CRANKSHAFT, MAIN BEARING [SKYACTIV-G 2.0, SKYACTIV-G 2.5]

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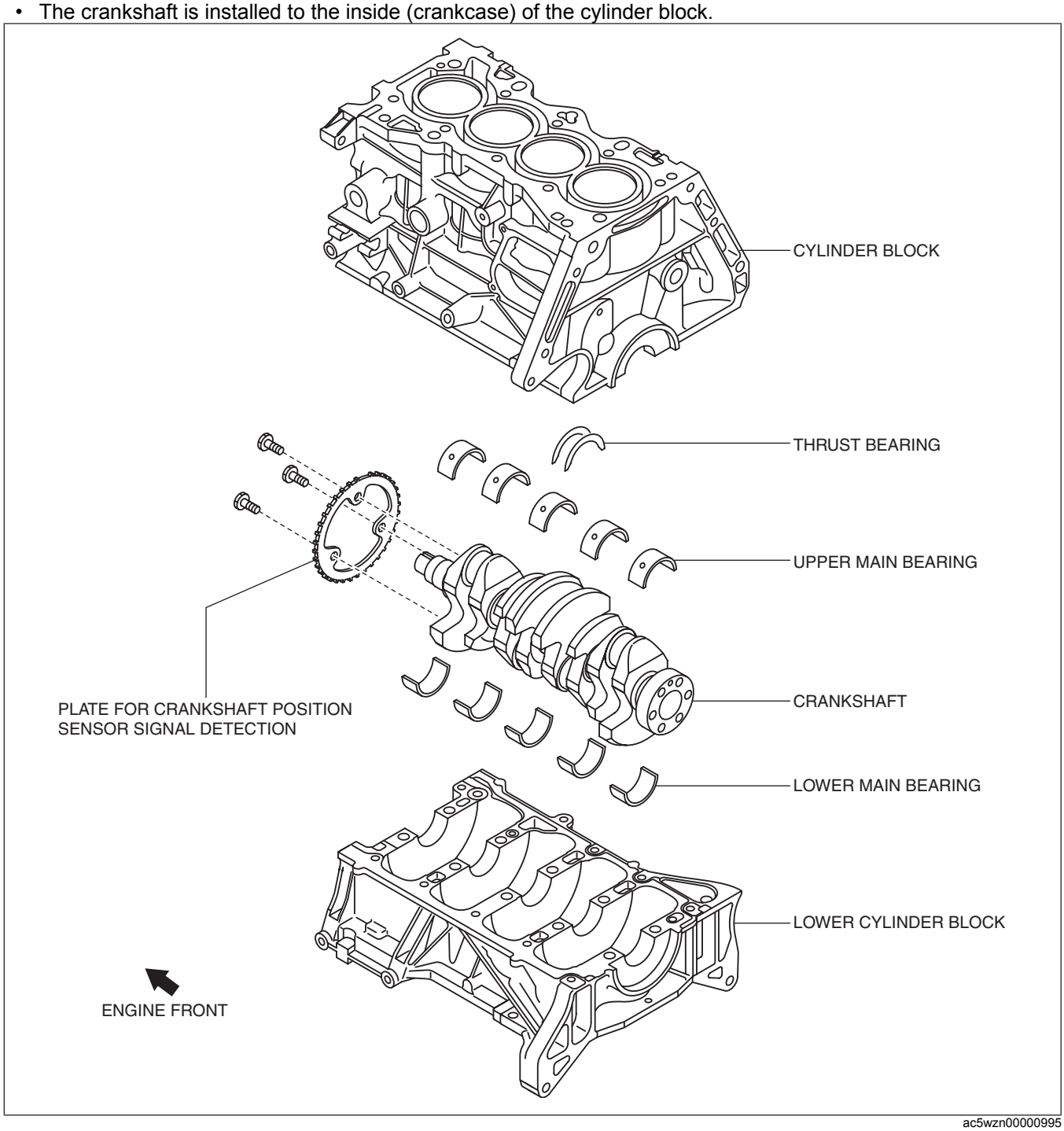
Purpose, Function

- The crankshaft converts the reciprocating movement of the piston to a rotational movement via the connecting rod.
- The main bearing forms an oil film on the outer surface of the crankshaft journal to prevent wear due to sliding.

Construction

Crankshaft

- The crankshaft is installed to the inside (crankcase) of the cylinder block.



