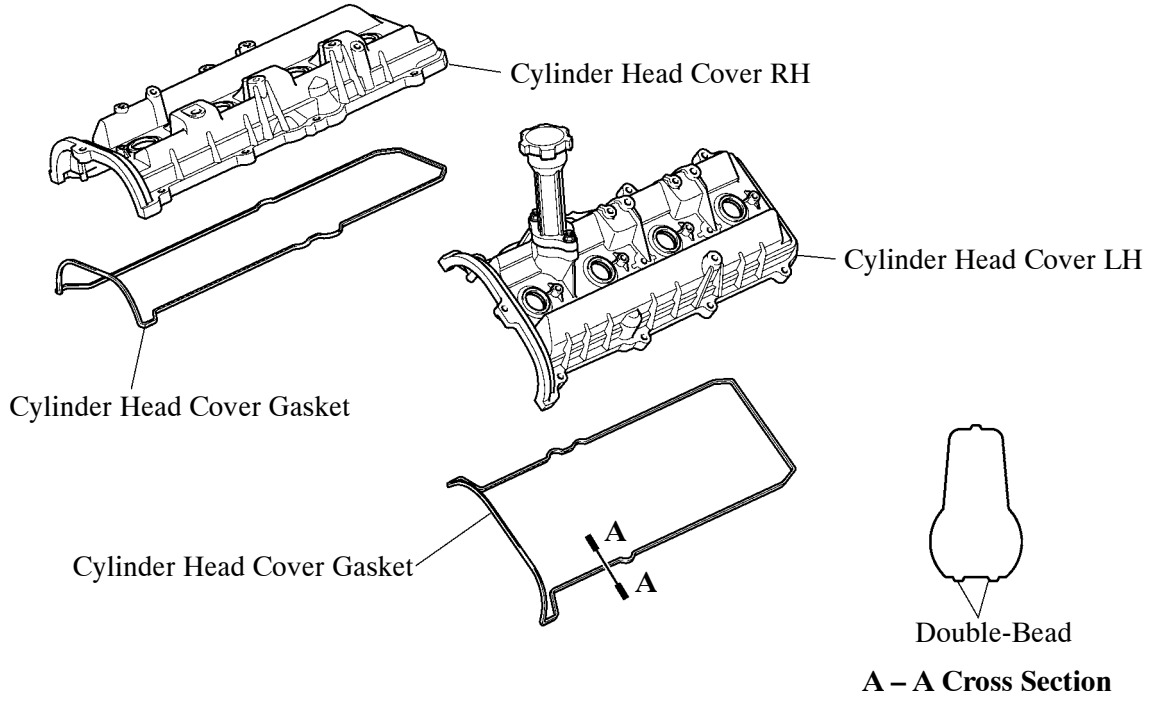
## ■ENGINE PROPER

### 1. Cylinder Head Cover

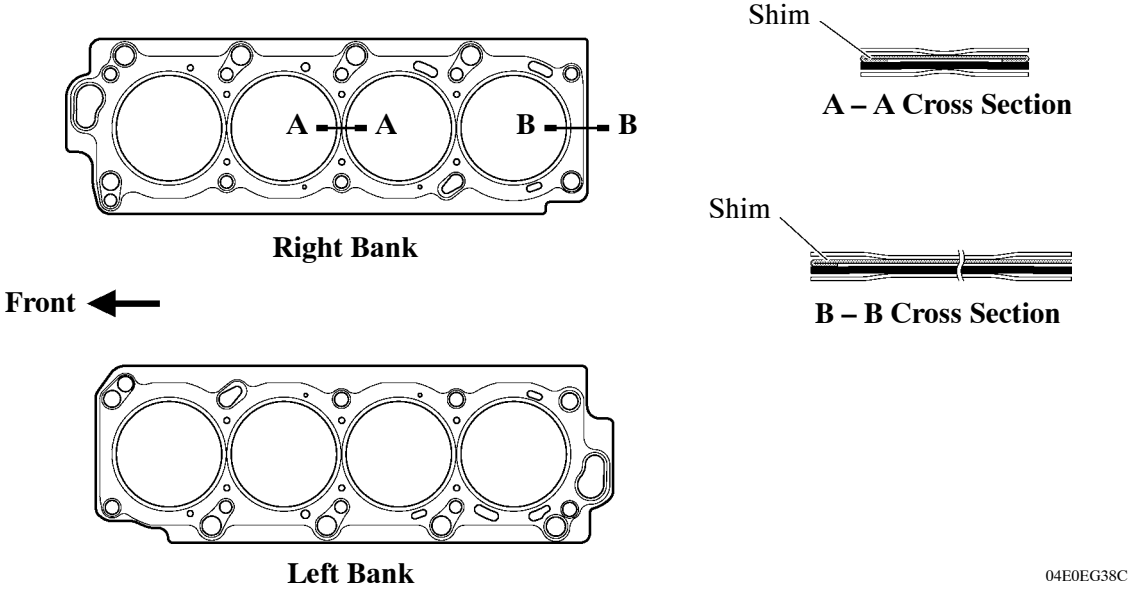
- Lightweight yet high-strength aluminum cylinder head covers are used.
- An oil filler extension housing is provided on the cylinder head cover LH. It is used when the engine oil is filled to improve serviceability.
- The cylinder head cover gaskets use a double-bead cross-sectional construction to improve their reliability.




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### 2. Cylinder Head Gasket

4-layer steel-laminate type cylinder head gaskets are used. A shim is used around the cylinder bore of each gasket to help enhance sealing performance and durability.

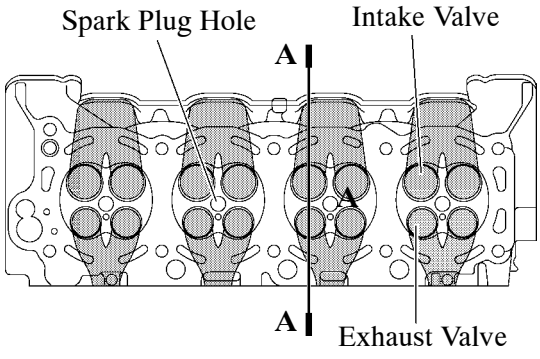



