ABSTRACT

ANTI-ROTATION AIR VANE INERTIA LATCH

The present invention is a novel latch and air vane system for a disk drive actuator assembly which releases automatically in response to the aerodynamic force generated by the rotation of the storage disk. The latch and air vane system latches and recaptures the actuator assembly and holds the arm and transducer supported thereby in a fixed position. The latch and air vane system comprises a latch journaled for rotation immediately adjacent the disk and including a latch arm extending substantially perpendicular the direction of movement of the actuator assembly when the actuator assembly is at rest with the transducer resting on the landing zone, a centre shaft to allow the latch to rotate, and an air vane. The latch arm has a latch finger at one end thereof engaging a notch on the perimeter of the actuator assembly pivot region. The air vane extending in the opposite direction from the centre shaft comprises a flag adjacent the space between the rotating disks and has a flag finger supported near the bottom of the flag and inserted in the region between the disks so that air flow generated by the rotation of the disks presses against the air vane and causes the air vane to move away from the edge of the rotating disks. In this way rotation of the disks causes the latch finger to move away from the notch releasing the actuator assembly for movement of the transducer across the surface of the disk. The latch and air vane mechanism is also intended to withstand considerable shock without allowing the actuator assembly to be dislodged, thereby preventing damage to data storage disks.

(Figure 1)

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