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THERMALLY CONDUCTIVE SPINDLE SUPPORT SHAFT

ABSTRACT

A high thermally conductive spindle support shaft (25) is disclosed comprising a metal matrix composite of aluminium (Al) and silicon carbide (SiC) of substantially 53% to 63% silicon carbide by volume. The spindle support shaft (25) may be employed to support a magnetic disk file spindle by means of rotatable bearings (20,22), replacing a steel shaft. The spindle support shaft (25) increases the heat transfer from, and reduces the temperature of, the rotatable bearing (20,22), and matches the coefficient of thermal expansion of a conventional steel shaft, thereby maintaining the bearing preload through a range of temperatures.

Fig. 1

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