

Engine & Cooling

Fuel

Ignition

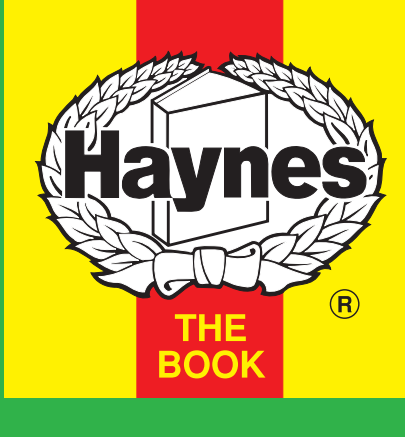
Electrical

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Automotive Technical
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Engine and cooling systemCelica GT-Four CAT (ST185)1990 to 1993

Type		3S-GTE DOHC 16V Turbo
Capacity (cm³) / number of cylinders		1998 / 4
Compression ratio / pressure	bar	8.8 / ≥8.8
Oil pressure	bar	[2.5 to 4.9]
Oil temperature	°C	80
Valve clearance - inlet	mm	0.15 to 0.25
- exhaust	mm	0.20 to 0.30
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 systemCelica GT-Four CAT (ST185)1990 to 1993

Idle speed - manual [auto]	rpm	800±50 N/A
Fast idle speed - manual [auto]	rpm	—
CO @ idle speed [3000 rpm] - see page VI	%	0 to 0.5 N/A
HC @ idle speed [3000 rpm] - see page VI	ppm	≤300
CO2 @ idle speed [3000 rpm] - see page VI	%	—
O2 @ idle speed [3000 rpm] - see page VI	%	—
Carburettor / fuel injection		Toyota
Type / ref		TCCS plus Turbo
Main jet / needle		—
Injection pressure	bar	—
Pump pressure	bar	2.3 to 2.7
Octane rating	RON	95[U]

Ignition systemCelica GT-Four CAT (ST185)1990 to 1993

Type		Computerized
Ignition coil		—
Primary resistance	ohms	0.40 to 0.50
Ballast resistor	ohms	—
Voltage - Tmnl 15(+) to earth	V	—
Distributor		—
Points gap (air gap)	mm	[0.20 to 0.40]
Dwell angle	° (%)	—
Condenser capacity	µF	—
Rotation		—
Ignition timing - basic [static	° Crankshaft @ rpm	10 BTDC @ 800±50 ¹
V = Vacuum NV = No Vacuum		NV
Total ignition advance	° Crankshaft @ rpm	12 to 21 BTDC @ 800±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/Champion
Type		BKR6EP8 / RC7YCC
Electrode gap	mm	0.80

Electrical systemCelica GT-Four CAT (ST185)1990 to 1993

Battery	V / CC / RC	12 / 48Ah
Alternator voltage / full load current / engine rpm		13.9 to 15.1 / _ / 2000
Starter motor current / voltage - cranking	A / V	90 / 11.5 (no load)
- locked	A / V	—

Running gearCelica GT-Four CAT (ST185)1990 to 1993

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

Tyres		
Saloon	Size	215/50x15
Estate / Van	Size	—
Pressure - front / rear - Saloon	bar	2.3 / 2.3
- Estate / Van	bar	—

Front suspension / wheel alignment		
Toe-in (+) / Toe-out (–)	mm [°]	0±1.0
Camber		-10'±45'
Castor		+1°±45'
King pin inclination		+14°10'±45'

Rear suspension / wheel alignment		
Toe-in (+) / Toe-out (–)	mm [°]	+5.0±1.0
Camber		-45'±30'

Torque wrench settingsCelica GT-Four CAT (ST185)1990 to 1993

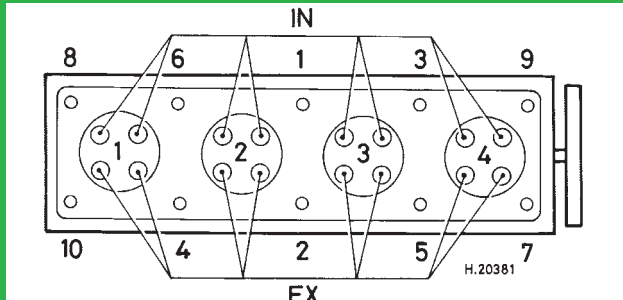
Cylinder head - stage 1	Nm	20
- stage 2	Nm	49
- stage 3	Nm	+ 90°
- stage 4	Nm	—
Big-end bearings	Nm	67
Main bearings	Nm	59
Clutch cover	Nm	19
Flywheel [driveplate]	Nm	108
Front hubs	Nm	186
Rear hubs	Nm	186
Wheel nuts / bolts	Nm	103
Spark plugs	Nm	18

CapacitiesCelica GT-Four CAT (ST185)1990 to 1993

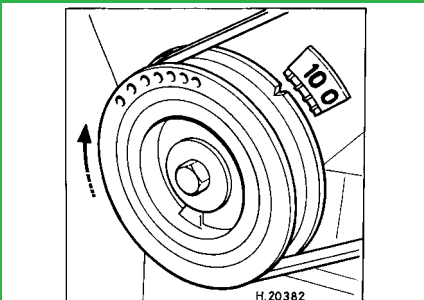
Engine oil & filter	litres	3.9
Gearbox - 4-speed [5-speed]	litres	5.2
Automatic transmission - refill	litres	—
Final drive	litres	Rear: 1.1
Cooling system	litres	7.0
Fuel tank	litres	68

Notes and Illustrations

¹TE1 & E1 shorted



1998 cm³



1998 cm³, 3S-GTE