

ENGINE

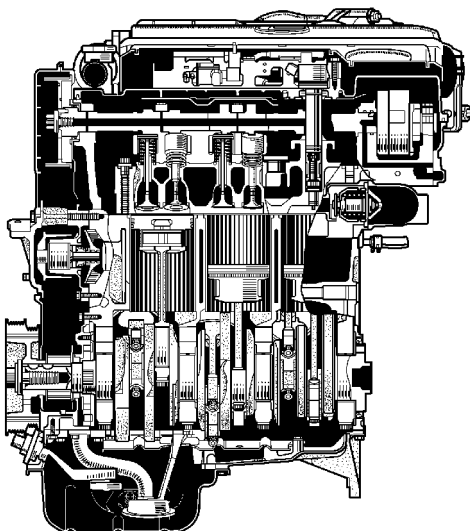
1MZ-FE ENGINE

■ DESCRIPTION

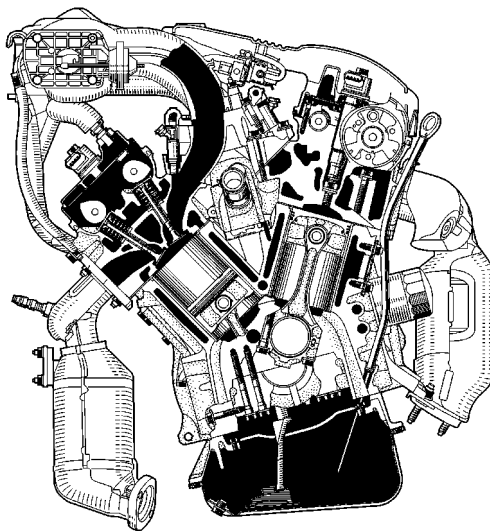
The 1MZ-FE engine, which is a V6, 3.0-liter, 24-valve DOHC engine, based on the 1MZ-FE engine on the '01 ES300.

This engine has following features that have been newly adopted in order to realize the further improvement of the engine performance, fuel economy and to reduce exhaust emissions.

- The PS (Planetary reduction Segment conductor motor) starter has been adopted.
- Meets the ULEV (Ultra Low Emission Vehicle) regulation requirements.
- Meets the SFTP (Supplementary Federal Test Procedure) regulation requirements.
- ETCS-i (Electronic Throttle Control System-intelligent) has been adopted.
- VVT-i (Variable Valve Timing-intelligent) system is used.
- Air intake control system has been adopted.



