

Repairing a Notebook PC



Toshiba Satellite J40. Broken CPU fan on the bottom right

A local company gave me the laptop PC you see in the photo. They often give me older PCs because I'm actually doing them a favor to take away their junk! It costs money in Japan to dispose of materials.

I was interested in this particular laptop PC because the keyboard looked so clean. It was as if it had hardly ever been used! And the specs were not bad. It had 256 megabytes of RAM and a 40-gigabyte hard disk and an Intel Pentium M CPU with a Japanese version of Windows XP. There was only one problem: The CPU fan had failed! I installed software to check the CPU temperature and it was up to 75 Celsius! Windows gave a warning every minute indicating high temperature. I knew the notebook PC could not be used very long with an overheated CPU / Motherboard. It certainly would not run very well for long. The CPU was engineered to drop to a lower speed and performance if its operating temperature increased too high.

The same company gave me another Toshiba laptop a few months previously. The display was dead but when hooked to an external monitor, the laptop did work. A laptop without a working display has zero mobility if it needs an external monitor. I used it for parts.

With two junk laptops gotten for free, I did what I would not do with a customer's laptop PC. I unscrewed each and every screw in both the top and bottom of the Toshiba Satellite J40 laptop PC, put them in order on my desk, removed the bottom plastic case from the top case, removed the defective CPU fan, and replaced it with the CPU fan from the Toshiba laptop with the broken monitor. Because the size of the fan was not the same, it could only be secured with one screw. But it was enough.

I added 256 megabytes more RAM and installed Linux, Fedora 17 on it. This of course destroyed the Windows XP installation entirely, something I could not even use legally because of licensing. Who needs Windows anyway? My new used laptop boots faster and shuts down quicker than it did with Windows!

A totally successful operation! The hardest part was not taking it apart without breaking it, but putting it back together – and without a single screw left over. I think you technicians know what I'm talking about. □