

B. Compression Measurement

The compression pressure should always be measured (by means of the Compression Recorder 000 589 18 21) **with the engine at working temperature and the throttle valves fully opened** (see Model 190 Workshop Manual).

The compression values are listed in the Table below. They apply only when Compression Recorder 000 589 18 21 is used. When judging the compression pressure, not so much importance should be attached to the absolute figure as to the equality of the figures for the individual cylinders. The figures obtained for the individual cylinders **must not vary by more than 1.5 atmospheres**.

Compression Ratio, Capacity of Compression Chamber, and Compression Pressure

Model	180 a 190 1)	180 b	180 a 2) 180 b 2) 190	220 a 3) 219 3) 220 S 3)	220 a 219 4) 220 S 4)	219 5) 220 S 5) 220 SE	190 SL 6)	190 SL 7)
Compression ratio ϵ								
Maximum permissible	7.0:1	7.25:1	7.8:1	7.1:1	7.8:1	9.0:1	8.8:1	9.2:1
Normal	6.8:1	7.0:1	7.5:1	6.8:1	7.6:1	8.7:1	8.5:1	8.8:1
Minimum permissible	6.6:1	6.8:1	7.25:1	6.5:1	7.35:1	8.4:1	8.25:1	8.45:1
Total capacity of compression chamber with cylinder head fitted (cc)	78.5— 84.5	76—82	69.8— 75.8	60.5— 65.5	53.5— 57.5	45.5— 49.5	60.3— 66.3	57.8— 63.8
Capacity of compression chamber in cylinder head with valves fitted and spark plugs screwed in (cc)	70.3— 71.3	68.5— 69.5	62.3— 63.3	50.0— 51.0	44.3— 45.5	36.4— 37.4	51.7— 53.7	49.3— 51.3
Compression pressure in new engines (atmospheres)	7.5—8.0	7.5—8.0	8.0—8.5	7.5—8.0	8.0—8.5	9.0—10.0	9.0—9.5	9.0—10.0
Minimum compression pressure in used engines (atmospheres appr.)	6	6	7	6	7	8	8	8

1) Engine with lower compression as optional extra for Model 190 according to SA 10250.

2) Engine with higher compression for countries with altitudes above 2000 meters as optional extra for Models 180 a and 180 b according to SA 10331.

3) Engines with lower compression as optional extra for Models 220 a and 219 according to SA 10037, and Model 220 S according to SA 10187.

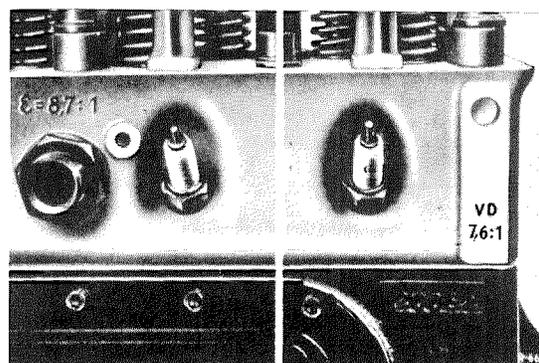
4) 1st Version on Model 219 up to engine end no. 75 04347, on Model 220 S up to engine end no. 75 09083.

5) 2nd Version on Model 219 with standard clutch as from engine end no. N 75 04348, with hydraulic automatic clutch as from engine end no. Z 75 00002, on Model 220 S with standard clutch as from engine end no. N 75 09084, with hydraulic automatic clutch as from engine end no. Z 75 00008.

6) 1st Version up to engine end no. 65 03803.

7) 2nd Version as from engine end no. 65 03804.

On previous Models the compression ratio was stamped on the left rear part of the cylinder head; on recent Models it is cast in the cylinder head on the left-hand side above the threaded union for the water pipe connection (Fig. 01-3/3).



Compression ratio markings on cylinder head
now
previously

Fig. 01-3/3