

Engine & Cooling

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Automotive Technical
DATA BOOK

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Engine and cooling systemMicra 1.0L (K10)1989 to 1993

Type		MA10S SOHC 37kW
Capacity (cm³) / number of cylinders		988 / 4
Compression ratio / pressure	bar	9.5 / ≥11.3
Oil pressure	bar	2.0 [2.9]
Oil temperature	°C	80
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	88
Radiator cap pressure	bar	0.90

Fuel systemMicra 1.0L (K10)1989 to 1993

Idle speed - manual [auto]	rpm	800±50
Fast idle speed - manual [auto]	rpm	1700 to 2100
CO @ idle speed [3000 rpm] - see page VI	%	1.5±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		Hitachi
Type / ref		DCZ306-91A
Main jet / needle		94, 130
Injection pressure	bar	—
Pump pressure	bar	0.20 to 0.27
Octane rating	RON	90[E 91 RON]

Ignition systemMicra 1.0L (K10)1989 to 1993

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	12±5 BTDC @ 800±50
V = Vacuum NV = No Vacuum		NV
Total ignition advance	° Crankshaft @ rpm	—
	° Crankshaft @ rpm	—
	° Crankshaft @ rpm	—
Centrifugal check.	° Crankshaft @ rpm	0 @ 1000
	° Crankshaft @ rpm	—
	° Crankshaft @ rpm	15 @ 3000
Vacuum range check	mbar	93 to 347
Maximum vacuum advance	° Crankshaft	15
Spark plugs		NGK/Champion
Type		BPR5ES / RN9YC
Electrode gap	mm	0.80 to 0.90

Electrical systemMicra 1.0L (K10)1989 to 1993

Battery	V / CC / RC	12 / 45Ah
Alternator voltage / full load current / engine rpm		14.1 to 14.7 / 35,40,50 / 2500
Starter motor current / voltage - cranking	A / V	55 / 11.5 (no load)
- locked	A / V	—

Running gearMicra 1.0L (K10)1989 to 1993

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

Tyres		
Saloon	Size	155/70x13
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 1.0L (K10)1989 to 1993

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	16 to 21
Flywheel [driveplate]	Nm	59 to 69
Front hubs	Nm	147 to 206
Rear hubs	Nm	WSM
Wheel nuts / bolts	Nm	78 to 98
Spark plugs	Nm	25 to 29

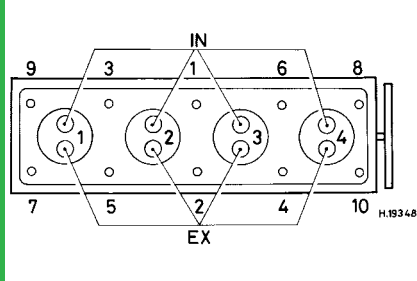
CapacitiesMicra 1.0L (K10)1989 to 1993

Engine oil & filter	litres	2.8
Gearbox - 4-speed [5-speed]	litres	2.5
Automatic transmission - refill	litres	—
Final drive	litres	WT
Cooling system	litres	4.7
Fuel tank	litres	40

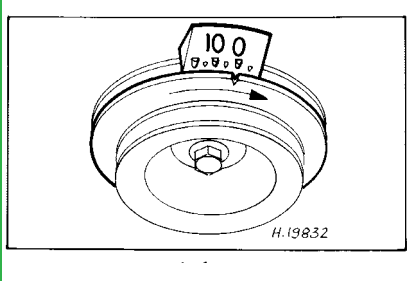
Notes and Illustrations



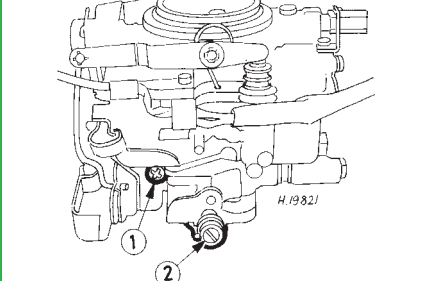
1: Idle speed 2: CO / Mixture



988 cm³



988 cm³



Hitachi DCZ