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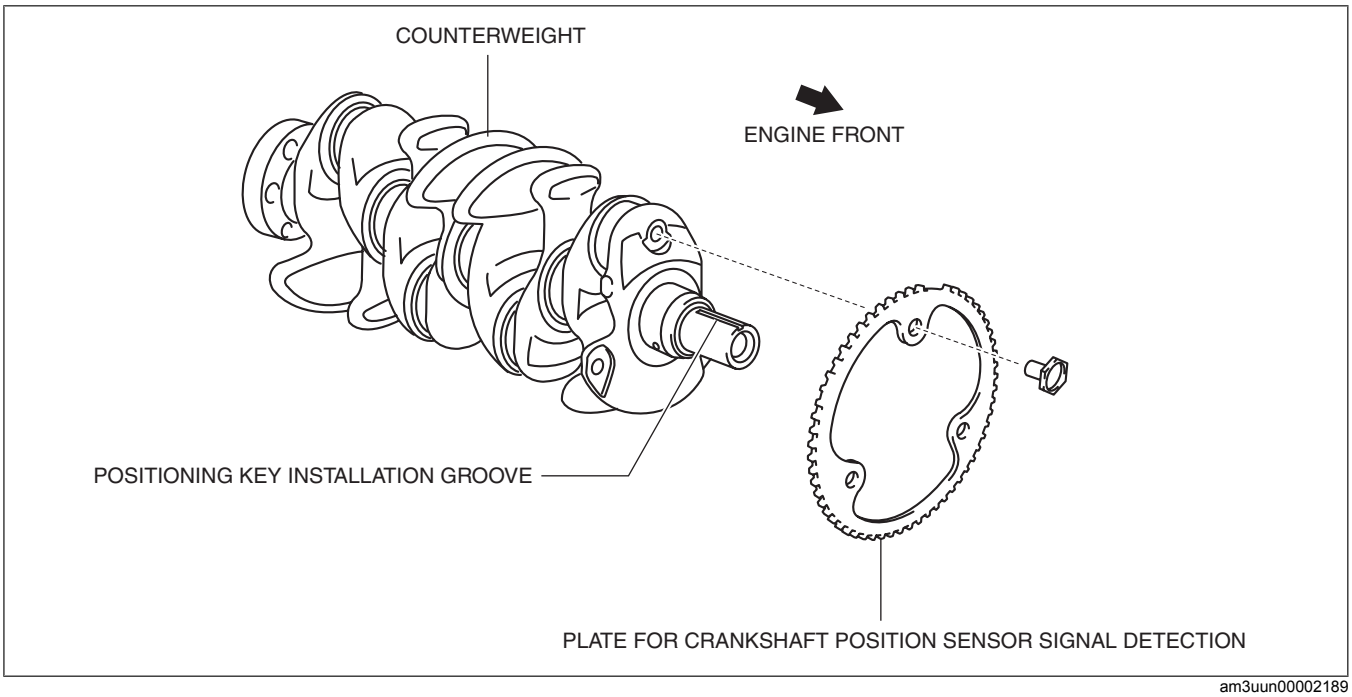
- The crankshaft has a key groove to match timing to the crankshaft pulley.
- The crankshaft has the following parts shown in the figure.



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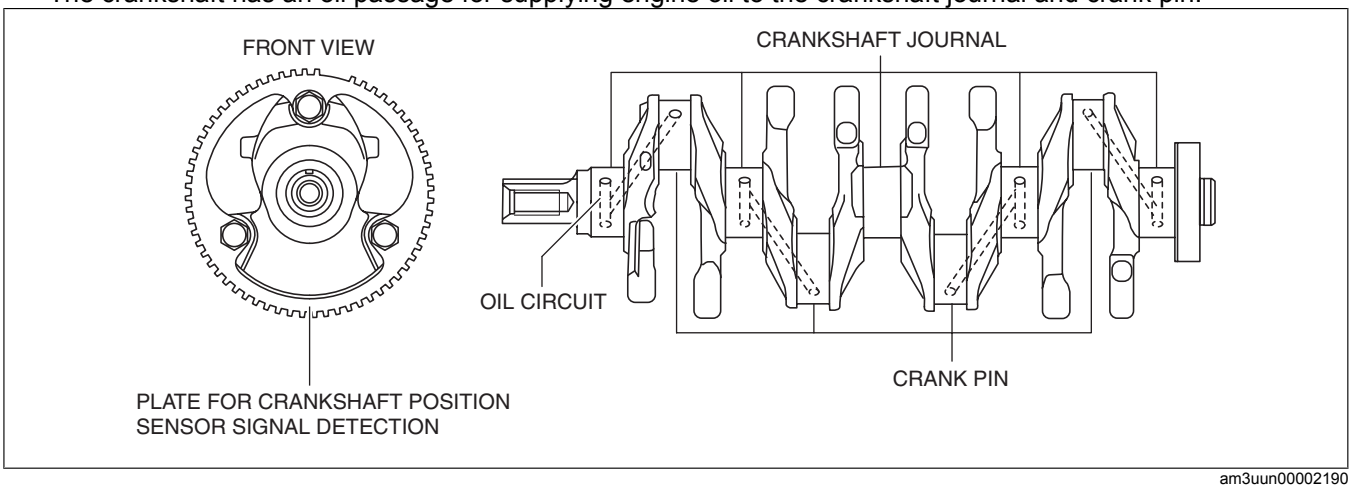
- The optimized shaft diameter ratio of the crankshaft journal and crank pin has reduced sliding resistance while maintaining rigidity.
- The steel crankshaft has five bearings and eight counterweights for improved accuracy in the rotational balance.
- The crankshaft journal and crank pin have been induction hardened* to bear high loads.
- The crankshaft has an oil passage for supplying engine oil to the crankshaft journal and crank pin.



