

TOYOTA

Hi-Ace 2.0 (RZH112)

1989 to 1994

Engine & Cooling

Fuel

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Automotive Technical
DATA BOOK

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Engine and cooling system			Hi-Ace 2.0 (RZH112)	1989 to 1994
Type			1RZ	
Capacity (cm³) / number of cylinders			1998 / 4	
Compression ratio / pressure	bar		9.0 / ≥8.8	
Oil pressure	bar		[2.5 to 4.9]	
Oil temperature	°C		—	
Valve clearance - inlet	mm		0.20 to 0.30	
- exhaust	mm		0.25 to 0.35	
Firing order			1-3-4-2	
No 1 cylinder position			TCE	
Thermostat opening temperature	°C		80 to 84	
Radiator cap pressure	bar		0.74 to 1.03	
Fuel system			Hi-Ace 2.0 (RZH112)	1989 to 1994
Idle speed - manual [auto]	rpm		750 [800]	
Fast idle speed - manual [auto]	rpm		2600±100	
CO @ idle speed [3000 rpm] - see page VI	%		1.0±0.5	
HC @ idle speed [3000 rpm] - see page VI	ppm		≤1200	
CO2 @ idle speed [3000 rpm] - see page VI	%		—	
O2 @ idle speed [3000 rpm] - see page VI	%		—	
Carburettor / fuel injection			Aisan	
Type / ref			2V 21100-75020 [-75050]	
Main jet / needle			—	
Injection pressure	bar		—	
Pump pressure	bar		—	
Octane rating	RON		95[E 95 RON]	
Ignition system			Hi-Ace 2.0 (RZH112)	1989 to 1994
Type			Electronic	
Ignition coil			IIA	
Primary resistance	ohms		1.2 to 1.6	
Ballast resistor	ohms		—	
Voltage - Tmnl 15(+) to earth	V		—	
Distributor			Toyo Denso	
Points gap (air gap)	mm		[0.20 to 0.40]	
Dwell angle	° (%)		—	
Condenser capacity	µF		—	
Rotation			—	
Ignition timing - basic [static	° Crankshaft @ rpm		5 BTDC @ 950	
V = Vacuum NV = No Vacuum			NV	
Total ignition advance	° Crankshaft @ rpm		15 BTDC @ idle	
	° Crankshaft @ rpm		—	
	° Crankshaft @ rpm		—	
Centrifugal check.	° Crankshaft @ rpm		0 to 3.5 @ 1300¹	
	° Crankshaft @ rpm		10 to 13 @ 2900¹	
	° Crankshaft @ rpm		22 to 26 @ 6400¹	
Vacuum range check	mbar		107 to 560²	
Maximum vacuum advance	° Crankshaft		21 to 23³	
Spark plugs			NGK/Champion	
Type			BPR5EY / RN9YC	
Electrode gap	mm		0.80	
Electrical system			Hi-Ace 2.0 (RZH112)	1989 to 1994
Battery	V / CC / RC		12 / 60Ah	
Alternator voltage / full load current / engine rpm			13.9 to 15.1 / _ / 3000	
Starter motor current / voltage - cranking	A / V		90 / 11.5 (no load)	
- locked	A / V		—	
Running gear			Hi-Ace 2.0 (RZH112)	1989 to 1994
Brakes -				
Front (min. friction material thickness)	mm		1.0	
Rear (min. friction material thickness)	mm		1.0	
Tyres				
Saloon	Size		—	
Estate / Van	Size		185x14	
Pressure - front / rear - Saloon	bar		—	
- Estate / Van	bar		3.0 / 3.8⁴	
Front suspension / wheel alignment				
Toe-in (+) / Toe-out (–)	mm [°]		+1.0±1.0	
Camber			-10'±30'	
Castor			+1°40'±30'	
King pin inclination			+10°40'±30'	
Rear suspension / wheel alignment				
Toe-in (+) / Toe-out (–)	mm [°]		—	
Camber			—	
Torque wrench settings			Hi-Ace 2.0 (RZH112)	1989 to 1994
Cylinder head - stage 1	Nm		44	
- stage 2	Nm		+ 90°	
- stage 3	Nm		+ 90°	
- stage 4	Nm		—	
Big-end bearings	Nm		25 + 90°	
Main bearings	Nm		44 + 90°	
Clutch cover	Nm		19	
Flywheel [driveplate]	Nm		88 [64]	
Front hubs	Nm		WSM	
Rear hubs	Nm		—	
Wheel nuts / bolts	Nm		103	
Spark plugs	Nm		18	
Capacities			Hi-Ace 2.0 (RZH112)	1989 to 1994
Engine oil & filter	litres		4.1	
Gearbox - 4-speed [5-speed]	litres		2.2	
Automatic transmission - refill	litres		2.4	
Final drive	litres		2.2	
Cooling system	litres		9.0	
Fuel tank	litres		70	

Notes and Illustrations

¹Distributor no. 19020-75020 only. 19020-75040: 0 to 3.8 @ 1300, 10.8 to 13.8 @ 2600, 24 to 28 @ 6000

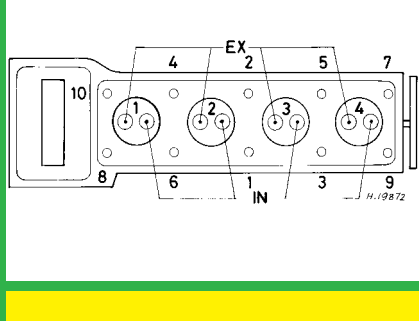
²19020-75020 only. 19020-75040: 133 to 587

³19020-75020 only. 19020-75040: 18 to 22

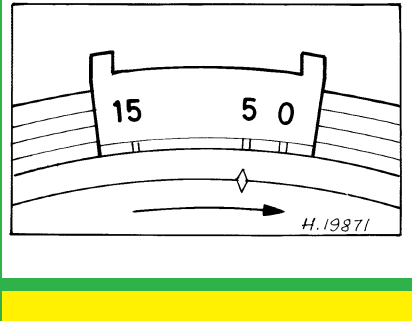
⁴8 ply tyres: 3.0 / 4.5

1: Idle speed

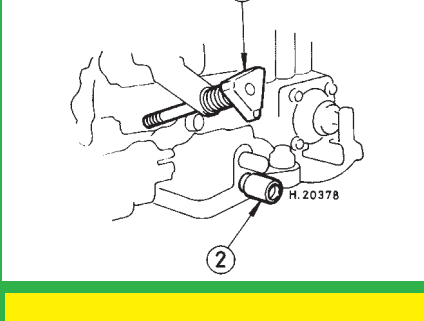
2: CO / Mixture



1998 cm³, 1RZ



1998 cm³, 1RZ



Aisan 2V, 1RZ