

Video – Computer Disassembly (16 min)

In this tutorial demonstration I'll disassemble a computer. I'll use the recommended safety precautions and the recommended tools. Some of the tools that you'll need are, first and foremost, a Phillips head screwdriver, a hex driver. I have some cable ties here, scissors. I have a can of compressed gas that I could use to blow out any dust or debris from inside the computer. I have a small bag of computer screws. I have a computer toolkit with a variety of tools inside of it, including a torques driver, a hex driver, a part extractor, tweezers, and a number of other items. I have an anti-static bag to hold components and I have a toolkit inside the toolkit. Let's take a look inside. I have some other items that I'll be using. I have an anti-static wrist strap which you'll need to protect against static electricity. I have some thermal compound that I can use to go between the cooling unit and the CPU if I'm installing or replacing the CPU.

In this lab, I'll be leaving the CPU and the cooling unit on the motherboard and will be leaving the motherboard in the case. I also have a variety of other components in here. I have SATA data cables. I have a wireless card. I have a ribbon data cable and a variety of other pieces. So, I'll be disassembling this Dell OptiPlex 755. So, let's get started. So, the first thing that you're going to want to do is to make sure that the computer is powered off and that you've pulled out the power cable. So, I'll pull out the power cable here. Now I know for a fact that the computer has no power.

Now, many of cases will have screws on the back that you will use to remove the panel from the case. With this model computer, instead of screws it's a pull tab. So, you pull the tab and the panel pops open. So, that makes it nice and easy. I don't even need to use a screwdriver. Now, not all cases are so easy. I have a computer case here. Now, this case you can use either a Phillips head screwdriver or it's just a thumbscrew. So, if I use the thumbscrew, I can pull off the side panel like this to get inside the computer. I'll put that back. And we'll work with our Dell OptiPlex 755.

Now that I have the computer open, I'll want to put on my anti-static wrist strap to protect the computer from static electricity. I'm also standing on a grounded anti-static mat. So, I'll put the strap on and I'll clamp the end of the anti-static wrist strap to some bare metal, unpainted bare metal, on the computer.

Now, the first piece that I want to get to is the hard drive. Now, in this case, the hard drive is really easy to remove because the hard drive has these casing units. All I have to do is press the tabs and I can pull the hard drive out but before I do that I'll want to remove the power cable and the SATA data cable. So, that's the SATA power cable and the SATA data cable from the hard drive. Now, I can pinch these two tabs and remove the hard drive. In cases like this one, the hard drive can be fastened with these plastic fasteners or it could be screwed in with crosshair screws. In this case, you can see that the hard drive has been screwed in here and here. So, I'll take out those screws using a Phillips head screwdriver and if the hard drive has been screwed in on this side, it's often necessary to remove the back panel as well to get to the screws on the other side. So, I'll take off the other panel behind the motherboard, reconnect the anti-static wrist strap and then remove the screws. Now, I can remove the hard drive by first removing the SATA data cable and the SATA power cable and then sliding the hard drive out. I want to make sure to not drop the hard drive on top of the motherboard.

Now, if we want to remove the hard drive from the plastic casing that gets inserted into the case, all I have to do is stretch the plastic casing and the hard drive pops out. Now, this hard drive is a SATA hard drive so it doesn't have a master-slave or autoselect jumpers that you have to change and look at, since this is a SATA hard drive. Now, if this was an IDE Parallel ATA hard drive, or PATA hard drive, then it would have the jumper for the master-slave or autoselect cable select drive but in this case, it's just a SATA hard drive. I'll put it to the side and now let's see if we can remove the DVD drive or DVD burner or optical drive.

So, on the front of this case we have, as you can see here, a DVD drive. Now, to remove it what I'm going to need to do is, first off, I'm going to need to remove this front panel and then on this case it's very easy. There's no screws here holding this DVD drive in place. So, all I need to do is pull down the plastic tab and slide the DVD drive from the front. Now, before I do that I'm going to want to, first of all, remove the SATA power connector, the SATA data cable, push down the blue tab and now I can slide the DVD drive out of the front and there's my DVD rewritable DVD burner. So, now we've removed the hard drive and the DVD drive.