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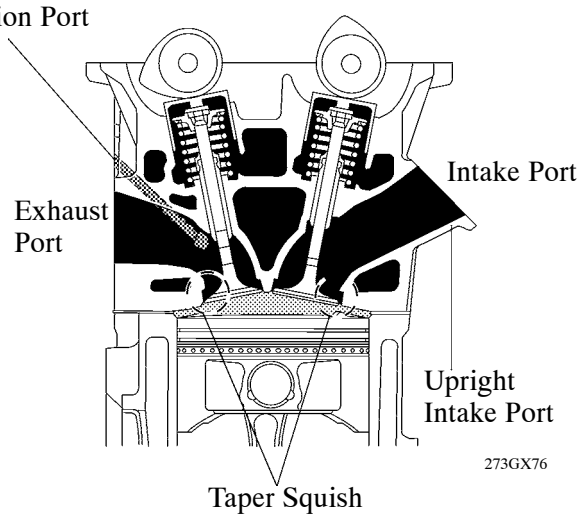
## 3. Cylinder Head

- The cylinder head, which is made of aluminum, contains a pentroof-type combustion chamber. The spark plug is located in the center of the combustion chamber in order to improve the engine's anti-knocking performance.
- Upright intake ports are used to improve the intake efficiency.
- A taper squish combustion chamber is used to improve anti-knocking performance and intake efficiency. In addition, engine performance and fuel economy are improved.
- A lead-free valve seat is used for environmental purposes.
- Plastic region tightening bolts are used for the cylinder head to ensure good axial tension.
- The air injection port is provided for the air injection system.





