# MERCEDES-BENZ

**420SL (107.047)**

**1986 to 1989**



Haynes THE BOOK ®

Automotive Technical DATA BOOK

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## Engine and cooling system

**420SL (107.047) 1986 to 1989**

| | | |
|---|---|---|
| Type | | 116.964 KE |
| Capacity (cm³) / number of cylinders | | 4196 / 8 |
| Compression ratio / pressure | bar | 9.0 / ≥8.5 |
| Oil pressure | bar | 0.3 [3.0] |
| Oil temperature | ºC | _ |
| Valve clearance - inlet | mm | 0: Hyd. |
| Valve clearance - exhaust | mm | 0: Hyd. |
| Firing order | | 1-5-4-8-6-3-7-2 |
| No 1 cylinder position | | FR |
| Thermostat opening temperature | ºC | 80±2 |
| Radiator cap pressure | bar | 1.2±0.1 |

## Fuel system

**420SL (107.047) 1986 to 1989**

| | | |
|---|---|---|
| Idle speed - manual [auto] | rpm | 600 to 750 |
| Fast idle speed - manual [auto] | rpm | _ |
| CO @ idle speed [3000 rpm] - see page VI | % | 1.5±0.5 [0.1 to 0.8) |
| 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 | ≥3.7 |
| Pump pressure | bar | 6.2 to 6.4 |
| Octane rating | RON | 95[E 95 RON] |

## Ignition system

**420SL (107.047) 1986 to 1989**

| | | |
|---|---|---|
| Type | | EZL |
| Ignition coil | | Bosch |
| Primary resistance | ohms | 0.2 to 0.4 |
| Ballast resistor | ohms | _ |
| Voltage - Tmnl 15(+) to earth | V | Battery |
| Distributor | | Bosch |
| Points gap (air gap) | mm | _ |
| Dwell angle | º (%) | 1 to 18 @ starter speed |
| Condenser capacity | µF | _ |
| Rotation | | _ |
| Ignition timing - basic [static | º Crankshaft @ rpm | 27 to 31 BTDC @ 3200 |
| V = Vacuum NV = No Vacuum | | NV |
| Total ignition advance | º Crankshaft @ rpm | 14 to 18 BTDC @ idle |
| | º Crankshaft @ rpm | 41 to 45 BTDC @ 3500 |
| | º Crankshaft @ rpm | _ |
| Centrifugal check. | º Crankshaft @ rpm | Computer control |
| | º Crankshaft @ rpm | _ |
| | º Crankshaft @ rpm | _ |
| Vacuum range check | mbar | Computer control |
| Maximum vacuum advance | º Crankshaft | _ |
| Spark plugs | | Bosch/Champion |
| Type | | W7DC / N9YC |
| Electrode gap | mm | 0.80 |

## Electrical system

**420SL (107.047) 1986 to 1989**

| | | |
|---|---|---|
| Battery | V / CC / RC | 12 / 200 / 66Ah |
| Alternator voltage / full load current / engine rpm | | 13.0 to 14.5 / _ / 3000 |
| Starter motor current / voltage - cranking | A / V | _ |
| - locked | A / V | 560 to 780 / 5.0 |

## Running gear

**420SL (107.047) 1986 to 1989**

| | | |
|---|---|---|
| **Brakes** - | | |
| Front (min. friction material thickness) | mm | 2.0 |
| Rear (min. friction material thickness) | mm | 2.0 |
| **Tyres** | | |
| Saloon | Size | 205/65x15 |
| Estate / Van | Size | _ |
| Pressure - front / rear - Saloon | bar | 2.0 / 2.4 |
| - Estate / Van | bar | _ |
| **Front suspension / wheel alignment** | | |
| Toe-in (+) / Toe-out (–) | mm [º] | [+20'±10'] |
| Camber | | -10'+10'-20' |
| Castor | | +10°30'±30' |
| King pin inclination | | _ |
| **Rear suspension / wheel alignment** | | |
| Toe-in (+) / Toe-out (–) | mm [º] | [+10' to 35'] |
| Camber | | -1°45'±30' |

