

## **ABSTRACT**

### **METHOD FOR REPAIRING DAMAGE TO A WATER-COOLED CYLINDER HEAD IN 4-CYCLE INTERNAL COMBUSTION ENGINES, AND CYLINDER HEAD**

The invention relates to a method for repairing damage to the water-cooled cylinder head in a 4-cycle internal combustion engine having seat ring pockets for valve seat rings (1, 2) of intake or exhaust valves connected to cooling channels, wherein the damaged seat ring pockets are bored out, matching valve seat rings (1, 2) are inserted in each of the bored-out seat ring pockets, and existing cooling channels are connected to the valve seat rings (2) to be cooled. For a cylinder head, particularly for 4-cycle large diesel engines having uncooled and water-cooled valve seat rings (1, 2) of intake and/or exhaust valves, valve seat rings made of wear-resistant materials are fit into seat ring pockets of the cylinder head and secured by a shrink fit. The non-cooled valve seat rings (1) are each designed as a solid ring, and the cooled valve seat rings (2) are each made of two ring parts (4, 5) having a closed cooling channel (3) formed between said parts by circumferential welding of the ring parts.

Figure 2