

Engine & Cooling

Fuel

Ignition

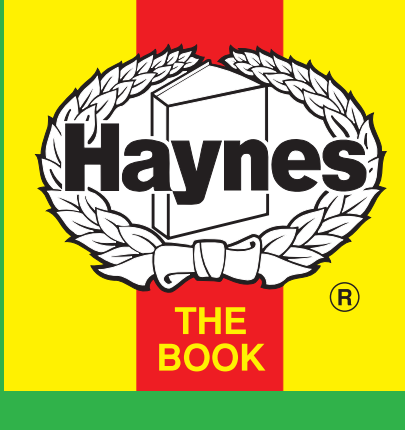
Electrical

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Automotive Technical
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Engine and cooling systemCamry V6i CAT (VZV21)1989 to 1991

Type		2VZ-FE (DOHC 24 valve)
Capacity (cm ³) / number of cylinders		2507 / 6
Compression ratio / pressure	bar	9.0 / ≥9.8
Oil pressure	bar	0.3 [3.0]
Oil temperature	°C	80
Valve clearance - inlet	mm	0.13 to 0.23
- exhaust	mm	0.27 to 0.37
Firing order		1-2-3-4-5-6
No 1 cylinder position		FR
Thermostat opening temperature	°C	80 to 84
Radiator cap pressure	bar	0.75 to 1.00

Fuel systemCamry V6i CAT (VZV21)1989 to 1991

Idle speed - manual [auto]	rpm	700 (N/A)
Fast idle speed - manual [auto]	rpm	—
CO @ idle speed [3000 rpm] - see page VI	%	—
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		Toyota
Type / ref		TCCS
Main jet / needle		—
Injection pressure	bar	—
Pump pressure	bar	2.7 to 3.0
Octane rating	RON	95[U]

Ignition systemCamry V6i CAT (VZV21)1989 to 1991

Type		Electronic
Ignition coil		Denso
Primary resistance	ohms	0.41 to 0.50
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		Clockwise
Ignition timing - basic [static	° Crankshaft @ rpm	10 BTDC @ idle ¹
V = Vacuum NV = No Vacuum		
Total ignition advance	° Crankshaft @ rpm	13 to 27 BTDC @ idle
	° Crankshaft @ rpm	—
	° Crankshaft @ rpm	—
Centrifugal check.	° Crankshaft @ rpm	Electronic control
	° Crankshaft @ rpm	—
	° Crankshaft @ rpm	—
Vacuum range check	mbar	Electronic control
Maximum vacuum advance	° Crankshaft	—
Spark plugs		NGK/Champion
Type		BCPR6EP11 / RC9YC
Electrode gap	mm	1.10 to 1.30

Electrical systemCamry V6i CAT (VZV21)1989 to 1991

Battery	V / CC / RC	12 / 60Ah
Alternator voltage / full load current / engine rpm		13.5 to 15.0 / _ / 2000
Starter motor current / voltage - cranking	A / V	90 / 11.5 (no load)
- locked	A / V	—

Running gearCamry V6i CAT (VZV21)1989 to 1991

Brakes -		
Front (min. friction material thickness)	mm	1.0
Rear (min. friction material thickness)	mm	1.0

Tyres		
Saloon	Size	195/60x15
Estate / Van	Size	—
Pressure - front / rear - Saloon	bar	2.1 / 1.8
- Estate / Van	bar	—

Front suspension / wheel alignment		
Toe-in (+) / Toe-out (–)	mm [°]	+1.0±1.0
Camber		+35'±45'
Castor		+1°40'±30'
King pin inclination		+12°40'±45'

Rear suspension / wheel alignment		
Toe-in (+) / Toe-out (–)	mm [°]	+4.0±1.0
Camber		-20'±45'

Torque wrench settingsCamry V6i CAT (VZV21)1989 to 1991

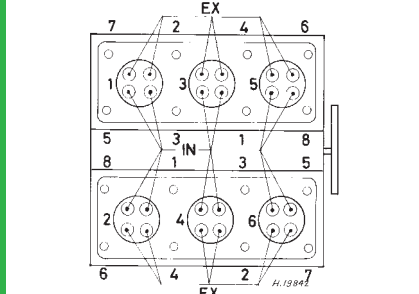
Cylinder head - stage 1	Nm	34
- stage 2	Nm	+ 90°
- stage 3	Nm	+ 90°
- stage 4	Nm	—
Big-end bearings	Nm	25 + 90°
Main bearings	Nm	61 + 90°
Clutch cover	Nm	—
Flywheel [driveplate]	Nm	83 N
Front hubs	Nm	186
Rear hubs	Nm	103
Wheel nuts / bolts	Nm	103
Spark plugs	Nm	17

CapacitiesCamry V6i CAT (VZV21)1989 to 1991

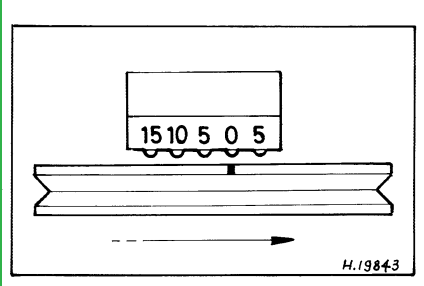
Engine oil & filter	litres	3.9
Gearbox - 4-speed [5-speed]	litres	4.2
Automatic transmission - refill	litres	2.5
Final drive	litres	AT: 1.0
Cooling system	litres	8.5
Fuel tank	litres	60

Notes and Illustrations

¹TE1 (or T) & E1 shorted



2507 cm³



2507 cm³