

MERCEDES-BENZ

300E, TE 4-Matic & CAT¹

1988 to 1993

Engine & Cooling

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Haynes

THE BOOK

Automotive Technical

DATA BOOK

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HELP

Engine and cooling system

300E, TE 4-Matic & CAT¹

1988 to 1993

Type		103.985KE 138kW CAT: 132kW
Capacity (cm ³) / number of cylinders		2960 / 6
Compression ratio / pressure	bar	9.2 / ≥8.5
Oil pressure	bar	0.3 [3.0]
Oil temperature	°C	90
Valve clearance - inlet	mm	0: Hyd.
Valve clearance - exhaust	mm	0: Hyd.
Firing order		1-5-3-6-2-4
No 1 cylinder position		F
Thermostat opening temperature	°C	87±2
Radiator cap pressure	bar	1.2±0.1

Fuel system

300E, TE 4-Matic & CAT¹

1988 to 1993

Idle speed - manual [auto]	rpm	600 to 700
Fast idle speed - manual [auto]	rpm	—
CO @ idle speed [3000 rpm] - see page VI	%	1.0±0.5. CAT: ≤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		Bosch
Type / ref		CIS-E (KE-Jetronic)
Main jet / needle		—
Injection pressure	bar	≥3.2
Pump pressure	bar	5.3 to 5.5
Octane rating	RON	95[E 95 RON] ²

Ignition system

300E, TE 4-Matic & CAT¹

1988 to 1993

Type		EZL
Ignition coil		Bosch
Primary resistance	ohms	0.3 to 0.6
Ballast resistor	ohms	—
Voltage - Tmnl 15(+) to earth	V	Battery
Distributor		Bosch
Points gap (air gap)	mm	—
Dwell angle	° (%)	1 to 30 @ starter speed
Condenser capacity	µF	—
Rotation		—
Ignition timing - basic [static	° Crankshaft @ rpm	27 to 31 BTDC @ 3200
V = Vacuum NV = No Vacuum		NV
Total ignition advance	° Crankshaft @ rpm	6 to 11 BTDC @ idle
	° Crankshaft @ rpm	40 to 44 BTDC @ 3200
	° 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/Champion
Type		H7DC / S9YC
Electrode gap	mm	0.80

Electrical system

300E, TE 4-Matic & CAT¹

1988 to 1993

Battery	V / CC / RC	12 / 190 / 62Ah
Alternator voltage / full load current / engine rpm		13.0 to 14.5 / 70 / 3000
Starter motor current / voltage - cranking	A / V	—
- locked	A / V	650 to 840 / 3.8

Running gear

300E, TE 4-Matic & CAT¹

1988 to 1993

Brakes -		
Front (min. friction material thickness)	mm	3.5
Rear (min. friction material thickness)	mm	2.0

Tyres		
Saloon	Size	195/65x15
Estate / Van	Size	195/65x15
Pressure - front / rear - Saloon	bar	2.4 / 2.4
- Estate / Van	bar	2.2 / 2.5

Front suspension / wheel alignment		
Toe-in (+) / Toe-out (–)	mm [°]	[+20'±10']
Camber		-15'+10'-20'
Castor		+10°20'±30'
King pin inclination		—

Rear suspension / wheel alignment		
Toe-in (+) / Toe-out (–)	mm [°]	[+20' to 35']
Camber		-1°30'±30'

Torque wrench settings

300E, TE 4-Matic & CAT¹

1988 to 1993

Cylinder head - stage 1	Nm	70
- stage 2	Nm	+ 90°
Cylinder head - stage 3	Nm	+ 90°
- stage 4	Nm	—
Big-end bearings	Nm	30 + 90 to 100°
Main bearings	Nm	55 + 90 to 100°
Clutch cover	Nm	25
Flywheel [driveplate]	Nm	30 + 90 to 100° ³
Front hubs	Nm	280
Rear hubs	Nm	200 to 240
Wheel nuts / bolts	Nm	110
Spark plugs	Nm	20

Capacities

300E, TE 4-Matic & CAT¹

1988 to 1993

Engine oil & filter	litres	6.5
Gearbox - 4-speed [5-speed]	litres	1.5 ⁴
Automatic transmission - refill	litres	6.2
Final drive	litres	Rear: 1.1 ⁵
Cooling system	litres	9.0. A/c: 9.5
Fuel tank	litres	70. 300TE: 72

Notes and Illustrations

¹(124.230/290)

²CAT: [U]

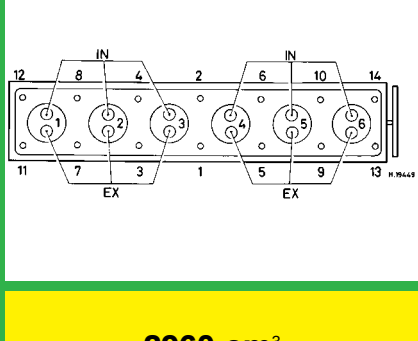
³9.89 ►, dual mass flywheel: 40 + 90 to 100°

⁴Transfer box: 0.6

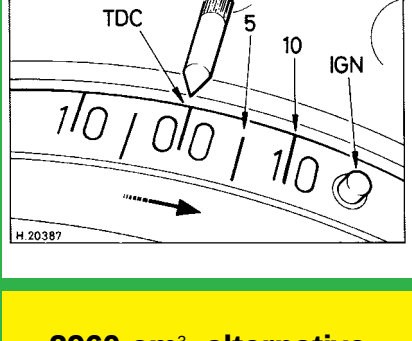
⁵Front: 1.0

1: Idle speed

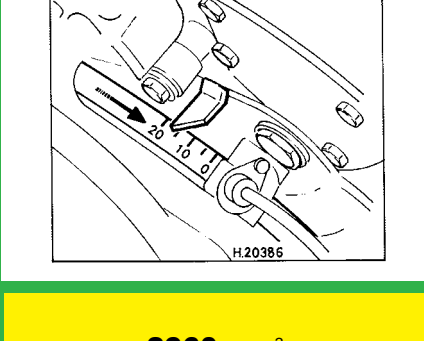
2: CO / Mixture



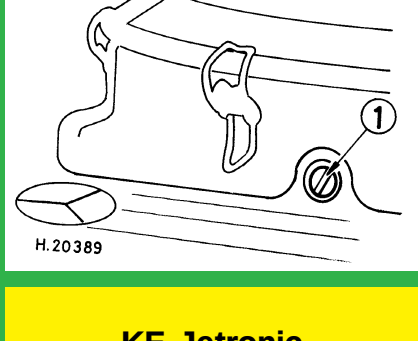
2960 cm³



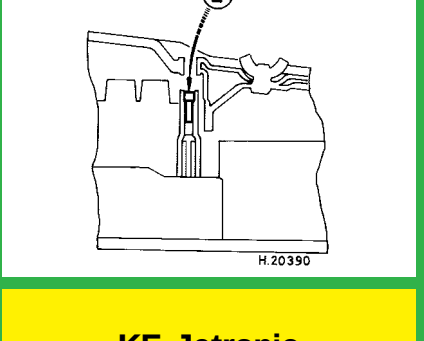
2960 cm³, alternative



2960 cm³



KE-Jetronic



KE-Jetronic