

Engine & Cooling	Fuel	Ignition	Electrical	Running gear	Torque settings	Capacities	Notes & Illustrations
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Automotive Technical DATA BOOK

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HELP

Engine and cooling system Celica GT-Four CAT (ST165) 1988 to 1990

Type		3S-GTE (DOHC 16V Turbo)
Capacity (cm ³) / number of cylinders		1998 / 4
Compression ratio / pressure	bar	8.5 / ≥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	0.75 to 1.00

Fuel system Celica GT-Four CAT (ST165) 1988 to 1990

Idle speed - manual [auto]	rpm	750±50
Fast idle speed - manual [auto]	rpm	—
CO @ idle speed [3000 rpm] - see page VI	%	0 to 0.5
HC @ idle speed [3000 rpm] - see page VI	ppm	≤1200
CO ₂ @ idle speed [3000 rpm] - see page VI	%	—
O ₂ @ 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 system Celica GT-Four CAT (ST165) 1988 to 1990

Type		Electronic
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 @ idle ¹
V = Vacuum NV = No Vacuum		NV
Total ignition advance	° Crankshaft @ rpm	—
	° 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		BCPR5EP8 / RC7YC4
Electrode gap	mm	0.80 to 1.00

Electrical system Celica GT-Four CAT (ST165) 1988 to 1990

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 gear Celica GT-Four CAT (ST165) 1988 to 1990

Brakes -		
Front (min. friction material thickness)	mm	1.0
Rear (min. friction material thickness)	mm	1.0
Tyres		
Saloon	Size	205/60x14
Estate / Van	Size	—
Pressure - front / rear - Saloon	bar	2.1 / 2.1
- Estate / Van	bar	—
Front suspension / wheel alignment		
Toe-in (+) / Toe-out (-)	mm [°]	0±1.0
Camber		-10'±30'
Castor		+1°10'±45'
King pin inclination		+13°30'±45'
Rear suspension / wheel alignment		
Toe-in (+) / Toe-out (-)	mm [°]	+5.0±1.0
Camber		-45'±45'

Torque wrench settings Celica GT-Four CAT (ST165) 1988 to 1990

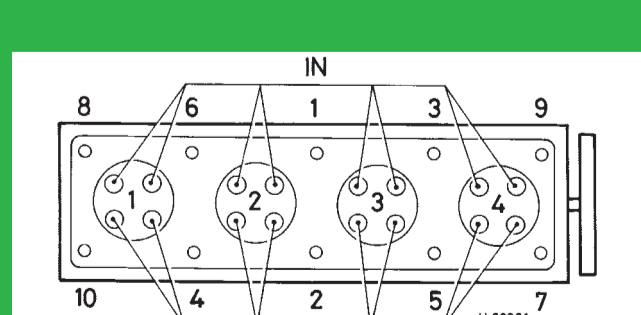
Cylinder head - stage 1	Nm	54
- stage 2	Nm	+ 90°
- stage 3	Nm	—
- stage 4	Nm	—
Big-end bearings	Nm	67
Main bearings	Nm	59
Clutch cover	Nm	19
Flywheel [driveplate]	Nm	88 N
Front hubs	Nm	186
Rear hubs	Nm	186
Wheel nuts / bolts	Nm	103
Spark plugs	Nm	—

Capacities Celica GT-Four CAT (ST165) 1988 to 1990

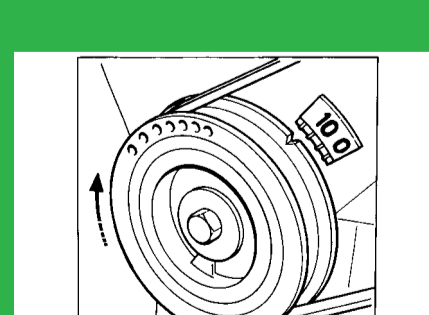
Engine oil & filter	litres	3.6
Gearbox - 4-speed [5-speed]	litres	5.2
Automatic transmission - refill	litres	—
Final drive	litres	Rear: 1.1
Cooling system	litres	7.0
Fuel tank	litres	60

Notes and Illustrations

¹TE1 (or T) & E1 shorted



1998 cm³



1998 cm³, 3S-GTE