AIR BEARING SLIDER WITH OFFSET CROSSBARS TO REDUCE ROLL

ABSTRACT

A negative pressure air bearing surface (ABS) slider (36) carrying a transducer in a storage device exhibits reduced variation in roll (66) when moving across a storage medium (44). In one embodiment, the slider ABS has two negative pressure regions (131, 132) defined by a pair of side rails (133, 134), a cross rail (137), and an angled rail (135) extending from the cross rail and angled with respect to the longitudinal axis of the slider. Roll variation is reduced (66) by shaping a portion of the cross rail to one side of the angled rail such that it has a larger positive pressure surface than the portion of the cross rail to the other side of the angled rail. The larger surface compensates for decrease in positive pressure on its side of the ABS attributable to increasing air skew angle.

Fig. 4