211EG01

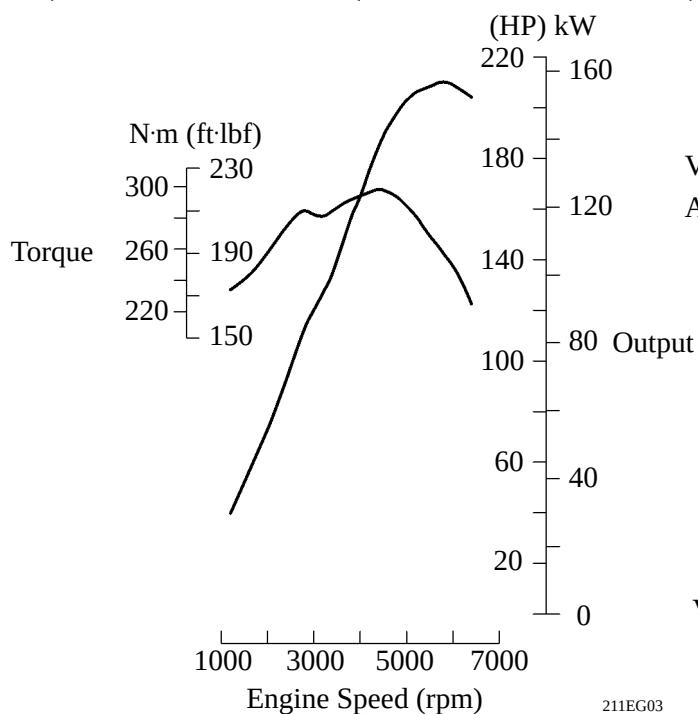


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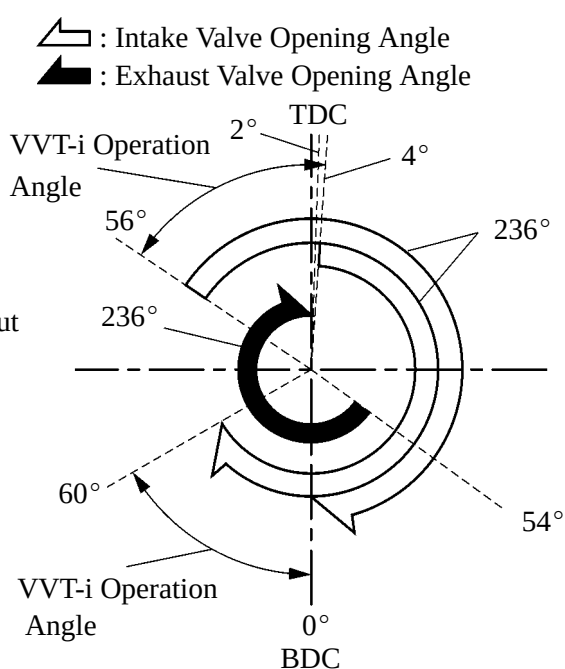
► Engine Specification ◀

Model			'02 ES300	'01 ES300
No. of Cyls. & Arrangement			6-Cylinder, V Type	←
Valve Mechanism			24-Valve DOHC, Belt & Gear Drive	←
Combustion Chamber			Pentroof Type	←
Manifolds			Cross-Flow	←
Fuel System			SFI	←
Displacement	cm ³ (cu. in.)		2995 (182.8)	←
Bore x Stroke	mm (in.)		87.5 x 83.0 (3.44 x 3.27)	←
Compression Ratio			10.5 : 1	←
Max. Output	(SAE-NET)		156 kw @ 5800 rpm (210 HP @ 5800 rpm)	←
Max. Torque	(SAE-NET)		298 N·m @ 4400 rpm (220 lb·ft @ 4400 rpm)	←
Valve Timing	Intake	Open	−4° ~ 56° BTDC	←
		Close	60° ~ 0° ABDC	←
	Exhaust	Open	54° BBDC	←
		Close	2° ATDC	←
Firing Order			1-2-3-4-5-6	←
Research Octane Number			96 or higher	←
Octane Rating			91 or higher	←
Dry Weight	kg (lb)		157 (346)	—
Oil Grade			API SJ, SL , EC or ILSAC	API SH, SJ , EC or ILSAC

► Performance Curve ◀



► Valve Timing ◀



211EG03

211EG04

■ FEATURES OF 1MZ-FE ENGINE

The 1MZ-FE engine has been able to achieve the following performance through the adoption of the item listed below.

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

Item	(1)	(2)	(3)	(4)	(5)	'02 ES300	'01 ES300
The VVT-i system is used.	○				○	○	←
The ETCS-i has been adopted.	○					○	—
A cylinder block made of aluminum alloy has been adopted.			○			○	←
The intake air chamber made of plastics has been adopted.			○			○	—
Independent type DIS (Direct Ignition System) has been adopted.	○			○	○	○	←
The fuel returnless system has been adopted.			○	○	○	○	←
Quick connectors are used to connect the fuel hose with the fuel pipes.				○		○	←
12-hole type fuel injectors with high atomizing performance have been adopted.	○				○	○	—
Iridium-tipped spark plugs have been adopted.	○			○		○	←
ACIS (Acoustic Control Induction System) is used.	○					○	←
Air intake control system has been adopted.	○	○				○	—
A 2-way exhaust control system has been adopted.	○	○				○	←
The use of an air fuel ratio sensor allows precise control.					○	○	←
The PS (Planetary reduction-Segment conductor motor) starter has been adopted.			○			○	—

Other parts and construction are the same as in the '01 ES300