

MAJOR DIFFERENCES

The following changes have been made to the 1HZ and 1HD-T engines.

- The changes described below are the same as those of the 1HD-FTE engine. For details, see the 1HD-FTE engine section.

Item	Details	1HZ	1HD-T
Engine Proper	<ul style="list-style-type: none"> • The rigidity of the cylinder block has been improved to reduce noise and vibration. • The crankshaft has been made highly rigid to reduce noise and vibration. • The crankshaft bearings have been machine-bored to improve their reliability. 	○	○
Cooling System	<ul style="list-style-type: none"> • An aluminum radiator core is used for weight reduction. • A step-up linear type temperature controlled fluid coupling has been adopted to improve cooling performance. 	○	○
Lubrication System	<ul style="list-style-type: none"> • A high-performance oil filter element has been adopted to improve the cleanliness of the engine oil. • A drip pan is provided on the oil cooler cover to improve serviceability. 	○	○
	The oil capacity of the engine has been increased to improve its reliability.	—	○
Intake and Exhaust System	<ul style="list-style-type: none"> • A ball joint has been adopted in the front exhaust pipe to reduce noise and vibration. • A clamp type joint is used to join the center pipe and tail pipe to realize weight reduction. 	—	○

- In addition to those listed above, the following changes have been made to the 1HZ and 1HD-T engines.

Item	Detail	1HZ	1HD-T
Engine Proper	<ul style="list-style-type: none"> • The shape of the combustion chamber of the cylinder head and the piston has been optimized to reduce exhaust emissions. • The inertial weight of the flywheel has been increased to reduce the fluctuations in engine speed. 	○	—
Valve Mechanism	<ul style="list-style-type: none"> • A hydraulic type auto tensioner has been adopted to achieve proper timing belt tension. • The shape of the timing gear cover has been changed for quieter operation. 	○	○
Fuel System	• The orifice of the injection nozzle has been increased to optimize the injection rate.	○	—
	• The injection pump is provided with FCVC (Fuel Cut Valve Control) in conjunction with the adoption of the engine immobiliser system.	○	○
Glow System	• New glow plugs made of metal have been adopted and the glow plug resistor and sub-relay have been discontinued.	○	○