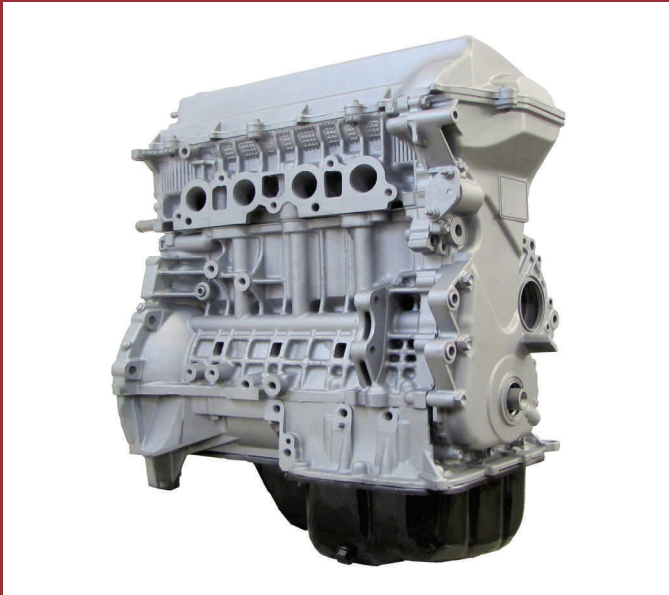


Toyota 1ZZFE 1.8L Engine

REMANUFACTURED GASOLINE ENGINES

FROM PROFORMANCE'S INDUSTRY LEADING REMANUFACTURING PROGRAM



In 1998 Toyota launched the 1ZZ family of engines. The 1.8L 1ZZ-FE with variable valve timing intelligence introduced new camshaft phasing technologies that put it above Honda's VTEC system for variable valve timing engines. Twin cams with 4 valves per cylinder enable the 1ZZ-FE to produce 122 horsepower and 120 foot pounds of torque making it the leader in its class for power. With the combined features of increased power and an impressive 28 miles per gallon fuel rating, the 1ZZ-FE surpasses the competition for a 1.8 liter engine making it the premier engine for the economy class import market.

ENGINE SPECIFICATIONS:

Displacement	1.8L (1794cc)	Compression Ratio	10.0:1
Bore	3.11 in. (79mm)	Torque	122 @ 4200 RPM
Stroke	3.60 in. (91.5mm)	Horsepower	126 @ 6000 RPM
Fuel Type	Gasoline 87 Oct. Min Rec.	Net Weight	92.9 kg (205 lbs.)
Fuel Induction	Sequential Multi-port Fuel	Valve gear	VVT-i DOHC 4 valves/cyl

Standard Features/Benefits:

Lightweight aluminum design with a 23% reduction in height and width over its predecessor has made the 1ZZ-FE the lightest 1.8L engine available today.

The 79mm bore and 91.5mm stroke of the engine create a moderate torque curve for easy-to-handle output characteristics.

By using Laser-Clad valve seat technology, Toyota reduced the area in the head traditionally occupied by small rings that make up the material used to support the valve seats. This allows the use of 1mm larger valves, for more power, without requiring a larger combustion chamber.

To help reduce friction of the piston rings, engineers designed a new cooling system where the coolant in the block half of the engine makes a u-turn in the rear of the block to help extract heat in a more efficient manner.

The new timing chain system for the 1.8L runs a long angle arch on the tensioned side to create a smooth, quiet operation that ultimately reduces noise, vibration and harshness.

The 1ZZ-FE features a high profile placed crankshaft which shortens the timing chain that further reduces noise vibration and harshness and improves timing chain longevity.

Toyota replaced the individual main caps on the 1ZZ-FE with a single main cap (bed plate) to create a stronger engine block that is more reliable.

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QUALITY SINCE 1959

All PROformance engines are remanufactured to meet or exceed OE specifications under ISO 9001:2000 certified manufacturing processes in our state of the art facility.



PROFORMANCE ENGINES ARE ENGINEERED TO BE SUPERIOR TO THE OE ENGINE:

	Original Engine	PPT Engine	Advantage/Benefit
Bearings	Aluminum	A-series aluminum bearings are ultra-modern made from bimetal alloys.	A-series bearings are lead free and provide class leading lubricate properties, increased wear resistance and high loading capacity for longer engine life under all conditions.
Crankshaft Journals	OE manufactured crankshaft journal surfaces typically have a RA of 15 or higher.	PPT crankshaft journal surfaces are held within a RA of 15 or lower.	Providing a smoother more polished surface for the engine oil to travel along, this means more longevity out of your engine's main and connecting rod bearings. The smoother RA of a crank will help trap oil longer, increasing protection from dry start after an oil change.
Pistons	Hypereutectic coated	Hypereutectic grafal coated with anodized piston head.	Grafal skirt coating decreases piston friction while at the same time improves the piston's ability to withstand scuffing. Hard anodizing the top of the piston and the first ring groove significantly improves microwelding resistance.
Oil Pump	Factory oil pump	Melling aftermarket oil pump	Melling extreme wear resistant oil pumps are designed to out live the life of your engine while providing increased oil flow to the engine's moving parts.
Block milling	Milled to 30 RA and above	Milled to 20 RA and below.	Cutting the deck surface on the block to 20 RA or lower provides a smoother surface with less waviness per square inch creates a better engine's head gasket seal.
Specification tolerances	.001" tolerances between max/min tolerances of cylinder bores, connecting rod and main bearing journals.	.0005" between min and max tolerances.	PPT has reduced the allowable tolerances by 1/2. An engine that is built to tighter tolerances is a superior product in wear, durability and dependability

PROFORMANCE REMANUFACTURED ENGINES FEATURE:

- **NEW** Pistons
- **NEW** Piston Pins
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- **NEW** Valves*
- **NEW** Bushings*
- **NEW** Valve Guides
- **NEW** Cam Bearings
- **NEW** Lifters*
- **NEW** Piston Rings
- **NEW** Valve Seals
- **NEW** High-Quality Gasket Sets
- **NEW** Fel-Pro Teflon Rear Main Seals*
- **NEW** Rod Bearings
- **NEW** Main Bearings
- **NEW** Timing Gears
- **NEW** Timing Chains
- **NEW** Timing Belt (where applicable)
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