## MECHANICAL [SKYACTIV-G 2.0, SKYACTIV-G 2.5]

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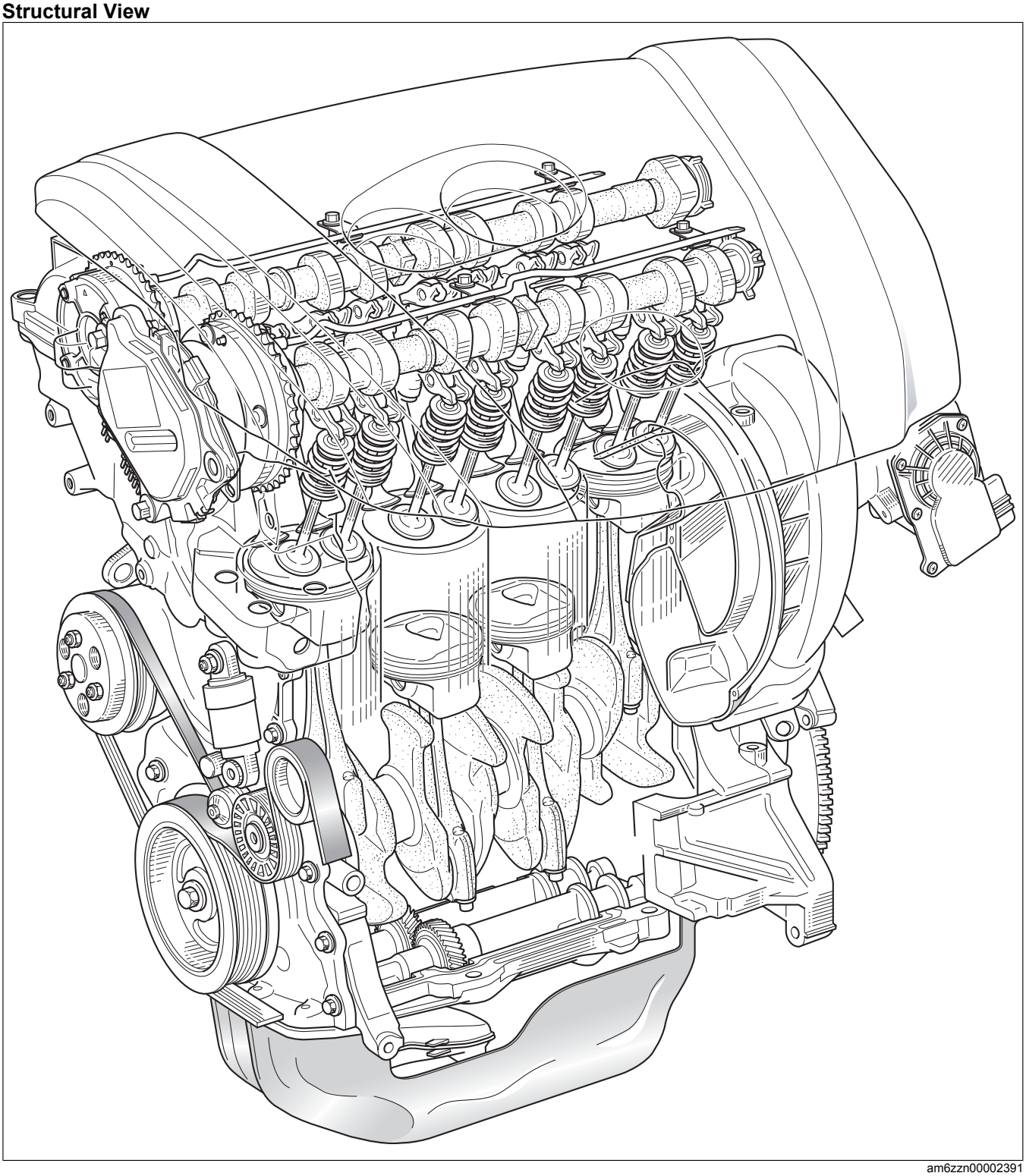
### Outline

- The sliding resistance*1 has been reduced by:
  - — Adoption of a rocker arm (built into needle roller bearing)
  - — Reducing load on the valve spring
  - — Narrowing down the crankshaft journal
  - — Optimizing the piston skirt shape
  - — Adoption of a low-tension piston ring
  - — Lowered tensioning of the drive belt
- A maintenance-free design for valve clearance has been achieved with the adoption of the HLA.
- With the adoption of a piston cavity, cooling loss has been reduced.
- The pumping loss*2 has been reduced with the adoption of the variable valve timing mechanism on both sides of the intake and exhaust.
- The timing chain behavior has been stabilized and sliding resistance has been reduced by optimizing the shape and rigidity of the timing chain-related parts.

