

Engine & Cooling

Fuel

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Automotive Technical
DATA BOOK

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Engine and cooling systemDelta HF Integrale 16V1991 to 1993

Type		831 E5.000 DOHC 16V 151kW ¹
Capacity (cm ³) / number of cylinders		1995 / 4
Compression ratio / pressure	bar	8.0±0.15 / _
Oil pressure	bar	[3.4 to 4.9]
Oil temperature	°C	100
Valve clearance - inlet	mm	0.35±0.04
Valve clearance - exhaust	mm	0.40±0.03
Firing order		1-3-4-2
No 1 cylinder position		TBE
Thermostat opening temperature	°C	81 to 85
Radiator cap pressure	bar	0.98

Fuel systemDelta HF Integrale 16V1991 to 1993

Idle speed - manual [auto]	rpm	820 to 880
Fast idle speed - manual [auto]	rpm	_
CO @ idle speed [3000 rpm] - see page VI	%	_
HC @ idle speed [3000 rpm] - see page VI	ppm	_
CO2 @ idle speed [3000 rpm] - see page VI	%	_
O2 @ idle speed [3000 rpm] - see page VI	%	_
Carburettor / fuel injection		Weber
Type / ref		IAW 04W + Garrett T3 turbo
Main jet / needle		_
Injection pressure	bar	2.5±0.2
Pump pressure	bar	≤4.5
Octane rating	RON	98[E 98 RON] ²

Ignition systemDelta HF Integrale 16V1991 to 1993

Type		IAW
Ignition coil		Marelli BAE 504DK
Primary resistance	ohms	0.405 to 0.495
Ballast resistor	ohms	_
Voltage - Tmnl 15(+) to earth	V	_
Distributor		Marelli
Points gap (air gap)	mm	_
Dwell angle	° (%)	_
Condenser capacity	µF	_
Rotation		Clockwise
Ignition timing - basic [static	° Crankshaft @ rpm	15±3 BTDC @ 820 to 880
V = Vacuum NV = No Vacuum		NV
Total ignition advance	° Crankshaft @ rpm	_
	° Crankshaft @ rpm	_
	° Crankshaft @ rpm	_
Centrifugal check.	° Crankshaft @ rpm	Computer control
	° Crankshaft @ rpm	_
	° Crankshaft @ rpm	_
Vacuum range check	mbar	Computer control
Maximum vacuum advance	° Crankshaft	_
Spark plugs		Bosch
Type		WR6DTC
Electrode gap	mm	0.80 to 1.00

Electrical systemDelta HF Integrale 16V1991 to 1993

Battery	V / CC / RC	12 / 225 / 55Ah
Alternator voltage / full load current / engine rpm		14.0 to 14.3 / 65 / 3500
Starter motor current / voltage - cranking	A / V	360 to 380 / 8.15
- locked	A / V	680 to 700 / 4.9

Running gearDelta HF Integrale 16V1991 to 1993

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

Tyres		
Saloon	Size	205/50x15
Estate / Van	Size	_
Pressure - front / rear - Saloon	bar	2.2 / 2.2
- Estate / Van	bar	_

Front suspension / wheel alignment		
Toe-in (+) / Toe-out (-)	mm [°]	0 to +2.0
Camber		-1'±30'
Castor		+4°10'±30'
King pin inclination		+9°18'

Rear suspension / wheel alignment		
Toe-in (+) / Toe-out (-)	mm [°]	+3.0 to 5.0
Camber		-1°30'±30'

Torque wrench settingsDelta HF Integrale 16V1991 to 1993

Cylinder head - stage 1	Nm	20
- stage 2	Nm	50
Cylinder head - stage 3	Nm	+ 90°
- stage 4	Nm	+ 90°
Big-end bearings	Nm	25 + 50°
Main bearings	Nm	Centre: 20 + 130° ³
Clutch cover	Nm	20
Flywheel [driveplate]	Nm	142
Front hubs	Nm	360
Rear hubs	Nm	320
Wheel nuts / bolts	Nm	98
Spark plugs	Nm	37

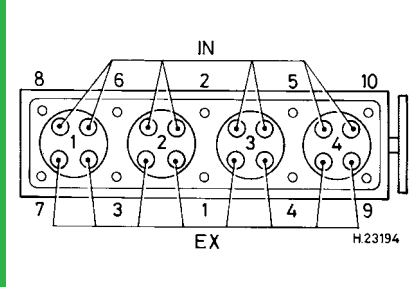
CapacitiesDelta HF Integrale 16V1991 to 1993

Engine oil & filter	litres	5.9
Gearbox - 4-speed [5-speed]	litres	3.8
Automatic transmission - refill	litres	_
Final drive	litres	Rear: 1.1
Cooling system	litres	6.2
Fuel tank	litres	57

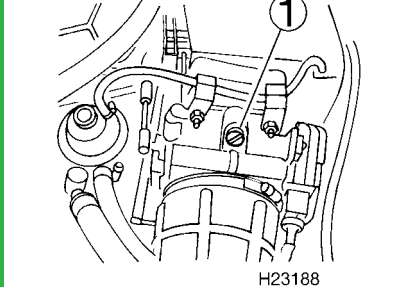
Notes and Illustrations

- ¹CAT: US83
- ²CAT: 95 [U]
- ³Others: 20 + 90°

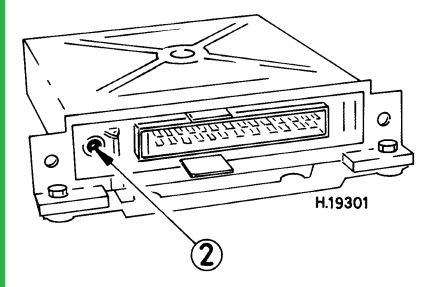
1: Idle speed 2: CO / Mixture



1995 cm³, 16V



Weber IAW



Weber IAW