

Method and Apparatus for Centering Discs for Disc Drives

ABSTRACT

A method (1310-1330) and an apparatus (1000) for centering a disc drive assembly (110) are disclosed. The assembly (110) includes a rotational hub (310) of a spindle motor (314), several annular spacer elements (320), and several disc platters (210) loosely assembled into a disc pack. The rotational hub (310), each of the discs (210), and each of the spacer elements (320) are centered respectively using a corresponding set of three springs (414, 614, 814) as points of contact. The alignment and positioning of the springs (414, 614, 814) are precisely controlled. Once centered, a retaining nut (340) is fastened to a threaded portion (312) of the spindle motor (314) to firmly clamp the disc pack (110) together before withdrawing the springs (414, 614, 814). Hub centering springs (414), disc centering springs (614), and spacer element springs (814) are all adapted to provide the three points of contact for each component of the disc pack (110).

FIG. 10