

TOYOTA

Celica 2.0 (ST162)

1985 to 1990

Engine & Cooling

Fuel

Ignition

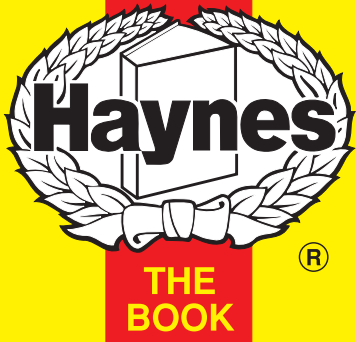
Electrical

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Automotive Technical  
DATA BOOK

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Engine and cooling system

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1985 to 1990

|                                                   |     |                   |
|---------------------------------------------------|-----|-------------------|
| Type                                              |     | 3S-GEL (DOHC 16V) |
| Capacity (cm <sup>3</sup> ) / number of cylinders |     | 1998 / 4          |
| Compression ratio / pressure                      | bar | 9.8 / 12.8        |
| 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

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|                                           |     |              |
|-------------------------------------------|-----|--------------|
| Idle speed - manual [auto]                | rpm | 800          |
| Fast idle speed - manual [auto]           | rpm | —            |
| CO @ idle speed [3000 rpm] - see page VI  | %   | 1.0±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   |
| Main jet / needle                         |     | —            |
| Injection pressure                        | bar | —            |
| Pump pressure                             | bar | 2.3 to 2.7   |
| Octane rating                             | RON | 97[E 95 RON] |

Ignition system

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|                                 |                    |                    |
|---------------------------------|--------------------|--------------------|
| Type                            |                    | Computerized       |
| Ignition coil                   |                    | —                  |
| Primary resistance              | ohms               | 0.4 to 0.5         |
| 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                        |                    | Clockwise          |
| Ignition timing - basic [static | ° Crankshaft @ rpm | 10±2 BTDC @ idle   |
| 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                            |                    | BCPR6EY11 / RC7YC4 |
| Electrode gap                   | mm                 | 1.0                |

Electrical system

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|                                                     |             |                         |
|-----------------------------------------------------|-------------|-------------------------|
| 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

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

|                                  |      |                      |
|----------------------------------|------|----------------------|
| Tyres                            |      |                      |
| Saloon                           | Size | 195/70x14: 195/60x14 |
| 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'±30'  |
| King pin inclination               |        | +13°30'±30' |

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

Torque wrench settings

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|                         |    |                        |
|-------------------------|----|------------------------|
| Cylinder head - stage 1 | Nm | 20                     |
| - stage 2               | Nm | 35                     |
| - stage 3               | Nm | 53                     |
| - stage 4               | Nm | —                      |
| Big-end bearings        | Nm | 59                     |
| Main bearings           | Nm | 59                     |
| Clutch cover            | Nm | 18                     |
| Flywheel [driveplate]   | Nm | 83 N <sup>1</sup> [83] |
| Front hubs              | Nm | 186                    |
| Rear hubs               | Nm | 123                    |
| Wheel nuts / bolts      | Nm | 103                    |
| Spark plugs             | Nm | 18                     |

Capacities

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|                                 |        |                              |
|---------------------------------|--------|------------------------------|
| Engine oil & filter             | litres | 4.3 with cooler <sup>2</sup> |
| Gearbox - 4-speed [5-speed]     | litres | 2.6                          |
| Automatic transmission - refill | litres | 2.5 <sup>3</sup>             |
| Final drive                     | litres | AT: 1.6                      |
| Cooling system                  | litres | 7.0                          |
| Fuel tank                       | litres | 60                           |

Notes and Illustrations

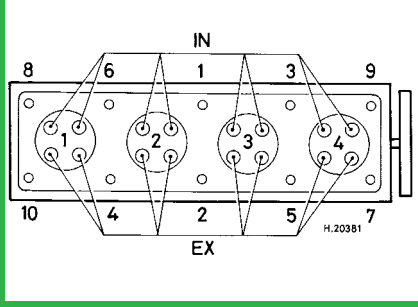
<sup>1</sup>88 with re-used bolts

<sup>2</sup>3.9 without cooler

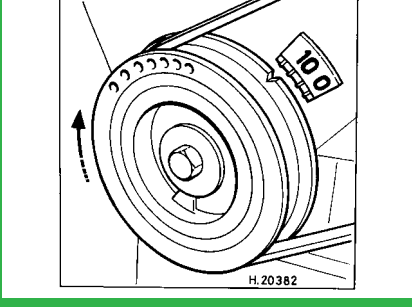
<sup>3</sup>1.6 with level plug

1: Idle speed

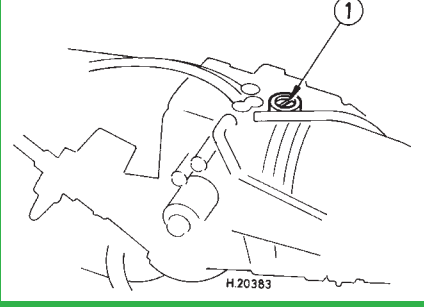
2: CO / Mixture



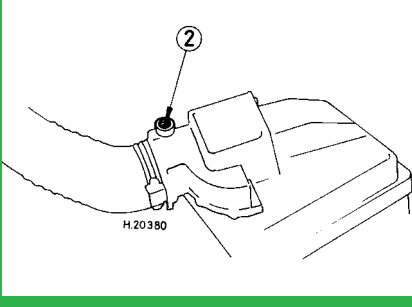
1998 cm<sup>3</sup>



1998 cm<sup>3</sup>, 3S-GEL



EFi, 3S-GEL



EFi, 3S-GEL