

Firing pressure diagrams

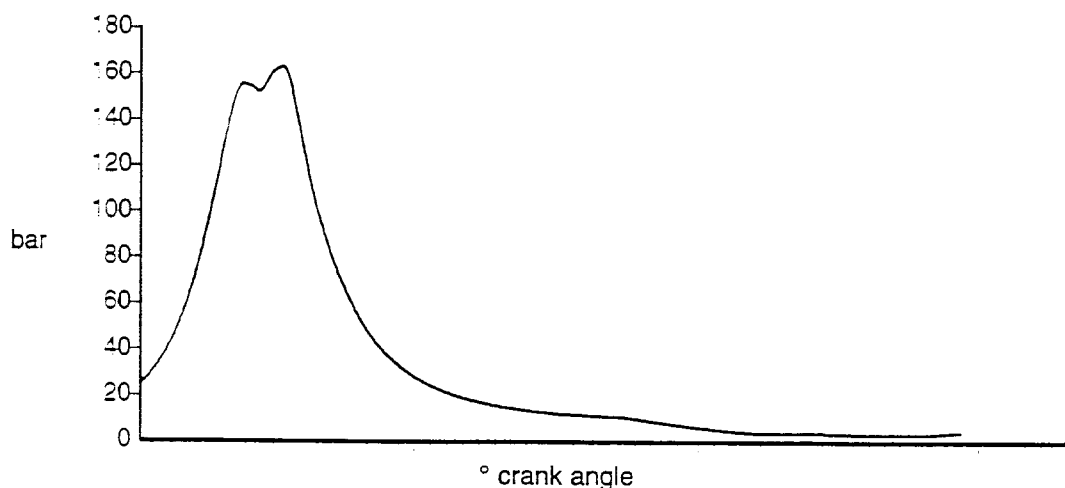
99/12
M32

After the engine M32 had proved its reliability in the field for more than two years, in 1997 the next development step was introduced into the market. This advancement comprised two essential measures:

1. The output per cylinder was increased from 440 kW/cyl. to 480 kW/cyl.
2. The engine conforms to the IMO limit values for exhaust gas emissions.

Observance of the limit values for emission was achieved exclusively by measures carried out on the engine. For this purpose among other measures the compression ratio, the valve timing and the commencement of fuel injection were adapted to the new requirements of the combustion process.

The realized adaptation of the combustion process is clearly visible in diagrams recorded with **electronic** indicators. The pressure curve known until now with visible start of ignition and delta pressure does not exist any more. In the area of the TDC the diagrams have a shape similar to a „camel hump“. However, in the upper range also this representation only partly corresponds to the real characteristic. It is shown in a modified way due to the measurement and the constructive indicating device.



This diagram is the typical recording of the combustion process of an actual M32 engine in the upper performance range, recorded with an electronic indicator.

As done until now, judgment of the engine condition should only be based on the comparisons of the absolute peak pressures and exhaust gas temperatures of operating data recordings carried out regularly.