

Hybrid Drive vs Standard Hard Drive Laptop Speed Comparison Results

Solid-state drives (SSD) are at the cutting edge of PC storage, they have no moving parts and use high-speed flash-memory, similar to USB memory sticks, but the cost per gigabyte is very high. Hybrid drives are meant to be give near SSD performance but have a similar price/capacity ratio to regular hard-disk drives. They do this by adding an amount of SSD storage to a standard hard-disk and building intelligence into the drive that stores regularly accessed files, such as the operating system, in the high-speed SSD part. Therefore each time an operation is performed they should increase in speed until they reach the maximum as more of the required data is moved into the SSD part of the drive. The trade-off is that they tend to use the slower 5,400rpm hard disks as the power consumption is better and they're cheaper mechanisms. The drive tested below is reported to have 8Gb of SSD on top of the 500Gb hard disk.

HP nc8430 laptop running 32bit Windows 7 with 3Gb RAM	Seagate 320Gb 2.5" 7,200rpm Standard Hard Disk	Seagte 500Gb 2.5" 5,400rpm Hybrid Hard Disk
Boot Time (to logon screen)	49s	1 st – 69s 2 nd – 54s 3 rd – 42s 4 th – 39s
Logon	50s	1 st – 54s 2 nd – 29s 3 rd – 15s
Shutdown	49s	1 st – 30s 2 nd – 33s 3 rd – 44s
Hibernate	39s	1 st – 40s 2 nd – 26s 3 rd – 23s
Resume from hibernate	23s	1 st – 36s 2 nd – 22s 3 rd – 30s
Open Outlook 2010 (2Gb mail file)	3s	1 st – 3s 2 nd – 3s 3 rd – 3s
Open Excel 2010 spreadsheet	6s	1 st – 11s 2 nd – 8s 3 rd – 3s

It would seem that repeated boot up does eventually knock ten seconds off the start time but the most impressive difference is the time taken to logon after entering the password which is less than a third of the amount of time after three reboots and logons.

Shutting down is generally faster (the last result may be inaccurate due to something else happening on the PC to delay shutdown as it's so much longer than the previous two attempts). Hibernation speeds up considerably, but resuming from hibernation is slightly slower, which is an odd result.

Opening Outlook 2010 is already so fast it was unlikely the hybrid-drive would make any difference but the Excel spread-sheet was twice as fast.

Conclusion

The 5,400rpm hybrid models are worth getting if the price is comparable to a 7,200rpm drive, the extra performance isn't there across the board to make is worth paying significantly more but they are faster. The 7,200rpm hybrid drives should be an excellent performance boost, but with reduced battery life.