

TOYOTA

Carina E 2.0i (ST191)

1992 to 1997

Engine & Cooling

Fuel

Ignition

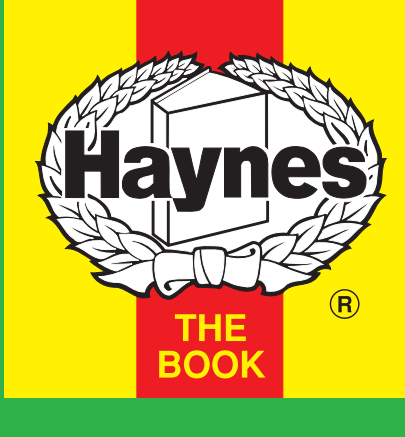
Electrical

Running gear

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Capacities

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Automotive Technical
DATA BOOK

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HELP

Engine and cooling system			Carina E 2.0i (ST191)	1992 to 1997
Type			3S-FE DOHC 16V 98kW	
Capacity (cm³) / number of cylinders			1998 / 4	
Compression ratio / pressure		bar	9.8 / ≥9.5	
Oil pressure		bar	0.3 [3.0]	
Oil temperature		°C	80	
Valve clearance - inlet		mm	0.19 to 0.29	
		mm	0.28 to 0.38	
Firing order			1-3-4-2	
No 1 cylinder position			TBE	
Thermostat opening temperature		°C	80 to 84	
Radiator cap pressure		bar	0.74 to 1.03	

Fuel system			Carina E 2.0i (ST191)	1992 to 1997
Idle speed - manual [auto]		rpm	700±50 N/A	
Fast idle speed - manual [auto]		rpm	—	
CO @ idle speed [3000 rpm] - see page VI		%	≤0.5 N/A	
HC @ idle speed [3000 rpm] - see page VI		ppm	≤100	
CO2 @ idle speed [3000 rpm] - see page VI		%	—	
O2 @ idle speed [3000 rpm] - see page VI		%	—	
Carburettor / fuel injection			Toyota	
Type / ref			MPI (D-Jetronic) TCCS	
Main jet / needle			—	
Injection pressure		bar	2.3 to 2.6	
Pump pressure		bar	2.7 to 3.0	
Octane rating		RON	95[U]	

Ignition system			Carina E 2.0i (ST191)	1992 to 1997
Type			TCCS - IIA	
Ignition coil			—	
Primary resistance		ohms	0.36 to 0.55	
Ballast resistor		ohms	—	
Voltage - Tmnl 15(+) to earth		V	12.0	
Distributor			Toyo Denso	
Points gap (air gap)		mm	[0.20 to 0.40]	
Dwell angle		° (%)	—	
Condenser capacity		µF	—	
Rotation			Clockwise	
Ignition timing - basic [static		° Crankshaft @ rpm	10 BTDC @ 700±50 ¹	
		V = Vacuum NV = No Vacuum	NV	
Total ignition advance		° Crankshaft @ rpm	10 to 20 BTDC @ 700±50	
		° Crankshaft @ rpm	—	
		° Crankshaft @ rpm	—	
Centrifugal check.		° Crankshaft @ rpm	Computer control	
		° Crankshaft @ rpm	—	
		° Crankshaft @ rpm	—	
Vacuum range check		mbar	Computer control	
Maximum vacuum advance		° Crankshaft	—	
Spark plugs			NGK	
Type			BKR6EYA-11	
Electrode gap		mm	1.10	

Electrical system			Carina E 2.0i (ST191)	1992 to 1997
Battery		V / CC / RC	12 / 60Ah	
Alternator voltage / full load current / engine rpm			14.0 to 15.0 / 70 / 2000	
Starter motor current / voltage - cranking		A / V	90 / 11.5	
		A / V	—	

Running gear			Carina E 2.0i (ST191)	1992 to 1997
Brakes -				
Front (min. friction material thickness)		mm	1.0	
Rear (min. friction material thickness)		mm	1.0	
Tyres				
Saloon		Size	185/65x14: 195/60x15	
Estate / Van		Size	185/65x14	
Pressure - front / rear - Saloon		bar	2.2 / 2.2 ²	
		bar	2.2 / 2.1	
Front suspension / wheel alignment				
Toe-in (+) / Toe-out (–)		mm [°]	0±2.0	
Camber			-20'±45'	
Castor			0±45'. PAS: +30'±45'	
King pin inclination			+13°25'±45'	
Rear suspension / wheel alignment				
Toe-in (+) / Toe-out (–)		mm [°]	+4.0±2.0	
Camber			-30'±30'	

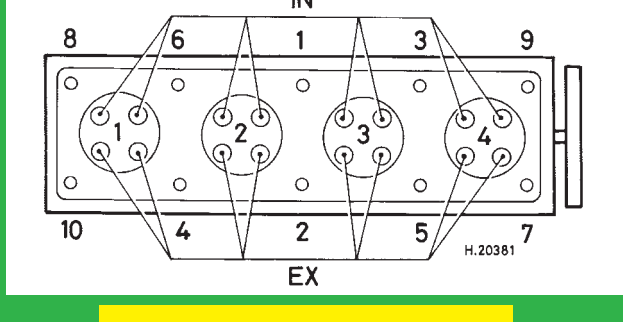
Torque wrench settings			Carina E 2.0i (ST191)	1992 to 1997
Cylinder head - stage 1		Nm	29	
- stage 2		Nm	25 +90°	
- stage 3		Nm	+ 90°	
- stage 4		Nm	—	
Big-end bearings		Nm	49	
Main bearings		Nm	59	
Clutch cover		Nm	19	
Flywheel [driveplate]		Nm	83 N	
Front hubs		Nm	226	
Rear hubs		Nm	123	
Wheel nuts / bolts		Nm	103	
Spark plugs		Nm	18	

Capacities			Carina E 2.0i (ST191)	1992 to 1997
Engine oil & filter		litres	3.9	
Gearbox - 4-speed [5-speed]		litres	2.6	
Automatic transmission - refill		litres	3.1	
Final drive		litres	WT	
Cooling system		litres	6.7 [AT: 6.6]	
Fuel tank		litres	60	

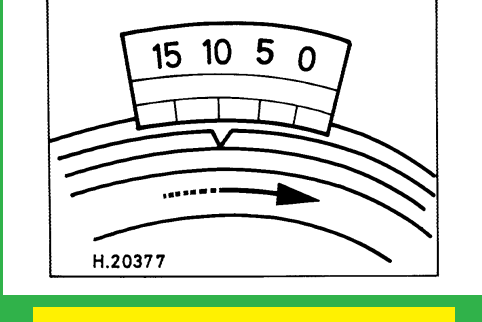
Notes and Illustrations

¹TE1 & E1 shorted

²195/60x15: 2.1 / 2.1



1998 cm³



1998 cm³, 3S-FE