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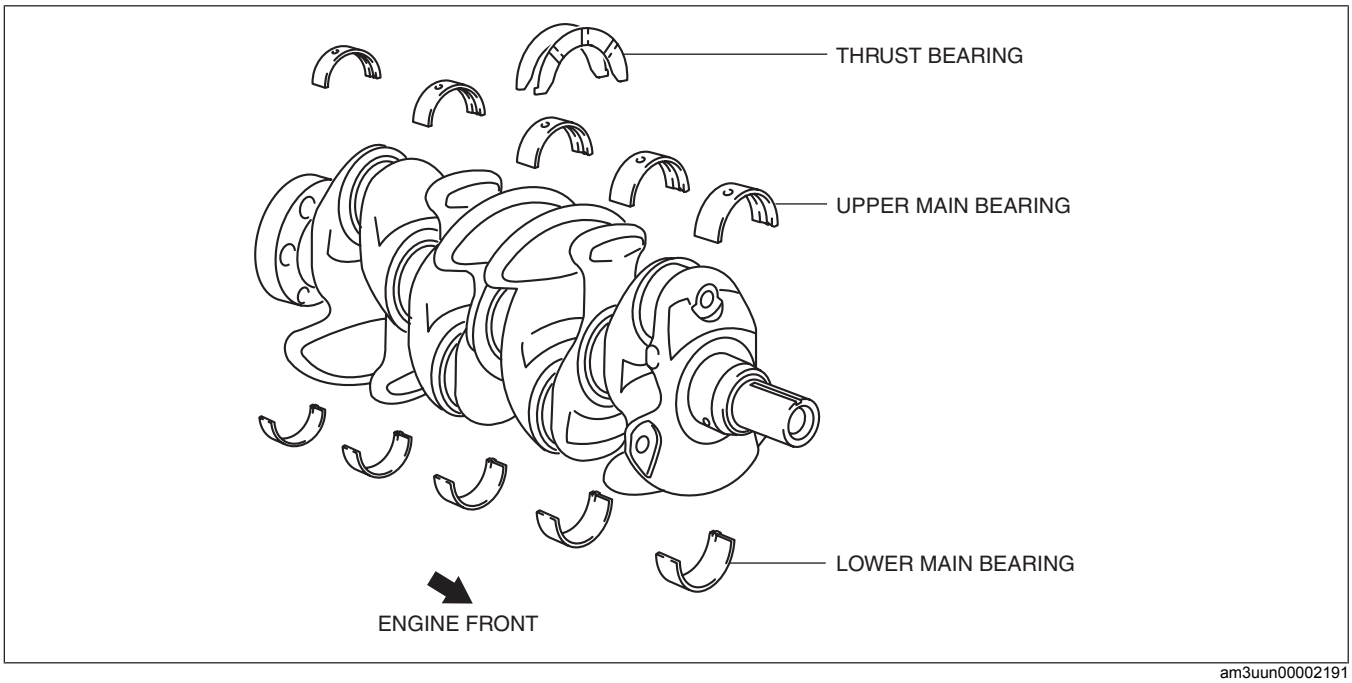
* : A type of heat processing method which improves hardness and strength only at the surface of the metal.

Main bearing

- The main bearing is installed to the outer surface of the crankshaft journal.
- The upper main bearing and lower main bearing are made of aluminum alloy.
- The upper main bearing has an oil groove and oil hole.
- Thrust force is suppressed by the thrust bearings on both sides of the No.3 journal.



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