*1 : Resistance (friction force) which occurs when two object slide against each other. The larger the sliding resistance, the greater the energy loss.
*2 : Energy loss which occurs from each type of resistance corresponding to intake and exhaust is called pumping loss.

**Structural View**



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**Structure**

- Consists of the following parts:

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| Cylinder head cover | (See CYLINDER HEAD COVER [SKYACTIV-G 2.0, SKYACTIV-G 2.5].) |
| Cylinder head | (See CYLINDER HEAD [SKYACTIV-G 2.0, SKYACTIV-G 2.5].) |
| Cylinder head gasket | (See CYLINDER HEAD GASKET [SKYACTIV-G 2.0, SKYACTIV-G 2.5].) |
| Cylinder block | (See CYLINDER BLOCK [SKYACTIV-G 2.0, SKYACTIV-G 2.5].) |

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| Crankshaft | | (See CRANKSHAFT, MAIN BEARING [SKYACTIV-G 2.0, SKYACTIV-G 2.5].) |
| Piston | | (See PISTON, PISTON RING, PISTON PIN [SKYACTIV-G 2.0, SKYACTIV-G 2.5].) |
| Connecting rod | | (See CONNECTING ROD, CONNECTING ROD BEARING [SKYACTIV-G 2.0, SKYACTIV-G 2.5].) |
| Engine front cover | | (See ENGINE FRONT COVER [SKYACTIV-G 2.0, SKYACTIV-G 2.5].) |
| Crankshaft pulley | | (See CRANKSHAFT PULLEY [SKYACTIV-G 2.0, SKYACTIV-G 2.5].) |
| Drive belt | | (See DRIVE BELT [SKYACTIV-G 2.0, SKYACTIV-G 2.5].) |
| Valve mechanism (See VALVE MECHANISM [SKYACTIV-G 2.0, SKYACTIV-G 2.5].) | Valve | (See VALVE, VALVE SPRING, VALVE SEAL, VALVE GUIDE [SKYACTIV-G 2.0, SKYACTIV-G 2.5].) |
| | HLA | (See HYDRAULIC LASH ADJUSTER, ROCKER ARM [SKYACTIV-G 2.0, SKYACTIV-G 2.5].) |
| | Camshaft | (See CAMSHAFT [SKYACTIV-G 2.0, SKYACTIV-G 2.5].) |
| Timing chain | | (See TIMING CHAIN, CHAIN TENSIONER [SKYACTIV-G 2.0, SKYACTIV-G 2.5].) |
| Variable valve timing mechanism (See VARIABLE VALVE TIMING MECHANISM [SKYACTIV-G 2.0, SKYACTIV-G 2.5].) | OCV | (See OIL CONTROL VALVE (OCV) [SKYACTIV-G 2.0, SKYACTIV-G 2.5].) |
| | Hydraulic variable valve timing actuator | (See HYDRAULIC VARIABLE VALVE TIMING ACTUATOR [SKYACTIV-G 2.0, SKYACTIV-G 2.5].) |
| | Electric variable valve timing actuator | (See ELECTRIC VARIABLE VALVE TIMING ACTUATOR [SKYACTIV-G 2.0, SKYACTIV-G 2.5].) |
| Electric variable valve timing relay | | (See ELECTRIC VARIABLE VALVE TIMING RELAY [SKYACTIV-G 2.0, SKYACTIV-G 2.5].) |
| Balancer unit | | (See BALANCER UNIT [SKYACTIV-G 2.5].) |
| Engine mount | | (See ENGINE MOUNT [SKYACTIV-G 2.0, SKYACTIV-G 2.5].) |