

Notes			Specified value	Measured value
Vehicle identification				
No. of cylinders	Type	4/DOHC		
Capacity (Fiscal)	cc	1998		
Compression ratio	:1	10,4		
Suitable for unleaded petrol		Yes		
Minimum octane rating	RON	95		
Ignition system	Make	Bosch		
Ignition system	Type	Motronic MP 5,2		
Ignition system	Description	Map-DI		
Trigger location		Crankshaft		
Fuel system	Make	Bosch		
Fuel System	Type	Motronic MP5.2		
Fuel System	Description	MFI-i		
Air metering	Type	MAP		
Combined ignition and fuel ECM		Yes		
Diagnostic socket		Yes		
Ignition system				
Ignition coil supply voltage	+ with ballast V	12,0		
Firing order		1-3-4-2		
Tuning and emissions				
Ignition timing - basic BTDC	°Engine/rpm	Not adjustable		
Ignition advance checks	°Engine/rpm	ECM Controlled		
Idle speed	rpm	850±50 Not adjustable		
Oil temperature for CO test	°C	70		
CO level at idle speed - tailpipe	Vol. % CO	0,5 Max Not adjustable		
HC level at idle speed	ppm	100		
CO2 level at idle speed	Vol. % CO2	14,5-16		
O2 level at idle speed	Vol. % O2	0,1-0,5		
Increased idle speed for CO test	rpm	2200-3000		
CO content at increased idle speed	Vol. %	0,3		
Lambda at increased idle	λ	0,97-1,03		
Spark plugs				
Spark plugs	Original equipment	Bosch		
Spark plug	Type	F6DCOR		
Electrode gap	mm	0,8		
Spark plugs	Make	Beru		
Spark plug	Type	14FLR-8LDUX		
Electrode gap	mm	1,0		
Spark plugs	Make	Bosch		
Spark plug	Type	F6DCOR		
Electrode gap	mm	0,8		
Spark plugs	Make	Champion		
Spark plug	Type	RC10DMC 10.99=RC8YCL		
Electrode gap	mm	10.99=0,9		
Spark plugs	Make	NGK		
Spark plug	Type	BKR6EK		

	Electrode gap	mm	0,8	
Fuel system				
	System pressure	bar	2,7-3,3	
	Engine coolant temperature (ECT) sensor	Ohm/°C	292-326/80	
	Injector	Ohm	16-19	
	Idle air control (IAC) valve/idle speed control (ISC) actuator	Ohm	52-58	
	Lambda sensor (Oxygen) heater	Ohm	3,5	
Service checks and adjustments				
	Valve clearance -INLET	mm	Hydraulic	
	Valve clearance -EXHAUST	mm	Hydraulic	
	Oil pressure	bar/rpm	5,5/4000	
	Radiator cap	bar	1,4	
	Thermostat opens	°C	83	
Lubricants and capacities				
	Engine oil grade - cold climate	SAE	5W/40 Semi-synthetic	
	Engine oil grade - moderate climate	SAE	15W/40 Semi-synthetic	
	Engine oil grade - hot climate	SAE	20W/40 Semi-synthetic	
	Engine oil classification	API/ACEA	SJ/A3-96	
	Engine oil grade - alternative - moderate climate	SAE	10W/40 Semi-synthetic	
	Engine oil classification - alternative - moderate climate	API/ACEA	SJ/A3-96	
69	Engine with filter(s)	litres	4,75	
	Manual gearbox oil grade	SAE	75W/80	
	Manual gearbox 4/5 speed	litres	2,0	
	Automatic transmission fluid	Type	Esso LT71141	
	Automatic transmission (drain & refill)	litres	4,5	
	Cooling system	litres	7,6	
	Brake fluid	Type	DOT 4	
	Power steering fluid	Type	Dexron II	
	Power steering fluid	litres	1,0	
Tightening torques				
	Cylinder head instructions			
Cylinder head				
		Maximum bolt length	112 mm	
	Stage 1	Tighten	35 Nm	
	Stage 2	Tighten	70 Nm	
	Stage 3	Tighten	160°	
Other tightening torques				
	Main bearings	Renew bolts/nuts	No	
	Main bearings	Stage 1	35 Nm	
	Main bearings	Stage 2	70 Nm	
	Big end bearings	Renew bolts/nuts	No	
4	Big end bearings	Stage 1		
	Oil pump to cylinder block		20 Nm	
	Sump bolts		20 Nm	
	Sump drain bolt		30 Nm	
	Flywheel/driveplate		50 Nm	
	Clutch to flywheel		20 Nm	
	Crankshaft pulley/damper centre bolt		120 Nm	
27	Camshaft sprocket/gear			
	Camshaft carrier/cap		10 Nm	
	Camshaft/rocker cover		10 Nm	
	Inlet manifold to cylinder head		20 Nm	
	Exhaust manifold to cylinder head		35 Nm	
	Knock sensor (KS)		20 Nm	
58	Front hub			
	Rear hub		190 Nm	
	Steering track rod end		35 Nm	
	Brake caliper to carrier	Front	30 Nm	

	Brake caliper carrier to hub	Front	110 Nm	
	Brake caliper carrier to hub	Rear	120 Nm	
	Back plate to hub	Rear	35 Nm	
	ABS sensor	Front	10 Nm	
	ABS sensor	Rear	10 Nm	
	Road wheels		85 Nm	
Starting and charging				
	Battery	V/RC(Ah)	12/65 (45)	
	Maximum cranking amps	A	122-149	
	Alternator output at engine speed	A/V/rpm	47/13,5/3000	
Brake disc and drum dimensions				
	Minimum disc thickness - solid	Front	8 mm	
	Minimum disc thickness - ventilated	Front	18,4 mm	
	Minimum disc thickness	Rear	6 mm	
	Disc thickness variation	Front	0,010 mm	
	Disc thickness variation	Rear	0,010 mm	
	Disc runout	Front	0,05 mm	
	Disc runout	Rear	0,05 mm	
71	Maximum drum diameter	Rear	181,7 mm	
	Minimum pad thickness	Front	2 mm	
	Minimum pad thickness	Rear	2 mm	
	Parking brake travel	No. of notches	5-6	
Air conditioning				
	Air conditioning refrigerant	Type	R134a	
	Air conditioning refrigerant quantity	grams	725±25	
	Air conditioning oil	Type	SP10	
	Air conditioning oil quantity	cm³	135±15	
	Air conditioning oil viscosity	ISO	46	

Autodata Note 69

Engine with filter

Aluminium sump = 4,25 litres.

Autodata Note 4

Big end bearings

Tighten in the following stages:

- 1) 40 Nm
- 2) Slacken off
- 3) 20 Nm + 70°.

Autodata Note 27

Camshaft pulley bolts

Fig. 79276

A = 10 Nm

B = 75 Nm.

Autodata Note 58

Front hub

M20 → VIN 808980 = 265 Nm

M20 VIN 808981→ = 245 Nm

M24 = 320 Nm.

Autodata Note 71

Maximum drum diameter

ABS = 204 mm
Estate = 228,8 mm.

