MOTION LIMITERS IN A DIRECT ACCESS STORAGE DEVICE FOR PREVENTING DISK DATA ZONE AND SPINDLE BEARING DAMAGE

ABSTRACT

A direct access storage device (DASD) (10) includes a plurality of motion limiters and/or a continuous motion limiter projecting from at least one of the base (12) and cover (58), each motion limiter having faces (60, 62) disposed in close proximity to and confronting opposite surfaces (38,39) of a data storage disk (14) adjacent a peripheral portion of the disk (14) that does not contain data. Preferably, the motion limiters are disposed at several points about the periphery of the disk (14), and may be incorporated in a load/unload ramp (44) and/or side rails (64) of the DASD. The faces of the motion limiters are disposed relative to the disk (14) so that when the DASD (10) is subjected to an acceleration, the disk (14) contacts at least one of the faces only at the peripheral portion of the disk (14), outside the data zone. Accordingly, the motion limiters prevent data zone and spindle bearing damage when the DASD (10) is dropped. Figure 1.