

		1	2	3
1	Vehicle Identification	32963	32839	32849
2	Model	tC	xA	xB
3	Body code	2.4L	1.5L	1.5L
4				
5	Year	2005-06	2003-06	2004-06
6	Engine Code (VIN)	2AZ-FE (VIN 5 = D/E)	1NZ-FE (VIN 5 = T)	1NZ-FE (VIN 5 = T)
7	No. of cylinders/Type	4/DOHC	4/DOHC	4/DOHC
8	Capacity cm ³	2362	1497	1496
9	Output hp/rpm	160/5700	108/6000	108/6000
10	Ignition system Description	Mapped-DI	Mapped-DIS	Mapped-DIS
11	Trigger location	Camshaft, crankshaft	Camshaft, crankshaft	Camshaft, crankshaft
12	Fuel system Make	Toyota	Toyota	Toyota
13	Type	TCCS	TCCS	TCCS
14	Description	Multi-port, sequential	Multi-port, sequential	Multi-port, sequential
15	Air metering Type	Mass meter	Mass meter	Mass meter
16	Tuning	^[637]		
17	Firing order	1-3-4-2	1-3-4-2	1-3-4-2
18	Ignition timing BTDC °Engine/rpm	5-15/700 Not adjustable	8-12/650 Not adjustable	8-12/650 N=Not adjustable
19	o without + with vacuum	-	-	-
20	Idle speed (curb) rpm	700±50 Not adjustable	650±50 Not adjustable	650±50 Not adjustable
21	alternative (curb) rpm	AT=660±50 Not adjustable	^[124] Not adjustable	AT=700±50 Not adjustable
22	Service checks and adjustments			
23	O E Spark plugs Make	Denso	Denso	Denso
24	Type	SK20R11	K16R-U	K16R-U
25	Electrode gap mm	1.0-1.1	0.7-0.8	0.7-0.8
26	Valve lash - intake mm	0.19-0.29 cold	0.15-0.25 cold	0.15-0.25 cold
27	- exhaust mm	0.30-0.40 cold	0.25-0.35 cold	0.25-0.35 cold
28	Compression pressure bar	13.0	14.6	14.6
29	Oil pressure bar/rpm	2.5-5.4/3000	1.5-5.5/3000	1.5-5.5/3000
30	Lubricants and capacities			
31	Engine oil grade - cold climate SAE	5W/30 Semi-Synth.	5W/30 Semi-Synth.	5W/30 Semi-Synth.
32	- moderate climate SAE	5W/30 Semi-Synth.	5W/30 Semi-Synth.	5W/30 Semi-Synth.
33	- hot climate SAE	5W/30 Semi-Synth.	10W/30 Semi-Synth.	10W/30 Semi-Synth.
34	Engine oil classification API	SL	SL	SL
35	Engine with filter quarts	4.0	3.9	3.9
36	Gearbox oil grade SAE	75W/90	75W/90	75W/90
37	4/5/6 speed quarts	2.6	2.0	2.0
38	Automatic transmission fluid Type	T-IV	T-IV	T-IV
39	drain and refill quarts	3.7	3.1	3.1
40	Transfer case SAE	-	-	-
41	drain and refill quarts	-	-	-
42	Front differential oil grade SAE	-	75W/90	75W/90
43	drain and refill quarts	-	2.0	2.0
44	Rear differential oil grade SAE	-	-	-
45	drain and refill quarts	-	-	-
46	Cooling system quarts	7.2 AT=7.1	4.7 AT=4.5	4.7 AT=4.5
47	Brake fluid Type	DOT 3	DOT 3	DOT 3
48	system quantity quarts	-	-	-
49	Power steering fluid Type	Dexron II/III	Dexron II/III	Dexron II/III
50	system quantity quarts	-	0.7	0.7
51	Brake dimensions			
52	Minimum rotor thickness - solid front	-	-	-
53	- ventilated front	23 mm	20 mm	20 mm
54	Minimum rotor thickness rear	7.5 mm	-	-
55	Thickness variation front/rear	-	-	-
56	Rotor runout front/rear	0.05 mm/0.15 mm	0.5 mm/-	0.5 mm/-
57	Maximum drum diameter rear	174 mm	201 mm	201 mm
58	Minimum pad thickness front/rear	1 mm/1 mm	1 mm/-	1 mm/-
59	Minimum shoe thickness rear	1 mm	1 mm	1 mm

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60	Tightening torques	32963	32839	32849	
