

Engine & Cooling

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Automotive Technical
DATA BOOK

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Engine and cooling systemMicra 1.2 CAT (K10)1987 to 1989

Type		MA12S SOHC 45kW
Capacity (cm³) / number of cylinders		1235 / 4
Compression ratio / pressure	bar	9.0 / ≥9.8
Oil pressure	bar	[2.9]
Oil temperature	°C	—
Valve clearance - inlet	mm	0.25 H
Valve clearance - exhaust	mm	0.30 H
Firing order		1-3-4-2
No 1 cylinder position		TBE
Thermostat opening temperature	°C	82
Radiator cap pressure	bar	0.88

Fuel systemMicra 1.2 CAT (K10)1987 to 1989

Idle speed - manual [auto]	rpm	800±50
Fast idle speed - manual [auto]	rpm	2100 to 2900 [2400 to 3200]
CO @ idle speed [3000 rpm] - see page VI	%	≤0.5
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		Hitachi
Type / ref		DCZ306-46 [AT: -47]
Main jet / needle		89, 128
Injection pressure	bar	—
Pump pressure	bar	0.20 to 0.27
Octane rating	RON	91[U]

Ignition systemMicra 1.2 CAT (K10)1987 to 1989

Type		Electronic
Ignition coil		Mitsubishi. Hitachi
Primary resistance	ohms	1.0 to 1.2
Ballast resistor	ohms	—
Voltage - Tmnl 15(+) to earth	V	—
Distributor		Hitachi/Mitsubishi
Points gap (air gap)	mm	[0.30 to 0.45]
Dwell angle	° (%)	—
Condenser capacity	µF	—
Rotation		Anticlockwise
Ignition timing - basic [static	° Crankshaft @ rpm	3 ATDC @ 800±50
V = Vacuum NV = No Vacuum		—
Total ignition advance	° Crankshaft @ rpm	—
	° Crankshaft @ rpm	—
	° Crankshaft @ rpm	—
Centrifugal check.	° Crankshaft @ rpm	0 @ 900 to 1300
	° Crankshaft @ rpm	10 @ 1700 to 2300
	° Crankshaft @ rpm	12 to 16 @ 2400
Vacuum range check	mbar	107 to 267
Maximum vacuum advance	° Crankshaft	12
Spark plugs		NGK/Champion
Type		BPR5ES-11 / RN9YC4
Electrode gap	mm	1.00 to 1.10

Electrical systemMicra 1.2 CAT (K10)1987 to 1989

Battery	V / CC / RC	12 / 45Ah
Alternator voltage / full load current / engine rpm		14.1 to 14.7 / 40 / 2500
Starter motor current / voltage - cranking	A / V	55 [AT: 65] / 11.5 (no load)
- locked	A / V	—

Running gearMicra 1.2 CAT (K10)1987 to 1989

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

Tyres		
Saloon	Size	155/70x13: 175/60x13
Estate / Van	Size	—
Pressure - front / rear - Saloon	bar	2.1 / 2.2
- Estate / Van	bar	—

Front suspension / wheel alignment		
Toe-in (+) / Toe-out (–)	mm [°]	+2.0 to 4.0
Camber		-25' to +1°5' N/A
Castor		+1°30' to 3° N/A
King pin inclination		+12°25' to 13°55' N/A

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

Torque wrench settingsMicra 1.2 CAT (K10)1987 to 1989

Cylinder head - stage 1	Nm	34 to 39
- stage 2	Nm	64 to 69
Cylinder head - stage 3	Nm	—
- stage 4	Nm	—
Big-end bearings	Nm	29 to 34
Main bearings	Nm	46 to 52 in stages
Clutch cover	Nm	22 to 29
Flywheel [driveplate]	Nm	59 to 69 ¹
Front hubs	Nm	147 to 206
Rear hubs	Nm	186 to 255
Wheel nuts / bolts	Nm	78 to 98
Spark plugs	Nm	25 to 29

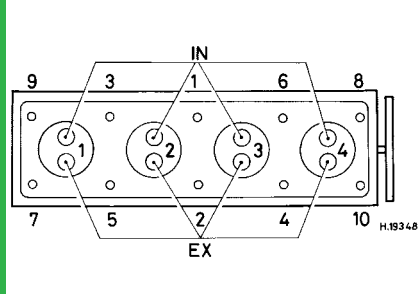
CapacitiesMicra 1.2 CAT (K10)1987 to 1989

Engine oil & filter	litres	2.8
Gearbox - 4-speed [5-speed]	litres	2.6
Automatic transmission - refill	litres	6.0
Final drive	litres	WT
Cooling system	litres	5.5
Fuel tank	litres	40

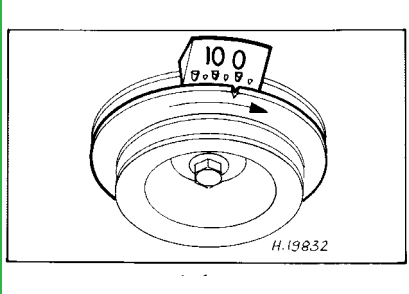
Notes and Illustrations



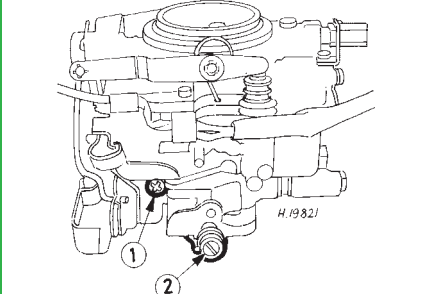
1: Idle speed 2: CO / Mixture



1235 cm³



1235 cm³



Hitachi DCZ