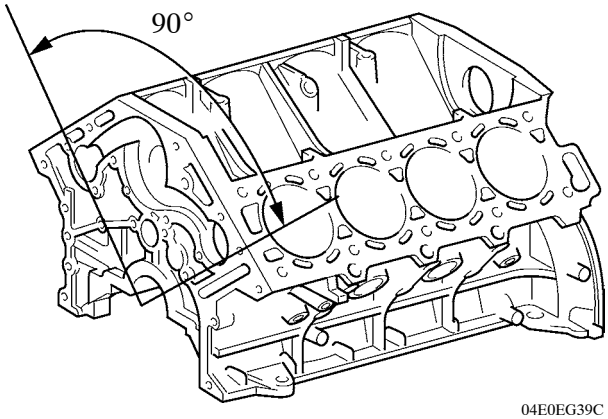

**View from Button Side** 04E0EG68C



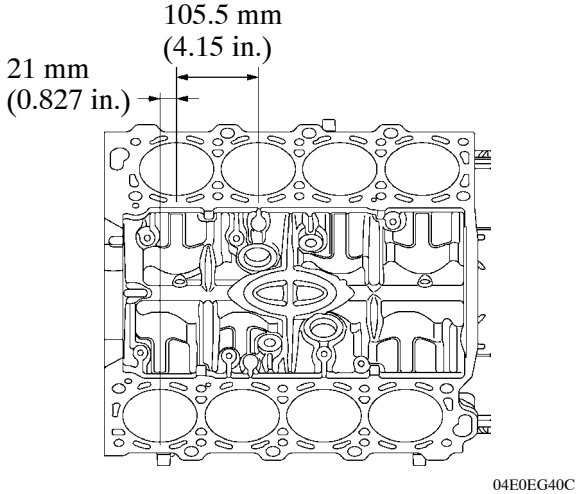

**A – A Cross Section**

## 4. Cylinder Block

- The cylinder block is made of cast iron alloy.
- The cylinder block has a bank angle of 90°, a bank offset of 21 mm (0.827 in.) and a bore pitch of 105.5 mm (4.15 in.), resulting in a compact block in its length and width considering its displacement.
- Part of the volute chamber of the water pump is incorporated into the cylinder block to shorten the engine length.
- Installation bosses of the two knock sensors are located on the inner side of left and right banks.




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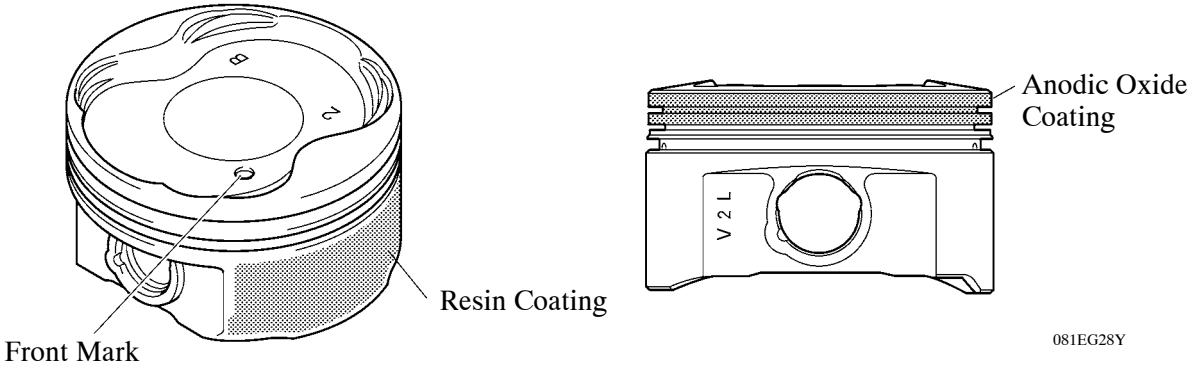



