

SSD INSTALLATION

Transfer the Operating System

Prepare the SSD – You first have to initialize the SSD to create the MBR. You can do that with Disk Management . Then you need to align the SSD and define an active partition on it.

Use an elevated Command Prompt with the following commands:

Diskpart

List disk

Select disk n (*where n is the number that was given for your SSD in List disk*)

Clean

Create partition primary align=1024

Format fs=ntfs quick

Active (*assuming you want to install an OS*)

Exit

If you are more comfortable working with Disk Management, you can also define a primary active partition with Disk Management. On a SSD, the partition will be automatically aligned by 1024.

If you want to verify that the alignment is correct, you use these commands:

Diskpart

List disk

Select disk n

List partition

You should see a result like this:

Partition ### Type Size **Offset**

Partition 1 Primary 59 GB **1024 KB** - Any number divisible by 4 is good.

In Windows7, you may have the 100MB active boot partition. The easiest way to deal with that is to [move the bootmgr to the C: partition using EasyBCD](#). That you do on your HDD before you transfer anything to the SSD. Then you do not have to worry about it and you need only transfer the C: partition to the SSD. But if you care to keep the 100MB partition, then the partition you just created on the SSD is for that 100MB partition. The next step is to shrink the partition you just created to a 100MB size (make sure it is not any smaller). With Disk Management you will have trouble to do that. I recommend [this program](#) for the operation.

From the free space you gained, you create the C: partition for the OS. This partition must not be active and need not be a primary (because the 100MB partition contains the boot manager).

Alternatively and easier is if you first create the 100MB partition with these commands:

Diskpart

List disk

Select disk n (where n is the number that was given for your SSD in List disk)

Clean

Create partition primary size=100 align=1024

Format fs=ntfs quick

Active

Exit

Note: The unit in the **size** parameter is MB

After this action you can use Disk Management to create the C partition from the remaining unallocated space. That can be a logical partition. If there is no 100MB partition, things are easy. The partition you created with Command Prompt will receive the C partition including boot manager and all.

There may be more partitions on your factory HDD – e.g., the Recovery partition and a Tools Partition. Those you should not transfer to the SSD because of space constraints. I would back them up – e.g., with an imaging program. The Recovery Partition you can also burn to DVDs.

Set AHCI Mode

Open Regedit from a Command Prompt and navigate to:-

HKEY_LOCAL_MACHINE\System\CurrentControlSet\Services\msahci

- In the right pane right-click Start in the Name column and then click Modify.
- In the Value data box, type 0 [3 is default], and then click OK.
- On the File menu, click Exit to close Registry Editor.
- Restart your computer
- Go to UEFI/BIOS and enable AHCI, Save & Reboot
- Another restart will be required to finish the driver installation.

Enable TRIM

- Check if TRIM is enabled
- Open a Command Prompt.
- Enter *fsutil behavior query DisableDeleteNotify*

This returns either 1 or 0. TRIM enabled returns a 0.

- If TRIM is not enabled enter *fsutil behaviour set DisableDeleteNotify 0*

Recheck TRIM is enabled.

Other Actions

Disk Defragmentation - Defragmentation makes no sense on an SSD. For a laptop, go into Services, navigate to Disk *Defragmenter*, right click on it and go to *Properties*. Here you set the service to *Disabled*. For a desktop, you may want to disable defrag in the Disk Defragmenter and only for the SSD so that the remaining HDDs can still be defragmented.

Note: As long as Defrag Service is turned off, you cannot shrink any partition. The partition shrink process requires the Defrag service. If you need to shrink a partition later, turn the Defragmentation Service temporarily on.

Hibernation File – most of us do not use *Hibernation*, but *Sleep* instead. But, the *hiberfile* takes precious space on your SSD – to the same tune as the size as your RAM. To disable it, run the following command in elevated Command Prompt: ***powercfg -h off***. If you ever want it back, it is ***powercfg -h on***.

Prefetch/Superfetch – Disable Prefetch. Open Regedit and go to

HKLM\System\CurrentControlSet\Control\SessionManager\Memory Management\PrefetchParameters

This gives 2 values:- Enable Prefetcher and EnableSuperfetch. Set to 0 to disable.

Disable the Superfetch service by “run services.msc”

Note - Some “experts” suggest to turn Superfetch off but others think that is not appropriate. Fetching a program or data from RAM is still a lot faster than fetching it from a disk – even from an SSD.

Indexing – Disable Indexing.

System Restore – Disable System Restore

Virtual Memory – Disable Virtual Memory or move it to a non SSD drive.

Power Management – An SSD does not need to be powered down because when not in use it will use negligible power anyway.