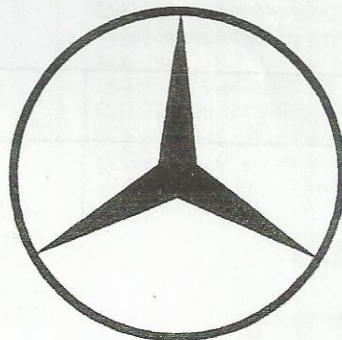


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# **MERCEDES-BENZ**

**190 SL**

**Supplement to  
Workshop Manual Type 190**

**DAIMLER-BENZ AKTIENGESELLSCHAFT  
STUTT GART - UNTERTUERKHEIM  
EXPORT-SERVICE**

## Technical Data

Type	190 SL																									
<b>Engine:</b> Model Method of operation Number of cylinders Bore and stroke Total effective capacity  Compression ratio Standard ignition timing  Ignition control  Firing order Engine speed (r. p. m. at 60 mph = 100 km/h) Maximum engine speed (r. p. m.)** Engine output (HP at r. p. m.)**  Maximum torque (psi at r. p. m.)  Crankshaft bearings Connecting rod bearings Arrangement of valves Valve clearance with cold engine	M 121 B II four-stroke 4 85×83.6 mm (3 <sup>11</sup> / <sub>32</sub> ×3 <sup>9</sup> / <sub>32</sub> ins.) 1897 cm <sup>3</sup> (115.7 cu ins.)  8.5:1 4° after UDC with camshaft 121 051 14 01 7° after UDC with camshaft 121 051 15 01 autom. by centrifugal force and by hand with octane rating compensator 1—3—4—2 3370 6000 105 metric HP (120 SAE-HP) at 5700  14.5 mkg/3200 (206 at 3200)  3 four-metal bearings four-metal bearings overhead  0.08 mm (0.003 in.) 0.20 mm (0.008 in.)  <table style="width: 100%; border: none;"> <tr> <td style="width: 30%;"></td> <td style="width: 30%; text-align: center;">Camshaft</td> <td style="width: 30%; text-align: center;">Camshaft</td> <td style="width: 10%;"></td> </tr> <tr> <td></td> <td style="text-align: center;">121 051 14 01</td> <td style="text-align: center;">121 051 15 01</td> <td></td> </tr> <tr> <td></td> <td style="text-align: center;">16° before UDC</td> <td style="text-align: center;">17.5° before UDC</td> <td rowspan="5" style="font-size: 2em; vertical-align: middle;">}</td> </tr> <tr> <td></td> <td style="text-align: center;">63° after LDC</td> <td style="text-align: center;">60.5° after LDC</td> </tr> <tr> <td></td> <td style="text-align: center;">60° before LDC</td> <td style="text-align: center;">61.5° before LDC</td> </tr> <tr> <td></td> <td style="text-align: center;">25° after UDC</td> <td style="text-align: center;">22.5° after UDC</td> </tr> <tr> <td></td> <td></td> <td></td> <td style="text-align: center;">with a clearance of 0.4 mm (0.015 in.)</td> </tr> </table>		Camshaft	Camshaft			121 051 14 01	121 051 15 01			16° before UDC	17.5° before UDC	}		63° after LDC	60.5° after LDC		60° before LDC	61.5° before LDC		25° after UDC	22.5° after UDC				with a clearance of 0.4 mm (0.015 in.)
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Ignition distributor (Bosch) Ignition coil (Bosch) Spark plugs  Electrode gap Fuel feed pump (Solex) Carburettor (Solex)  Venturi tube Main jet "Gg" Air correcting jet "a" Mixing tube "S" Idling fuel jet "g" Idling air jet  Injection pump Pumping jet "Gu" Injection tube Injected quantity  Float needle valve Float level	VJUR 4 BR 11 mk TK 12 A 3 Bosch W 240 T 21 Beru 240/14/3 Lu 2 Champion NA 10 0.7—0.8 mm (0.027—0.031 in.) Type PE 10284/1 2 horizontal two-barrel carburettors Type 44 PHH <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">1st stage</td> <td style="width: 50%;">2nd stage</td> </tr> <tr> <td>26 Ø</td> <td>44 Ø</td> </tr> <tr> <td>125</td> <td>180</td> </tr> <tr> <td>170</td> <td>120</td> </tr> <tr> <td>No. 1</td> <td>No. 19</td> </tr> <tr> <td>50</td> <td>50</td> </tr> <tr> <td>1.7</td> <td>1.7</td> </tr> </table> (bore towards interior of the housing)  No. 82 neutral — 40 — 0.4 cal. — 0.4—0.6 cm <sup>3</sup> /stroke (0.024—0.036 cu ins./stroke) 2.0 26—28 mm (1 <sup>1</sup> / <sub>32</sub> —1 <sup>7</sup> / <sub>64</sub> in.) (without float)	1st stage	2nd stage	26 Ø	44 Ø	125	180	170	120	No. 1	No. 19	50	50	1.7	1.7											
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\* Maximum engine speed does not mean the number of revolutions at maximum speed but that the number of revolutions indicated can be reached temporarily without doing any harm to the engine. The number of revolutions at maximum speed is somewhat lower.

