

Engine & Cooling

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Engine and cooling system

S420 (140.042/3)

1993 to 1997

Type		119.971 DOHC 32V 205kW
Capacity (cm ³) / number of cylinders		4196 / 8
Compression ratio / pressure	bar	11.0 / 13.5 to 15.5
Oil pressure	bar	0.3 [3.0 @ 3000rpm]
Oil temperature	°C	80
Valve clearance - inlet	mm	0: Hyd.
Valve clearance - exhaust	mm	0: Hyd.
Firing order		1-5-4-8-6-3-7-2
No 1 cylinder position		FR
Thermostat opening temperature	°C	87±2
Radiator cap pressure	bar	1.40±0.10

Fuel system

S420 (140.042/3)

1993 to 1997

Idle speed - manual [auto]	rpm	600 to 750
Fast idle speed - manual [auto]	rpm	—
CO @ idle speed [3000 rpm] - see page VI	%	≤0.3
HC @ idle speed [3000 rpm] - see page VI	ppm	≤200
CO2 @ idle speed [3000 rpm] - see page VI	%	—
O2 @ idle speed [3000 rpm] - see page VI	%	—
Carburettor / fuel injection		—Bosch
Type / ref		LH-Jetronic
Main jet / needle		—
Injection pressure	bar	3.7 to 4.2
Pump pressure	bar	—
Octane rating	RON	95[U]

Ignition system

S420 (140.042/3)

1993 to 1997

Type		EZL
Ignition coil		—
Primary resistance	ohms	0.3 to 0.6
Ballast resistor	ohms	—
Voltage - Tmnl 15(+) to earth	V	Battery
Distributor		—
Points gap (air gap)	mm	—
Dwell angle	° (%)	—
Condenser capacity	µF	—
Rotation		—
Ignition timing - basic [static	° Crankshaft @ rpm	Computer control N/A
V = Vacuum NV = No Vacuum		—
Total ignition advance	° Crankshaft @ rpm	Computer control
	° 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		Bosch/Champion
Type		F8DCO / C10YCC
Electrode gap	mm	0.80

Electrical system

S420 (140.042/3)

1993 to 1997

Battery	V / CC / RC	12 / 100Ah
Alternator voltage / full load current / engine rpm		13.5 to 14.0 / 120 / —
Starter motor current / voltage - cranking	A / V	95/11.5
- locked	A / V	—

Running gear

S420 (140.042/3)

1993 to 1997

Brakes -		
Front (min. friction material thickness)	mm	2.5
Rear (min. friction material thickness)	mm	2.5

Tyres		
Saloon	Size	235/60x16
Estate / Van	Size	—
Pressure - front / rear - Saloon	bar	2.4 / 2.5
- Estate / Van	bar	—

Front suspension / wheel alignment		
Toe-in (+) / Toe-out (–)	mm [°]	[+35'±10']
Camber		-20'±10'
Castor		10°20' ± 30'
King pin inclination		—

Rear suspension / wheel alignment		
Toe-in (+) / Toe-out (–)	mm [°]	[+35'±5']
Camber		—

Torque wrench settings

S420 (140.042/3)

1993 to 1997

Cylinder head - stage 1	Nm	55 ¹
- stage 2	Nm	+ 90°
Cylinder head - stage 3	Nm	+ 90°
- stage 4	Nm	—
Big-end bearings	Nm	45, + 90 to 100°
Main bearings	Nm	WSM
Clutch cover	Nm	—
Flywheel [driveplate]	Nm	35, + 90 to 100°
Front hubs	Nm	WSM
Rear hubs	Nm	320
Wheel nuts / bolts	Nm	150
Spark plugs	Nm	20

Capacities

S420 (140.042/3)

1993 to 1997

Engine oil & filter	litres	8.0
Gearbox - 4-speed [5-speed]	litres	—
Automatic transmission - refill	litres	7.7
Final drive	litres	1.3
Cooling system	litres	16.5
Fuel tank	litres	100

Notes and Illustrations

¹Bolts marked ‘a’ on diagram: 25