Abstract

A contact magnetic storage system in which the slider 13, which supports the magnetic read/write head, is in physical contact with a rigid magnetic storage medium 12 during system operation at a selected operating speed. The slider material has a load versus friction characteristic that is non-linear in the negative load region. This characteristic allows the slider to be suspended from an access arm with zero or negative external loading. In a conventional magnetic storage system, at operating speed the slider is lifted away from the surface of the storage medium by at least the thickness of the air film adjacent the moving storage medium surface. In the present invention, due to the non-linear load versus friction characteristics of the slider material, a restoring force is generated at system operating speed which overcomes the lift of the air bearing and maintains the slider in contact with the storage medium surface without substantial wear or damage to either the slider or the storage medium. Various single crystal, polycrystalline and some amorphous materials have been shown to work in such a contact magnetic storage system.

This Sheet Has Been Replaced