\*\* As deductions due to power absorbing units have already been made the indicated output in HP according to DIN 70020 is effectively available at the clutch.

Type	190 SL
Fuel ante-filter Air filter (Mann and Hummel) Oil filter in the main circuit (Knecht) Oil cooling Cooling  Operating temperature of the cooling water Standard fuel consumption* Oil consumption Fuel	Fine-screen filter Korco in the reversing cock Wet-type air filter A 472—22 Plate-type filter with Micronic element FO 99/5 Oil/water heat-exchanger Water circulation by pump, thermostat with short-circuit line, fan 75—95 °C (167—203 °F) 8.6 l/100 km (33 miles per imp.gal./27 miles per US gal.) 0.15 l/100 km (235 miles per imp.pt./196 miles per US pt.) Filling station super fuel with a minimum octane rating of 80 acc. to motor method
<b>Clutch:</b> Single-plate dry clutch	F and S Type K 12 KSSZ
<b>Transmission:</b> Gear ratio: 1st gear 2nd gear 3rd gear 4th gear Reverse gear (not synchronized)  Climbing ability: 1st gear 2nd gear 3rd gear 4th gear  Maximum driving speed: 1st gear 2nd gear 3rd gear 4th gear	Daimler-Benz four-gear controlled synchromesh  3.40:1 2.0 :1 1.29:1 1 :1 3.29:1  52.3% (1 in 1.9) 26.1% (1 in 3.8) 14.6% (1 in 6.8) 10.1% (1 in 9.9)  52 km (32 miles) 89 km (55 miles) 140 km (87 miles) 170—180 km (approx. 105—111 miles) locked, however, depending on the equipment of the car
<b>Rear axle:</b> Rear axle ratio Camber of rear wheels, loaded**	3.89:1 —3° to —3° 30'
<b>Steering:</b> Camber of front wheels, loaded** Toe-in of front wheels, loaded** Caster of front wheels King pin inclination Steering shock absorber Angle from lock to lock  Minimum diameter of turning circle	DB re-circulating balls approx. + 0° 45' 0—2 mm (0— <sup>1</sup> / <sub>16</sub> in.) rolled, not pressed 4° 30' 5° Stabilus SidZ T 20 × 125 39° 30° 11 m (approx. 36 feet)
<b>Wheels:</b> Type of rims Size of rims Size of tyres Tyre pressure — (cold)  front rear	Steel disc wheels Drop-base 5 K × 13 unsymmetrical 6.40 × 13 normal highway 1.7 kg/cm <sup>2</sup> 1.9 kg/cm <sup>2</sup> (24 psi) (27.0 psi) 1.8 kg/cm <sup>2</sup> 2.0 kg/cm <sup>2</sup> (25.5 psi) (28.5 psi)
<b>Springs:</b> front rear	rubber-mounted coil springs rubber-mounted coil springs

\* Calculated at 2/3 of the maximum speed, however, not at over 80 km/h with the addition of 10%.  
\*\* 3 × 165 lbs + 88 lbs luggage + spare wheel + tools.

Type	190 SL
<b>Shock absorbers:</b> front rear	F and S Tov 36 × 130 F and S Tov 36 × 130
<b>Brakes:</b>	Hydraulic brakes with automatic adjustment Brake drums turbo-cooled
<b>Dimensions and weights:</b> Track front rear Wheelbase Length of car Width of car Height of car, unloaded Ground clearance with 2 passengers Dry weight of car (without spare wheel and tools) Curb weight of car (with spare wheel and tools) Payload Permissible total weight Permissible axle load front rear	1430 mm (56 ins.) 1480 mm (58 ins.) 2400 mm (94 ins.) 4220 mm (165 ins.) 1740 mm (68 ins.) 1320 mm (appr. 51 ins.) with top 155 mm (appr. 6 ins.) 1080 kg (2376 lbs.) 1140 kg (2500 lbs.) 260 kg (570 lbs.) 1400 kg (3000 lbs.) 680 kg (1500 lbs.) 720 kg (1580 lbs.)
<b>Capacities:</b> Cooling water (with DB heating) Fuel (including reserve) Oil in the crankcase max. min. Oil in the oil filter Water pump Transmission Rear axle Steering Brake fluid Ate blue Wheel hub, grease	10 ltrs. (2 imp. gals./2.6 US gals.) 65 ltrs. (14 imp. gals./17 US gals.) Reserve: 6 ltrs. (1.3 imp. gals./1.6 US gals.) 4.0 ltrs. (7 imp.pt./8.4 US pts.) 3.0 ltrs. (5.1 imp.pt./6.3 US pts.) 0.5 ltr. (0.85 imp.pt./1.05 US pt.) 15 ccm (0.9 cu. in.) 1.4 ltrs. (2.3 imp.pt./2.9 US pts.) 2.25 ltrs. (3.8 imp.pt./4.7 US pts.) 0.3 ltr. (0.5 imp.pt./0.6 US pt.) 0.5 ltr. (0.85 imp.pt./1.05 US pt.) 65 g (2.3 ozs.) per hub
<b>Electrical Equipment:</b> Battery (voltage/capacity) Generator (Bosch) Starter motor (Bosch)	12 volts/56 Ah Type LJ/GEG 160/12-2600 R 2 EED 0.8/12 R 28