

TOYOTA

Supra Turbo CAT

1989 to 1993

Engine & Cooling

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Automotive Technical
DATA BOOK

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Engine and cooling system

Supra Turbo CAT

1989 to 1993

Type		7M-GTE (DOHC)
Capacity (cm ³) / number of cylinders		2954 / 6
Compression ratio / pressure	bar	8.4 / ≥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		1-5-3-6-2-4
No 1 cylinder position		F
Thermostat opening temperature	°C	86 to 90
Radiator cap pressure	bar	0.75 to 1.00

Fuel system

Supra Turbo CAT

1989 to 1993

Idle speed - manual [auto]	rpm	800±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
CO2 @ idle speed [3000 rpm] - see page VI	%	—
O2 @ idle speed [3000 rpm] - see page VI	%	—
Carburettor / fuel injection		Toyota
Type / ref		Electronic + turbo
Main jet / needle		—
Injection pressure	bar	—
Pump pressure	bar	2.3 to 2.7
Octane rating	RON	95[U]

Ignition system

Supra Turbo CAT

1989 to 1993

Type		Distributorless
Ignition coil		—
Primary resistance	ohms	0.3 to 0.5
Ballast resistor	ohms	—
Voltage - Tmnl 15(+) to earth	V	—
Distributor		—
Points gap (air gap)	mm	—
Dwell angle	° (%)	—
Condenser capacity	µF	—
Rotation		—
Ignition timing - basic [static	° Crankshaft @ rpm	10±1 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		BCPR6EY / RC12YC4
Electrode gap	mm	0.80

Electrical system

Supra Turbo CAT

1989 to 1993

Battery	V / CC / RC	12 / 60Ah
Alternator voltage / full load current / engine rpm		13.5 to 15.1 / _ / 3000
Starter motor current / voltage - cranking	A / V	90 / 11.5 (no load)
- locked	A / V	—

Running gear

Supra Turbo CAT

1989 to 1993

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

Tyres		
Saloon	Size	225/50x16
Estate / Van	Size	—
Pressure - front / rear - Saloon	bar	2.2 / 2.2
- Estate / Van	bar	—

Front suspension / wheel alignment		
Toe-in (+) / Toe-out (–)	mm [°]	0±1.0
Camber		-5'±30'
Castor		+7°30'±30'
King pin inclination		+10°50'±45'

Rear suspension / wheel alignment		
Toe-in (+) / Toe-out (–)	mm [°]	+3.0±1.0
Camber		-15'±30'

Torque wrench settings

Supra Turbo CAT

1989 to 1993

Cylinder head - stage 1	Nm	27
- stage 2	Nm	54
- stage 3	Nm	78
- stage 4	Nm	—
Big-end bearings	Nm	64
Main bearings	Nm	102
Clutch cover	Nm	19
Flywheel [driveplate]	Nm	74
Front hubs	Nm	199
Rear hubs	Nm	213
Wheel nuts / bolts	Nm	88 to 118
Spark plugs	Nm	18

Capacities

Supra Turbo CAT

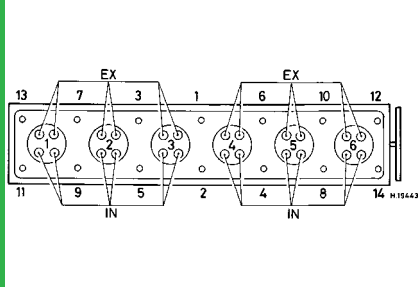
1989 to 1993

Engine oil & filter	litres	4.2
Gearbox - 4-speed [5-speed]	litres	2.4. R154: 3.0
Automatic transmission - refill	litres	1.6
Final drive	litres	1.3
Cooling system	litres	8.2 [AT: 8.1]
Fuel tank	litres	70

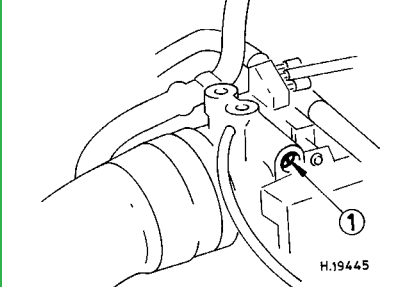
Notes and Illustrations

¹T (or TE1) & E1 shorted

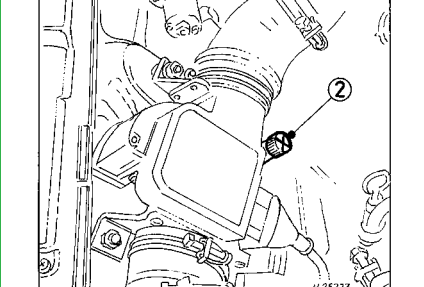
1: Idle speed 2: CO / Mixture



2954 cm³



Fuel injection, 7M-GTE



Fuel injection, 7M-GTE