## ■FEATURES OF 1KD-FTV AND 2KD-FTV HIGH VERSION ENGINES

The 1KD-FTV and 2KD-FTV High Version engines have achieved the following performance features through the use of the items listed below.

(1) High performance and reliability
(2) Low noise and vibration
(3) Lightweight and compact design
(4) Good serviceability
(5) Clean emission and fuel economy

| Section | Item | (1) | (2) | (3) | (4) | (5) |
|---|---|---|---|---|---|---|
| Engine Proper | A cylinder head cover made of plastic is used. | | ○ | ○ | | |
| | 2 balance shafts are used.*1 | | ○ | | | |
| | A piston provided with combustion chamber is used. | ○ | ○ | | | ○ |
| | A passage for the EGR is provided in the cylinder head. | | | ○ | | ○ |
| Valve Mechanism | A shim-less type valve lifter is used. | ○ | | | ○ | |
| Cooling System | A pressurized reservoir tank is used. | ○ | | | ○ | |
| Intake and Exhaust System | An intake shutter valve is used. | ○ | ○ | | | ○ |
| | A swirl control valve is used.*1 | ○ | ○ | | | ○ |
| | A variable nozzle vane type turbocharger is used.*1 | ○ | | | | ○ |
| | An air-cooled type turbocharger is used.*2 | | | ○ | | |
| | An intercooler is used.*1 | ○ | | | | ○ |
| | An oxidation catalytic converter is used.*3 | | | | | ○ |
| Fuel System | An HP3 type supply pump is used. | ○ | ○ | ○ | | |
| | A common-rail type fuel injection system is used. | ○ | ○ | | | ○ |
| | An injector is provided in the bore center. | ○ | ○ | | | ○ |
| | Compensation values and QR codes are used. | ○ | ○ | | | ○ |
| | A fuel cooler is used.*1 | ○ | | | | |
| | A fuel filter, in which the fuel filter element alone can be replaced, is used. | | | | ○ | |
| | A fuel filter warning switch that detects the clogging of the fuel filter is used. | | | | ○ | |
| Engine Control System | An air flow meter is used. | ○ | | | | ○ |
| | An EGR control is used. | | | | | ○ |
| | An EGR valve position sensor is used.*2 | | | | | ○ |
| | Non-contact sensors are used as the accelerator pedal position sensor and intake shutter valve position sensor. | ○ | | | | |
| | A pilot injection control system is used. | ○ | ○ | | | ○ |

*1: Models with 1KD-FTV engine
*2: Models with 2KD-FTV High Version engine
*3: Models for high altitude country, and models with 1KD-FTV engine compliant with EURO III and Tier 1 emission regulations and 2KD-FTV High Version engine