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**View of Top Side**

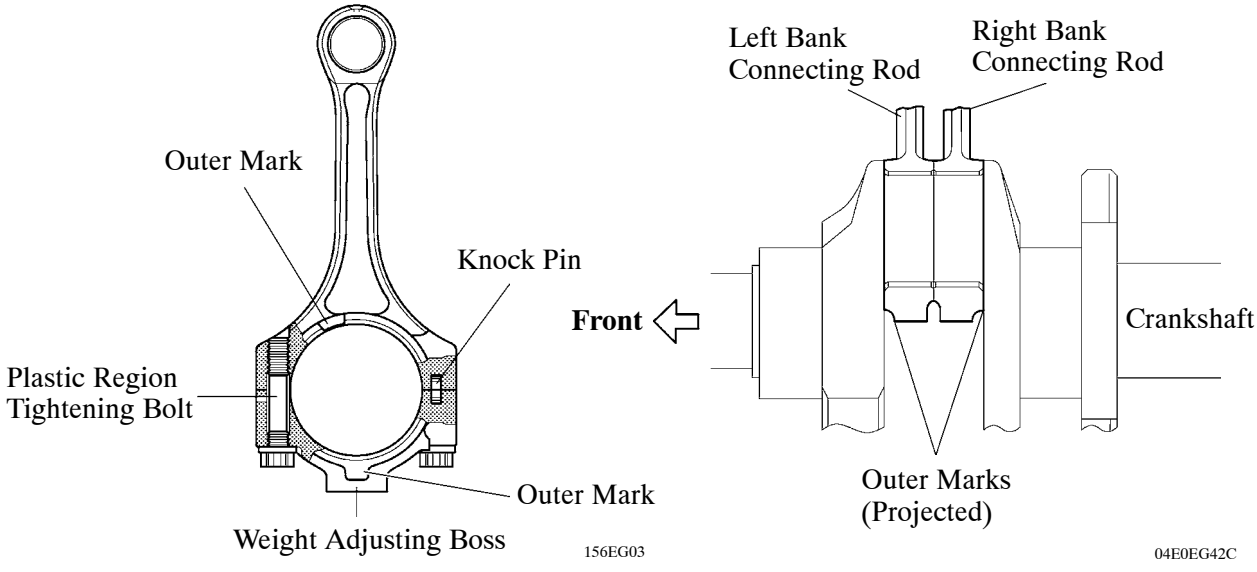
## 5. Piston

- The pistons are made of aluminum alloy.
- The piston head portion uses a taper squish shape to accomplish fuel combustion efficiency.
- The piston skirt is coated with resin to reduce friction losses.
- The groove of the piston ring is coated with anodic oxide to improve wear resistance and corrosion resistance.
- Full floating type piston pins are used.



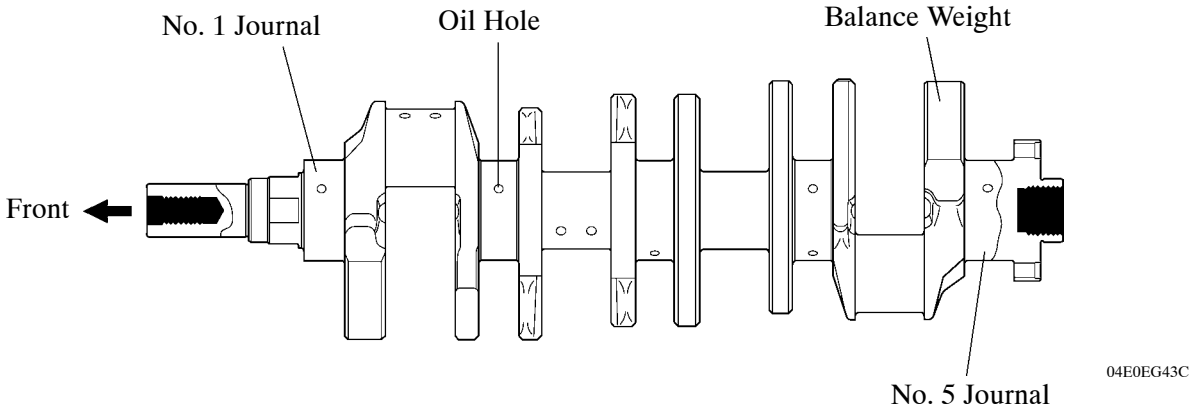

## 6. Connecting Rod and Connecting Rod Bearing

- The sintered and forged connecting rod is very rigid and has little weight fluctuation.
- A weight-adjusting boss is provided at the bearing caps to reduce fluctuation of weight and balance the engine.
- The connecting rods for the right and left banks are placed in opposite directions with the outer marks facing the crankshaft.
- Knock pins are used at the mating surfaces of the bearing caps of the connecting rod to minimize the shifting of the bearing caps during assembly.
- Plastic region tightening bolts are used.
- Aluminum bearings are used for the connecting rod bearings.



