

Engine & Cooling

Fuel

Ignition

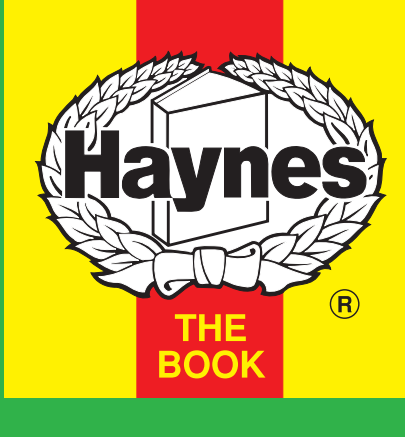
Electrical

Running gear

Torque settings

Capacities

Notes & Illustrations



Automotive Technical
DATA BOOK

Click on one of the buttons above to view data for this car. To return to this screen and make another choice, click anywhere on the data screen.

MENU

HELP

Engine and cooling system

316i CAT (E36)

1991 to 1993

Type		M40/B16 164E1 73kW
Capacity (cm³) / number of cylinders		1596 / 4
Compression ratio / pressure	bar	9.0 / ≥10.0
Oil pressure	bar	≥0.5 [4.3±0.2]
Oil temperature	°C	80
Valve clearance - inlet	mm	0: Hyd.
Valve clearance - exhaust	mm	0: Hyd.
Firing order		1-3-4-2
No 1 cylinder position		F
Thermostat opening temperature	°C	88
Radiator cap pressure	bar	1.4±0.2

Fuel system

316i CAT (E36)

1991 to 1993

Idle speed - manual [auto]	rpm	800±40
Fast idle speed - manual [auto]	rpm	—
CO @ idle speed [3000 rpm] - see page VI	%	0.7±0.5 N/A
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		M1.7-Motronic
Main jet / needle		—
Injection pressure	bar	3.0±0.06
Pump pressure	bar	3.5 to 4.0
Octane rating	RON	95[U]

Ignition system

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1991 to 1993

Type		DME Motronic
Ignition coil		Bosch
Primary resistance	ohms	0.82
Ballast resistor	ohms	—
Voltage - Tmnl 15(+) to earth	V	—
Distributor		Bosch
Points gap (air gap)	mm	[0.30 to 0.70]
Dwell angle	° (%)	Electronic control
Condenser capacity	µF	—
Rotation		Clockwise
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
Type		FO4DAR
Electrode gap	mm	0.90 to 1.00

Electrical system

316i CAT (E36)

1991 to 1993

Battery	V / CC / RC	12 / 46Ah
Alternator voltage / full load current / engine rpm		13.5 to 14.2 / 65,70,80 / 1500
Starter motor current / voltage - cranking	A / V	—
- locked	A / V	—

Running gear

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1991 to 1993

Brakes -		
Front (min. friction material thickness)	mm	2.0
Rear (min. friction material thickness)	mm	1.5. Discs: 2.0

Tyres		
Saloon	Size	185/65x15: 205/60x15
Estate / Van	Size	—
Pressure - front / rear - Saloon	bar	2.0 / 2.3
- Estate / Van	bar	—

Front suspension / wheel alignment		
Toe-in (+) / Toe-out (–)	mm [°]	[+18'±5']
Camber		-40'±30'. Sport: -58'±30' L
Castor		+3°52'±30'. Sport: +3°57'±30'L
King pin inclination		+15°44'±30'. Sport: +15°56'

Rear suspension / wheel alignment		
Toe-in (+) / Toe-out (–)	mm [°]	[+24'±6']
Camber		-1°30'±15'.92 ►: -1°40'±15'¹

Torque wrench settings

316i CAT (E36)

1991 to 1993

Cylinder head - stage 1	Nm	30 to 32 WSM
- stage 2	Nm	+ 90±3°
Cylinder head - stage 3	Nm	+ 90±3°
- stage 4	Nm	—
Big-end bearings	Nm	23 + 70° N
Main bearings	Nm	22.5±2.5 + 50±3°
Clutch cover	Nm	24. 10.9 hex: 35
Flywheel [driveplate]	Nm	113 to 130 N
Front hubs	Nm	290
Rear hubs	Nm	300
Wheel nuts / bolts	Nm	100±10
Spark plugs	Nm	30 to 33

Capacities

316i CAT (E36)

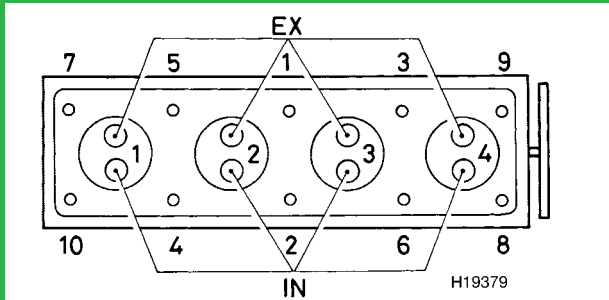
1991 to 1993

Engine oil & filter	litres	4.0
Gearbox - 4-speed [5-speed]	litres	1.0
Automatic transmission - refill	litres	3.0
Final drive	litres	1.1
Cooling system	litres	6.5
Fuel tank	litres	65

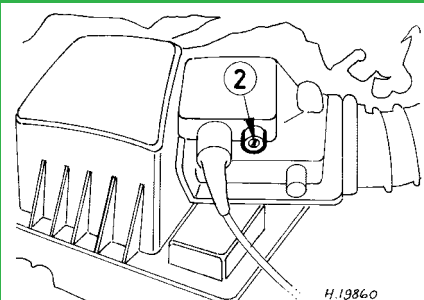
Notes and Illustrations

¹Sport: -2°±15'

1: Idle speed 2: CO / Mixture



1596 cm³



M1.7-Motronic