61	Cylinder head	Renew bolts	—	—	
62		Maximum bolt length	164.2 mm	147.1 mm	
63		Torque	29 ft. lbs.	22 ft. lbs.	
64		Torque	58 ft. lbs.	90°	
65		Loosen	↓	↓	
66	<div style="border: 1px solid black; padding: 2px; width: fit-content;"> ft. lbs. = foot pounds ins. lbs. = inch pounds ° = angular torque ↓ = proceed to next stage Nm conversion, see last page </div>	Individually loosen	↓	↓	
67			Torque	90°	90°
68			Run engine	—	—
69			Wait	—	—
70			Individually loosen	—	—
71			Torque	—	—
72			Run engine	—	—
73			Wait	—	—
74			Individually loosen	—	—
75			Torque	—	—
76		Torque	—	—	
77		Tightening sequence - see illustrations below	75925	75950	
78	Main bearings	Renew bolts/nuts	[1431]	[1241]	
79		Stage 1	1)15 ft. lbs. 2)30 ft. lbs.	16 ft. lbs.+90°	
80		Stage 2	3)90°	—	
81	Big end bearings	Renew bolts/nuts	[629]	[1240]	
82		Stage 1	9 ft. lbs.	11 ft. lbs.+90°	
83		Stage 2	2)18 ft. lbs. 3)90°	—	
84	Oil pump to cylinder block		14 ft. lbs.	—	
85	Oil pan bolts		7 ft. lbs.	—	
86	Oil pan drain bolt		30 ft. lbs.	28 ft. lbs.	
87	Drive plate		72 ft. lbs.	—	
88	Torque converter		30 ft. lbs.	20 ft. lbs.	
89	Flywheel		96 ft. lbs.	36 ft. lbs.+90°	
90	Clutch cover to flywheel		14 ft. lbs.	14 ft. lbs.	
91	Crankshaft pulley/damper center bolt		133 ft. lbs.	95 ft. lbs.	
92	Camshaft sprocket/gear		40 ft. lbs.	47 ft. lbs.	
93	Camshaft carrier/cap		[657]	36 ft. lbs. [1239]	
94	Camshaft/valve cover		8 ft. lbs.	7 ft. lbs.	
95	Intake manifold to cylinder head		22 ft. lbs.	22 ft. lbs.	
96	Exhaust manifold to cylinder head		27 ft. lbs.	20 ft. lbs.	
97	Spark plugs		—	—	
98	Crankshaft position sensor		7 ft. lbs.	6 ft. lbs.	
99	Oxygen sensor (Lambda)		32 ft. lbs.	32 ft. lbs.	
100	Knock sensor		15 ft. lbs.	32 ft. lbs.	
101	Front hub		159 ft. lbs.	159 ft. lbs.	
102	Rear hub		103 ft. lbs.	159 ft. lbs.	
103	Steering track rod end		36 ft. lbs.	[1245]	
104	Brake caliper to carrier	front	25 ft. lbs.	25 ft. lbs.	
105	Brake caliper carrier to hub	front	79 ft. lbs.	65 ft. lbs.	
106	Brake caliper to carrier	rear	[1433]	—	
107	Brake caliper carrier to hub	rear	34 ft. lbs.	—	
108	ABS sensor	front/rear	6 ft. lbs./—	6 ft. lbs./—	
109	Road wheels		76 ft. lbs.	76 ft. lbs.	

