527326-12-5E AID: 258164| 31/08/2020

**1000 read requests ,to a randomly chosen sector disk head on outside track ;FIFO**

**The formulae:**

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| **S**eek time = estimate track + interpolation with average seek time |

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| total time of block = block \* total time |

**Calculation as follows:**

seek time:

disk average seek time = 12.0 ms

Rotation time:

Once the disk head settle on right track,it must wait for the desired sector to rotate under it. Rotation time is 2 ms ,one half of time that it ake a 5400 RPM disk to rotate once.

Transfer time:

Bandwidth at least 850Mbits/s . Just as before ,at least 9.5 microsecond (0.0095ms)

Total time :

= 12.0 + 2 +0.0095

= 14.0095ms per request

For 1000 blocks:

= 1000 \* 14.0095 ms

=14 s

|  |
| --- |
| 14s |

Total time for 1000 blocks