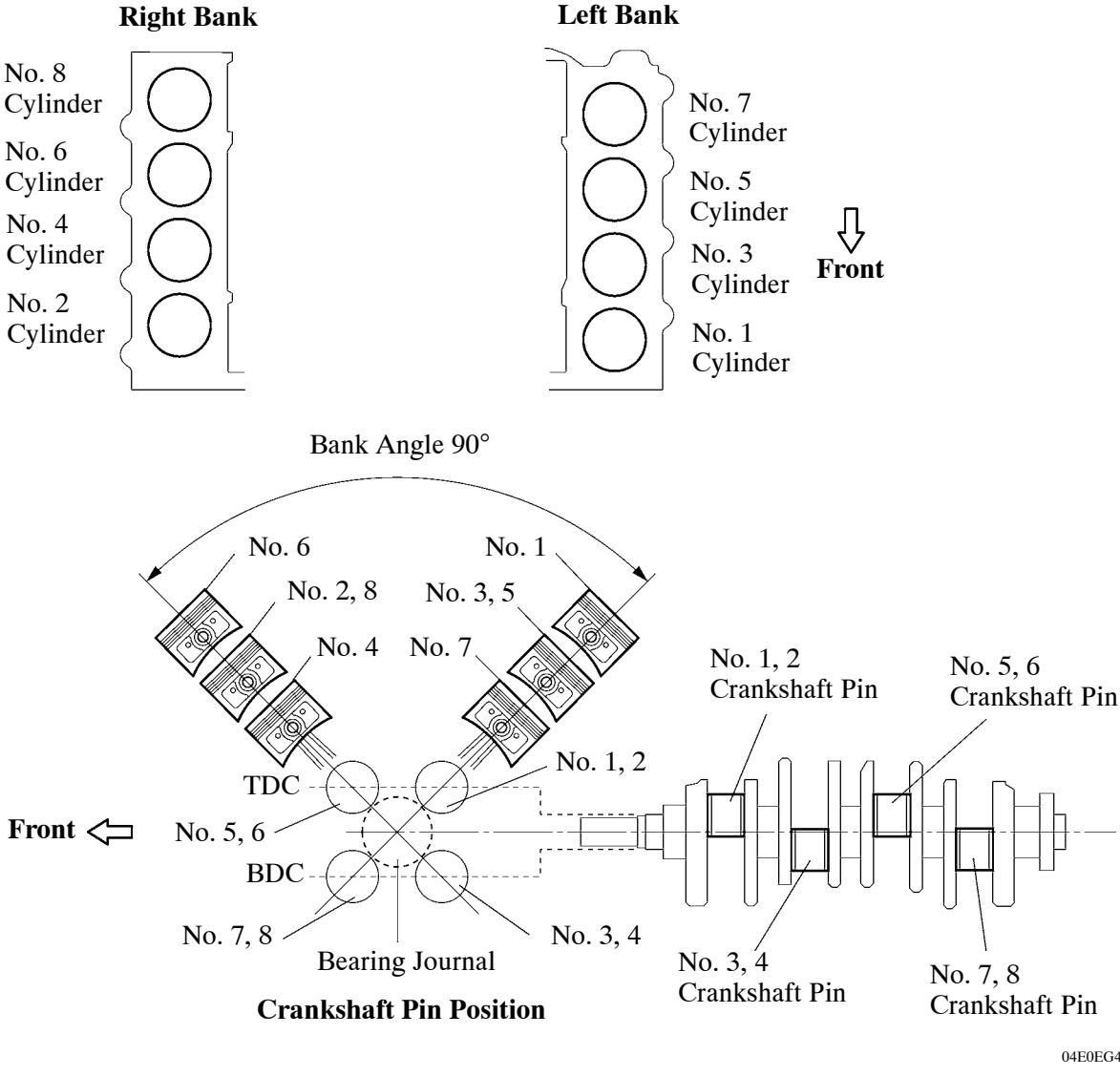
## 7. Crankshaft and Crankshaft Bearing

- A crankshaft made of steel, which excels in rigidity and wear resistance, is used.
- The crankshaft has 5 main bearing journals, 4 crankshaft pins and 8 balance weights.
- The crankshaft bearings are made of aluminum alloy.




