

B. Compression Measurement

Compression ratio and capacity of compression chamber

Cylinder head	With normal compression ratio	With lower compression ratio on request SA 10250
Compression factor ϵ	Maximum permissible 7.8 :1 Normal 7.5 :1 Minimum permissible 7.25 :1	7.0 :1 6.8 :1 6.6 :1
Total capacity of compression chamber with cylinder head fitted	69.8 — 75.8 cm ³	78.5 — 84.5 cm ³
Capacity of compression chamber in cylinder head with valves fitted and spark plugs screwed in	62.3 — 63.3 cm ³	70.3 — 71.3 cm ³

1. Bring the engine to normal working temperature (cooling water temperature 70 to 80° C.
2. Remove spark plugs and turn the engine a few times with the starter to remove any oil carbon deposits.
3. Turn the ignition adjustment knob as far to the right as it will go.

Remove distributor disk and rotor arm.

Measurements can now be taken for all 4 cylinders on the compression recorder without using an extension tube or an elbow joint.

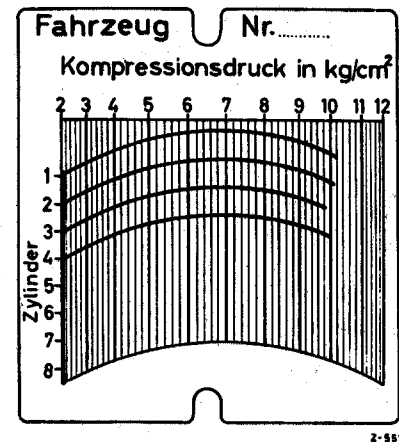


Fig. 01—3/3

4. Press the rubber cone of Compression Recorder 000 589 18 21 into the spark plug bore of the cylinder to be measured. A second person should now be employed to open the throttle valve to its full extent by depressing the accelerator and to operate the starter (approx. 4—6 turns of the engine). The throttle valve must be wide open in order to ensure that the cylinder is completely filled!
5. Measure all 4 cylinders. The recorder card must be moved to a new position for each cylinder in turn (see operating instructions). Make sure that the duration of turning the engine remains approximately the same for the measurements on all 4 cylinders (Fig. 01—3/3).

6. When using Compression Recorder 000 589 18 21 a compression of approx. 8.5 atmospheres will usually be obtained in the case of new engines.

The figures obtained for the individual cylinders should not vary by more than 1.0—1.5 atmospheres.

If the discrepancy for any one cylinder exceeds this amount, a second measurement should be taken.

If the compression is only 7 atmospheres or less, this indicates that the valves, pistons or piston rings are in need of repair. If the figures for two adjacent cylinders are appreciably lower than the rest it will usually be found that the cylinder head gasket between these two cylinders is leaky.