

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 Sunny 1.6 (B12, N13) 1989 to 1991

Type		GA16S SOHC 12V
Capacity (cm ³) / number of cylinders		1597 / 4
Compression ratio / pressure	bar	9.8 / ≥11.8
Oil pressure	bar	[3.9 to 4.9]
Oil temperature	°C	-
Valve clearance - inlet	mm	0: Hyd.
Valve clearance - exhaust	mm	0: Hyd.
Firing order		1-3-4-2
No 1 cylinder position		TBE
Thermostat opening temperature	°C	82
Radiator cap pressure	bar	0.78 to 0.98

Fuel system Sunny 1.6 (B12, N13) 1989 to 1991

Idle speed - manual [auto]	rpm	850±50 [900±50]
Fast idle speed - manual [auto]	rpm	2700±200 [3100±200]
CO @ idle speed [3000 rpm] - see page VI	%	1.5±0.5
HC @ idle speed [3000 rpm] - see page VI	ppm	≤1200
CO ₂ @ idle speed [3000 rpm] - see page VI	%	-
O ₂ @ idle speed [3000 rpm] - see page VI	%	-
Carburettor / fuel injection		Hitachi
Type / ref		21L304-03 [AT: -04]
Main jet / needle		99, 155
Injection pressure	bar	-
Pump pressure	bar	0.21 to 0.34
Octane rating	RON	97[R]

Ignition system Sunny 1.6 (B12, N13) 1989 to 1991

Type		Electronic
Ignition coil		Hanshin STC-143
Primary resistance	ohms	1.0 to 1.3
Ballast resistor	ohms	-
Voltage - Tmnl 15(+) to earth	V	-
Distributor		Hitachi
Points gap (air gap)	mm	[0.30 to 0.50]
Dwell angle	° (%)	-
Condenser capacity	µF	-
Rotation		Anticlockwise
Ignition timing - basic [static	° Crankshaft @ rpm	6±5 BTDC @ idle
V = Vacuum NV = No Vacuum		V
Total ignition advance	° Crankshaft @ rpm	-
	° Crankshaft @ rpm	-
	° Crankshaft @ rpm	-
Centrifugal check.	° Crankshaft @ rpm	0 @ 600
	° Crankshaft @ rpm	20 @ 2400
	° Crankshaft @ rpm	28 to 32 @ 4400
Vacuum range check	mbar	147 to 373
Maximum vacuum advance	° Crankshaft	20
Spark plugs		NGK/Champion
Type		BCPR6ES / RC9YC
Electrode gap	mm	0.80 to 0.90

Electrical system Sunny 1.6 (B12, N13) 1989 to 1991

Battery	V / CC / RC	12 / 60Ah
Alternator voltage / full load current / engine rpm		14.1 to 14.7 / _ / 2500
Starter motor current / voltage - cranking	A / V	60 / 11.5 (no load)
- locked	A / V	-

Running gear Sunny 1.6 (B12, N13) 1989 to 1991

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

Tyres		
Saloon	Size	155x13: 175/70x13: 185/60x14
Estate / Van	Size	155x13: 175/70x13
Pressure - front / rear - Saloon	bar	2.1 / 2.1
- Estate / Van	bar	2.1 / 2.1

Front suspension / wheel alignment

Toe-in (+) / Toe-out (-)	mm [°]	-0.5 to +1.5
Camber		-50' to +40' ¹
Castor		+35' to 2°5' N/A ²
King pin inclination		+13°5' to 14°35' N/A ³

Rear suspension / wheel alignment

Toe-in (+) / Toe-out (-)	mm [°]	0 to -4.0 ⁴
Camber		-1°45' to -15' [B12; -25'] ⁵

Torque wrench settings Sunny 1.6 (B12, N13) 1989 to 1991

Cylinder head - stage 1	Nm	29
- stage 2	Nm	64
Cylinder head - stage 3	Nm	Loosen, then 29
- stage 4	Nm	⁶
Big-end bearings	Nm	15 + 35 to 40°
Main bearings	Nm	46 to 52
Clutch cover	Nm	22 to 29
Flywheel [driveplate]	Nm	83 to 93 ⁷
Front hubs	Nm	196 to 275
Rear hubs	Nm	186 to 255
Wheel nuts / bolts	Nm	98 to 118
Spark plugs	Nm	20 to 29

Capacities Sunny 1.6 (B12, N13) 1989 to 1991

Engine oil & filter	litres	3.2
Gearbox - 4-speed [5-speed]	litres	2.8
Automatic transmission - refill	litres	6.3
Final drive	litres	WT
Cooling system	litres	5.0 [AT: 5.4]
Fuel tank	litres	B12: 52. N13: 50

Notes and Illustrations

¹Coupé: -1°5' to +25'

²Coupé: +45' to 2°15' N/A

³Coupé: +13°25' to 14°55' N/A

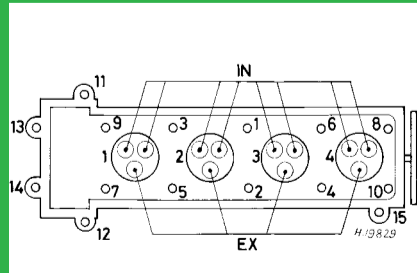
⁴Coupé: +0.5 to -3.5

⁵Coupé: -1°55' to -25'

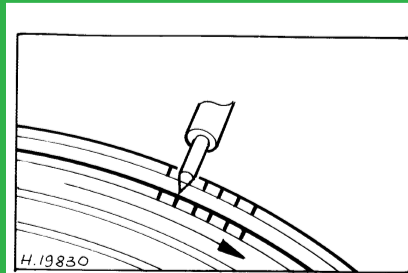
⁶Bolt 1: + 80 to 85°. Bolts 2 to 10: + 60 to 65°. Bolts 11 to 15: 6.3 to 8.3

⁷Driveplate: [93 to 103]

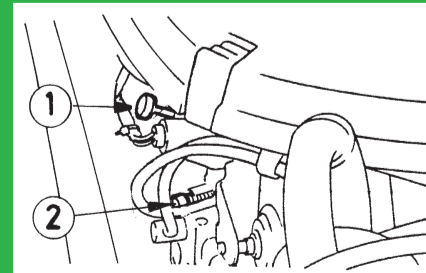
1: Idle speed 2: CO / Mixture



1597 cm³, 12V



1597 cm³, 12V



Hitachi 21L