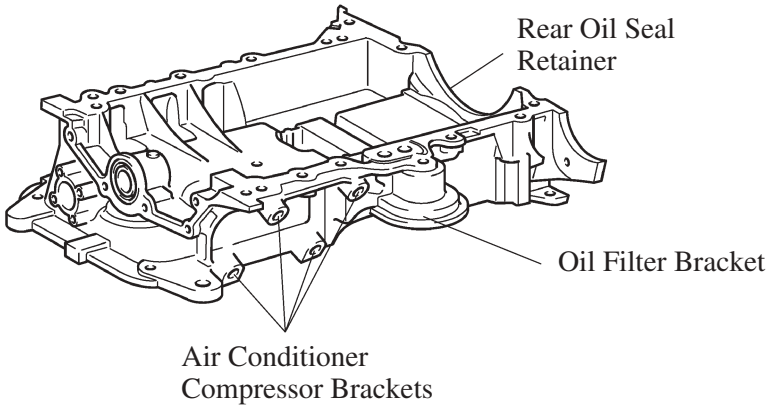
▶ Air Flow During Engine Revokution ◀



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3. Oil Pan

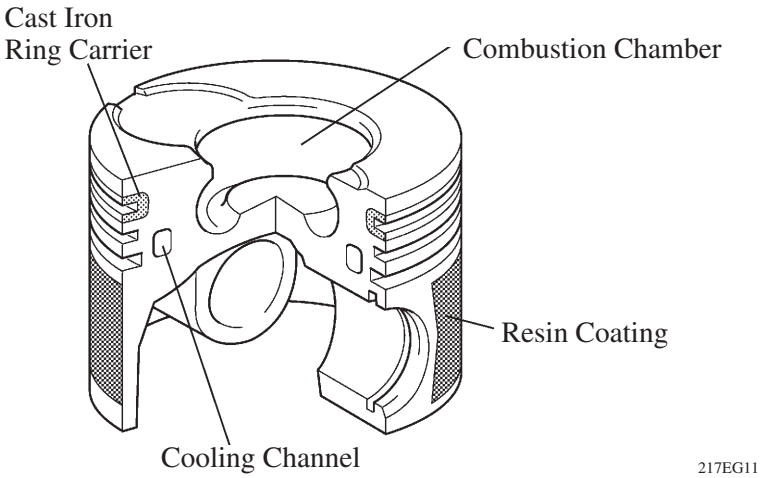
- The oil pan is made of aluminum die-cast.
- The oil filter bracket, air conditioner compressor bracket, rear oil seal retainer, baffle plate and stiffener are integrated in the oil pan to reduce the number of parts.



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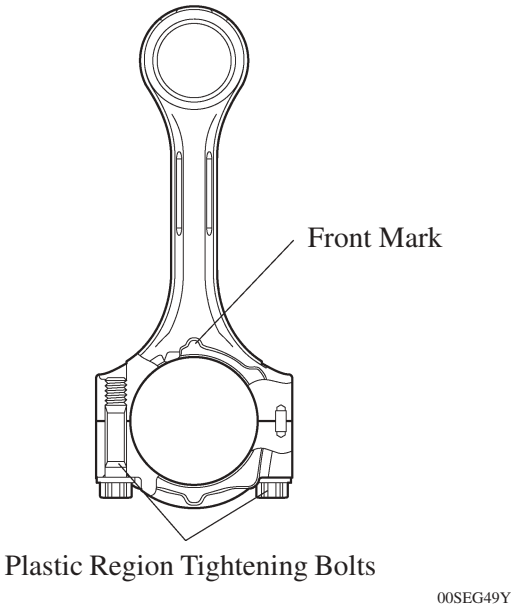
4. Piston

- The piston is made of aluminum alloy.
- In conjunction with the adoption of direct injection, the piston provided with combustion chamber is used.
- A cooling channel is provided to realize excellent piston cooling performance.
- A cast iron ring carrier is used to realize excellent wear resistance.
- The piston skirt has been coated with resin to reduce friction.



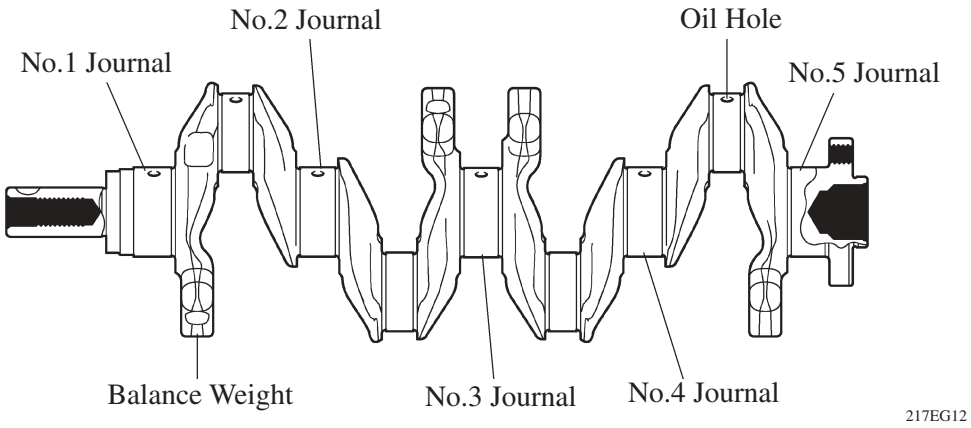
5. Connecting Rod

- The connecting rods and caps are made of high strength steel for weight reduction.
- Nutless type plastic region tightening bolts are used for a light design.



6. Crankshaft

- The crankshaft has 5 journals and 4 balance weights.
- The crankshaft is made of forged steel.



7. Crankshaft Pulley

- The crankshaft pulley hub is made of cast iron.
- The EPDM (Ethylene Propylene Diene Rubber Material) is used to the torsional damper rubber to realize high durability and reliability.

