

Notes			Specified value	Measured value
Vehicle identification				
	No. of cylinders	Type	4/OHC	
	Capacity	cc	2779	
	Compression ratio	:1	22,2	
Injection system				
	Fuel/injection pump assembly	Make	Denso	
	Fuel/injection pump assembly	Type	VE	
	Pump type		Rotary	
	Injection sequence		1-3-4-2	
	Injector nozzle	Make	Denso	
	Nozzle opening pressure - new/used	bar	151-159/145	
	Leak rate (dribble)	bar/secs	135/10	
Tuning and emissions				
15	Plunger travel (pump)	mm ABDC		
	Crankshaft position (n = ATDC)	°BTDC	0	
	Adjusting method	Engine/Pump	Pointer/ Dial gauge	
	Idle speed	rpm	650-750	
	Idle speed - alternative	rpm	AT=800±50	
	Rated no load speed	rpm	4800	
	Oil temperature	°C	80	
	Idle speed - for smoke test	rpm	650-750	
	Governed speed range - for smoke test	rpm	4650-4950	
	Maximum time at governed speed	secs	1,0	
	Test mode	A/B	B	
	Probe type	1/2	1	
	Conditioning	Accelerations/rpm	3	
	Smoke opacity - EU limit	m-1 (%)	2,50 (66)	
Starting and charging				
	Battery	V/RC(Ah)	12/110 (70)	
	Maximum cranking amps	A	189-231	
	Alternator output	A/V/rpm	30/14/2000	
	Regulated voltage	V	13,8-14,4	
Glow plugs				
	Glow plug - part no.	Beru	GV968	
	Glow plug - part no.	Bosch	0 250 202 053	
Service checks and adjustments				
	Valve clearance - INLET	mm	0,25 cold	
	Valve clearance - EXHAUST	mm	0,45 cold	
	Compression pressure	bar	20-32	
	Oil pressure	bar/rpm	2,5-6,0/3000	
	Radiator cap	bar	0,74-1,03	
	Thermostat (primary/secondary) open	°C	86-90	
	Drive belt size - alternator	mm	9,5x975 (x2)	
	Drive belt size - PAS/AC	mm	12,5x850	
Lubricants and capacities				
	Engine oil grade - cold climate	SAE	10W/30	
	Engine oil grade - moderate climate	SAE	10W/40	
	Engine oil grade - hot climate	SAE	20W/40	
	Engine oil classification	API/ACEA	CF/B2-96	
	Engine oil grade - alternative - moderate climate	SAE	20W/50	
	Engine with filter(s)	litres	6,0 4x4=6,5	
	Manual gearbox oil grade	SAE	75W/90	
	Manual gearbox 4/5 speed	litres	2,7	
	Automatic transmission fluid	Type	Dexron II	
	Automatic transmission (drain & refill)	litres	2,5	
	Differential oil grade - rear	SAE	80W/90	
	Differential rear	litres	2,2	
	Cooling system	litres	9,3	
Tightening torques				
	Cylinder head instructions			
Cylinder head				
		Renew bolts	No	
	Stage 1	Tighten	38 Nm	

Manufacturer: Toyota
Engine code: 3L
Tuned for:

Model: Dyna 2,8D
Output: 62 (84) 3800
Year: 1988-98

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	Stage 2		Tighten	78 Nm	
	Stage 3		Tighten	90°	
	Stage 4		Tighten	90°	
Other tightening torques					
	Main bearings		Renew bolts/nuts	No	
3	Main bearings		Stage 1		
	Big end bearings		Renew bolts/nuts	No	
	Big end bearings		Stage 1	54 Nm	
	Big end bearings		Stage 2	90°	
	Sump bolts			18 Nm	
	Sump drain bolt			39 Nm	
	Flywheel/driveplate			123 Nm/98 Nm	
	Clutch to flywheel			19 Nm	
	Crankshaft pulley/damper centre bolt			167 Nm	
	Camshaft sprocket/gear			98 Nm	
	Camshaft carrier/cap			25 Nm	
	Camshaft/rocker cover			5 Nm	
	Inlet manifold to cylinder head			24 Nm	
	Exhaust manifold to cylinder head			52 Nm	
	Injector/clamp			65 Nm	
	Injector pipe unions			25 Nm	
	Fuel/injection pump sprocket/gear			64 Nm	
	Fuel/injection pump flange			21 Nm	
	Fuel/injection pump mounting			18 Nm	
	Injector nozzle to holder			37 Nm	
	Glow plugs			13 Nm	
	Brake caliper to carrier		Front	49 Nm	
	Brake caliper carrier to hub		Front	127 Nm	
17	Road wheels				
Brake disc and drum dimensions					
	Disc runout		Front	0,15 mm	
	Minimum pad thickness		Front	100=1 mm 150=3 mm	
	Minimum shoe thickness		Rear	1 mm	
	Parking brake travel		No. of notches	6-10	
Air conditioning					
	Air conditioning refrigerant		Type	R12	
	Air conditioning refrigerant quantity		grams	650-750	
	Air conditioning oil		Type	Dens Oil 6	

Autodata Note 15

0,84-0,96 mm
+ACSD = 0,54-0,66 mm

Autodata Note 3

- 1) 35 Nm
- 2) 70 Nm
- 3) 103 Nm

Autodata Note 17

5 wheel bolts = 140 Nm
6 wheel bolts = 375 Nm

