



Engine Number	1KD	
Bore Size Pre Machining		
Bore Damage Pitting?	Y	N
Blocked Oil Pickup?	Y	N
Blown Head Gasket?	Y	N
Balance Shaft Delete?	Y	N

HP for Build	STD	400hp	600hp
Piston to Bore Clearance	0.070-0.090	0.09	0.12 MAX
1st Ring Gap	0.27-0.39	0.5	Yeah some
2nd Ring Gap	0.47-0.57	0.7	Yeah More
Oil Ring Gap	0.20-0.40	0.45	I dunno
Main Journal Clearance	0.030-0.048	0.030-0.048	0.060 MAX
Big End Clearance	0.036-0.054	0.036-0.054	0.070 MAX
Little End Clearance	0.012-0.020	0.02	0.02

Torque Specs (Nm + Deg + Deg)	
Oil Squirters	26
Mains Bolts (STD)	50+90deg
Mains Bolts (ARP 2000)	160
Rod Bolts (STD)	35 +90deg
Rod Bolts (ARP2000)	1010
Head Bolts (STD)	85 +90 +90deg
Head Bolts (ARP)	135nm
Cam Caps	19
Fly Wheel Bolts	170nm
Balancer Bolt	365
M8 Timing Belt Bolts	25
Front Cam Gear Bolt	96
Injector Clamp Bolts	22
Injector Banjo Bolts	12
Fuel Pump Nut (STD)	64
Fuel Pump Nut (HP4)	55
m6 Case Bolt	12
Scissor Gear bolts	50
Cam Shaft Bolt	96

	1	2	3	4	5
Piston Dia					
Bore Dia					
Big End Journal					
Big End					
Big End Clearance					
Thrust Clearance (0.04-0.240mm)					
Gudgeon Pin					
Little End ID					
Little End Clearance					
Main Journal					
Main					
1st Ring Gap					
2nd Ring Gap					
Oil Ring Gap					
Piston Protrusion					
<b>Head Gasket</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>
<b>Piston Protrusion</b>	<b>0.005-0.054</b>	<b>0.055-0.104</b>	<b>0.105-0.154</b>	<b>0.155-0.204</b>	<b>0.205-0.255</b>

Fuel Pump		Injector Nozzle	
Injector Code		Injector Lines	
Valve Clearance Intake	0.20-0.30mm	Valve Clearance Ex	0.35-0.45mm

Other Build Notes	Please consult your engine builder for all specifications, this information is only a guide and may not work in your situation.
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REMOVAL OF BALANCE SHAFT'S. To remove the balance shafts from your engine the only step you are required to take is to block the oil feed passage to the shaft. To do this you should remove the 2 welsh plugs at the rear of the balance shafts using a large drift or punch. Proceed with a cam bearing removal tool to knock out the bearings. Identify the oil galleries which pass through the bearing and use a paint pen to mark their orientation. Take the new bearing, use a aviation gasket sealer on the interior of the bore and proceed to knock the new bearing in, ensuring the oil passaged in the bearings are clocked 90 deg to the oil passaged in the block. DO NOT RE-INSTALL THE BALANCE SHAFTS.