**NOTE**

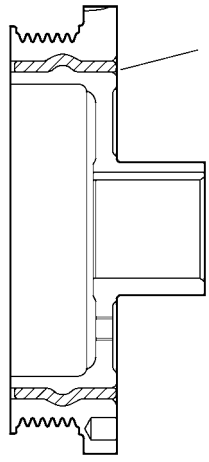
The positions of the crankshaft pins and pistons are illustrated below.




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## 8. Crankshaft Pulley

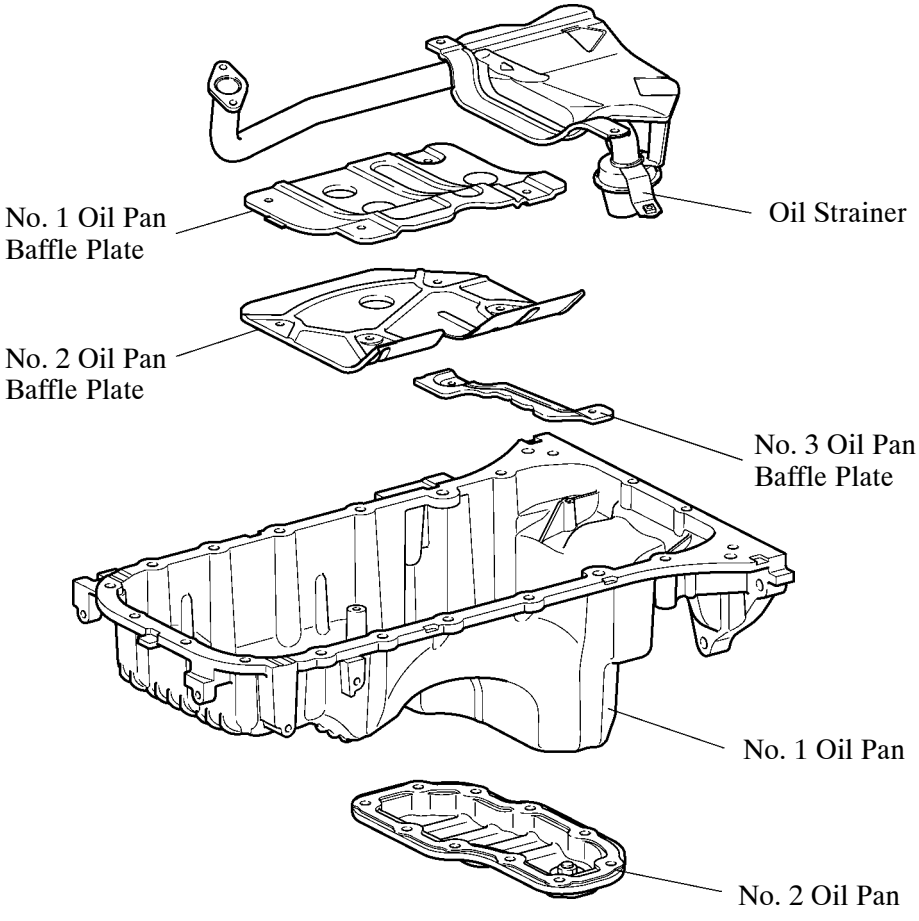
The rigidity of the torsional damper rubber has been optimized to reduce noise.




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## 9. Oil Pan

- The No. 1 oil pan is made of aluminum alloy.
- The No. 2 oil pan is made of steel.
- The No. 1 oil pan is secured to the cylinder block and the transmission housing to increase rigidity.




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