

VAUXHALL/OPEL

Midi 2.0, 4x4 & Albany & CAT

1988 to 1995

Engine & Cooling

Fuel

Ignition

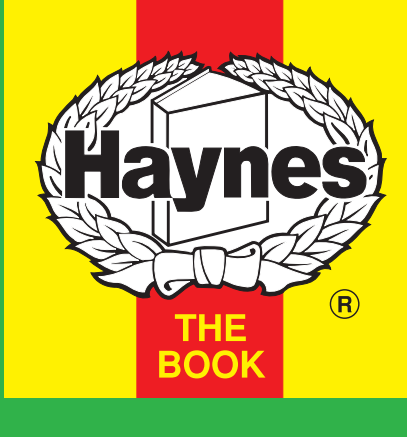
Electrical

Running gear

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Capacities

Notes & Illustrations



Automotive Technical
DATA BOOK

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HELP

Engine and cooling system

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1988 to 1995

Type		4ZC1 SOHC 61kW
Capacity (cm ³) / number of cylinders		1994 / 4
Compression ratio / pressure	bar	8.3 / 12.3
Oil pressure	bar	[3.9]
Oil temperature	°C	80
Valve clearance - inlet	mm	0.15
Valve clearance - exhaust	mm	0.25
Firing order		1-3-4-2
No 1 cylinder position		TBE
Thermostat opening temperature	°C	80.5 to 83.5
Radiator cap pressure	bar	0.9 to 1.2

Fuel system

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Idle speed - manual [auto]	rpm	800±50
Fast idle speed - manual [auto]	rpm	2700 to 3000
CO @ idle speed [3000 rpm] - see page VI	%	3.5
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		Nippon Kikaki/Stromberg
Type / ref		21E 304-171
Main jet / needle		116, 140
Injection pressure	bar	—
Pump pressure	bar	0.25
Octane rating	RON	90[E 91 RON] ⁵

Ignition system

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Type		HEI
Ignition coil		Nippon Denso
Primary resistance	ohms	1.1 to 1.4
Ballast resistor	ohms	—
Voltage - Tmnl 15(+) to earth	V	—
Distributor		Nippon Denso
Points gap (air gap)	mm	[0.20 to 0.40]
Dwell angle	° (%)	40 to 50 @ 1500
Condenser capacity	µF	—
Rotation		Clockwise
Ignition timing - basic [static	° Crankshaft @ rpm	6 BTDC @ 800
V = Vacuum NV = No Vacuum		V
Total ignition advance	° Crankshaft @ rpm	—
	° Crankshaft @ rpm	—
	° Crankshaft @ rpm	—
Centrifugal check.	° Crankshaft @ rpm	0 @ 700
	° Crankshaft @ rpm	9 @ 5000
	° Crankshaft @ rpm	—
Vacuum range check	mbar	93 to 360
Maximum vacuum advance	° Crankshaft	8
Spark plugs		NGK/Champion
Type		BP6ES11 / RN9YC
Electrode gap	mm	0.70 to 0.80

Electrical system

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Battery	V / CC / RC	12 / 44, 55Ah
Alternator voltage / full load current / engine rpm		14.2 to 15.0 / _ / 3000
Starter motor current / voltage - cranking	A / V	270 / 9.5
- locked	A / V	680 / 7.7

Running gear

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

Tyres		
Saloon	Size	—
Estate / Van	Size	185x14: 195x14
Pressure - front / rear - Saloon	bar	—
- Estate / Van	bar	3.0 / 3.7 ¹

Front suspension / wheel alignment		
Toe-in (+) / Toe-out (–)	mm [°]	+2.0±3.0 ²
Camber		+35'±30'
Castor		+2°±30'
King pin inclination		+7°25'±30'

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

Torque wrench settings

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Cylinder head - stage 1	Nm	80
- stage 2	Nm	100
Cylinder head - stage 3	Nm	—
- stage 4	Nm	—
Big-end bearings	Nm	45
Main bearings	Nm	100
Clutch cover	Nm	18
Flywheel [driveplate]	Nm	55
Front hubs	Nm	WSM
Rear hubs	Nm	—
Wheel nuts / bolts	Nm	108
Spark plugs	Nm	19

Capacities

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Engine oil & filter	litres	4.1
Gearbox - 4-speed [5-speed]	litres	1.5. 4x4: 4.4
Automatic transmission - refill	litres	—
Final drive	litres	1.1 ³
Cooling system	litres	10.0 ⁴
Fuel tank	litres	55

Notes and Illustrations

¹Wagon: 3.0 / 3.2. 4x4: 2.8 / 3.5. 4x4. Wagon: 2.8 / 2.9. Albany: 3.0 / 3.2

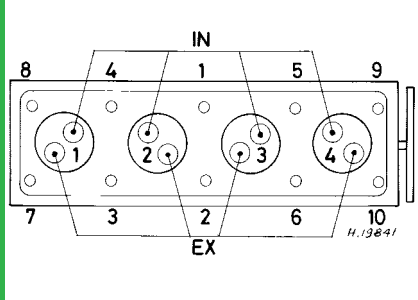
²4x4: 0±3.0

³4x4 front: 1.0. Fixed cover: 1.5

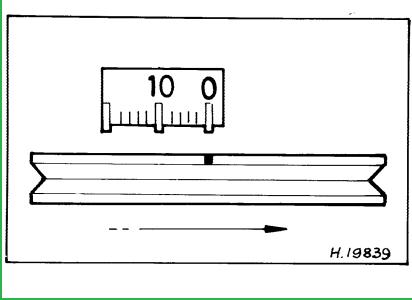
⁴Without rear heater: 9.0

⁵CAT: 91 U

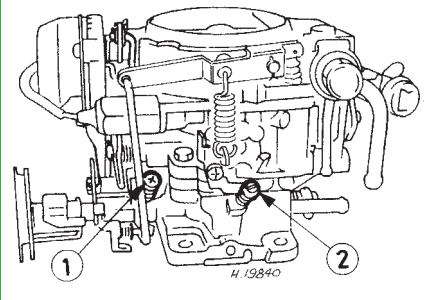
1: Idle speed 2: CO / Mixture



1994 cm³



1994 cm³



Nippon Kikaki / Stromberg