## Torque wrench settings

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| | | |
|---|---|---|
| Cylinder head - stage 1 | Nm | 30[1] |
| - stage 2 | Nm | 60 |
| Cylinder head - stage 3 | Nm | Wait 10 min. |
| - stage 4 | Nm | 60 |
| Big-end bearings | Nm | 45 + 90 to 100° |
| Main bearings | Nm | M10: 50. M11:[2] |
| Clutch cover | Nm | _ |
| Flywheel [driveplate] | Nm | 35 + 90 to 100° |
| Front hubs | Nm | WSM |
| Rear hubs | Nm | _ |
| Wheel nuts / bolts | Nm | 110 |
| Spark plugs | Nm | 25 to 30 |

## Capacities

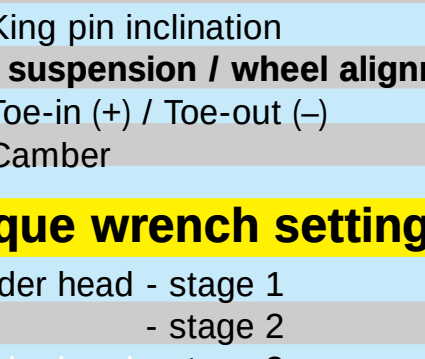
**420SL (107.047) 1986 to 1989**

| | | |
|---|---|---|
| Engine oil & filter | litres | 8.0 |
| Gearbox - 4-speed [5-speed] | litres | _ |
| Automatic transmission - refill | litres | 7.7 |
| Final drive | litres | 1.3 |
| Cooling system | litres | 13.0 |
| Fuel tank | litres | 85 |

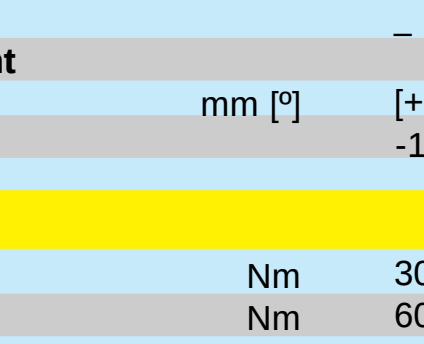
## Notes and Illustrations

[1]**Bolts marked "a" on diagram, 25**
[2]**M11: 55 + 90 to 100°**

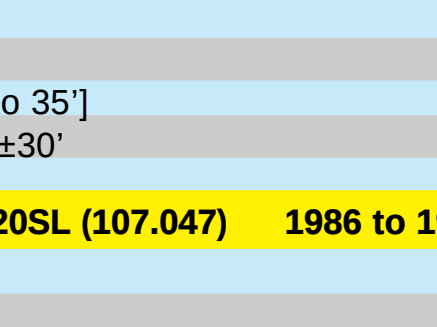
1: Idle speed 2: CO / Mixture



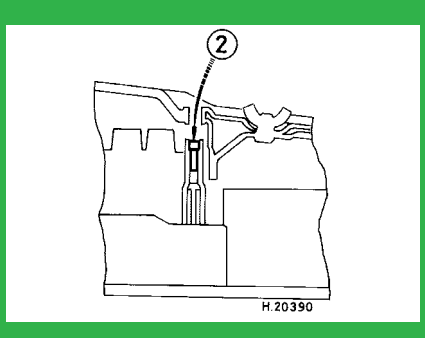

**4196 cm³, not S420**



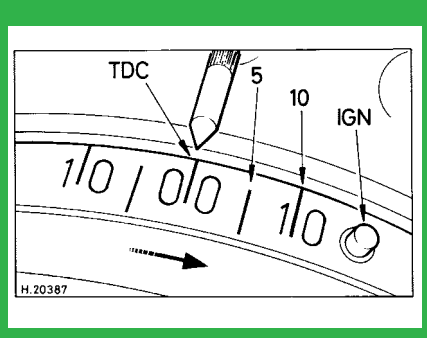

**4196 cm³, not S420**




**KE-Jetronic**




**KE-Jetronic**




**4196 cm³, alternative**