Now, the next step in the process is to remove the power supply. To remove the power supply, we first need to disconnect all of the power cables that are running to the various components inside the computer. We've

already removed the SATA power connector, or SATA power cable, that goes to the hard drive. We removed the SATA power cable that goes to the DVD drive.

Now, we need to remove the power connectors that go to the motherboard. So, on the motherboard, we have right here the P1 power connector. It has a little plastic tab here that you need to press. The plastic tab is connected to a hook that hooks on and grabs on to the power socket. So, I'll just press this white plastic tab and then pull it out and you can see it pops right out. That's the P1 power connector. Now, we'll take a look over here. There's a 4-pin CPU power connector that's connecting to the motherboard over here. It also has a little plastic tab that you need to press to release the hook so you can disengage the power connector from the motherboard. So, I'll press the tab and then pull it out and you can see there's the 4-pin power connector. So, you can see now, I have all of the power cables for the power supply and they're disconnected from the motherboard and all the various components. Now, in your particular computer, you may have a power connector connected to your video card or you may have two 4-pin power connectors connected to your motherboard to power the CPU.

Today we have 8-pins that can power the CPU. So, you might have a variety of other power connectors that you'll need to deal with. In this case, I've already disconnected all of mine and now all I need to do is remove the power supply. Now, to do this, I'm going to go to the back of the case and take a look at the screws that are holding the power supply in place. I can see there's a screw here, here and here that are holding it in place. So, what I'll do is I'll just, holding on to the power supply so I don't drop it. I'll take out this screw and this one, this one. Now, you may say, hey his anti-static wrist strap is disconnected from the computer and that's true. The anti-static wrist strap is most important when you're holding on to the CPU because that is the one component on the computer along with, let's say the RAM and the chipset, that would be easily fried by a smallest, the smallest bit of static electricity but I will connect this, none the less.

Let's see if we can connect that. There we go and now I should be able to remove the power supply. Now, in this case, the power supply is also held in place by this little blue tab here in the back of the case. So, I'll press that and, oh, there's one more screw here. So, let me remove this screw really quickly. There we go and I've got my hand on the blue tab. Let's see here. There we go and I should be able to remove the power supply. I'll set this down so it's easier to remove and there's the power supply, okay. So, we've removed the hard drive, the optical drive and the power supply. Okay, it's time to remove the rest of the components.

The next component that we'll remove is the video card. Now, the video card is in a PCIe x 16 slot on this older model computer. You can see the video card right here in a PCIe x 16 slot. So, to remove it, the first thing I'll need to do is unlock this piece right here, which is holding all of the PCI and peripheral cards in place here. So, to do that, let's see here. If I can remember how this piece works. Press that and then this pops open and now you have access to the peripheral cards. So, to remove it, all I need to do is, there is a tab right here. I'll pull up the tab and then remove the card and you can see there's the video card. Now, I'll put this back in place. I'll just pull these out for the moment and then snap this back in place. Okay, so that's the video card. That was the PCIe x 16 slot here. These are two PCI slots here.

Next, let's remove the RAM memory modules from the motherboard. So, to do that, you can see that I have four RAM DIMMs here. You just press the little tabs on the side and then remove the RAM memory modules. This would be a good time to make sure you have your anti-static wrist strap on, since you're going to be holding chips and there are my four DIMMs, my RAM memory modules and then last, but not least, I can remove the cables from the motherboard. So, here's a SATA data cable. Here's another SATA data cable. Now, it's helpful to mark where these were plugged in so that when you go to reassemble your computer you put your SATA data cables back in the same SATA ports. So, they're usually numbered, zero, one, two and three and four in this case and it's nice to have an idea of where you took them out from so that you put them back in the right place.

Well, in this case, that's all for disassembling the computer. Some other pieces that you might need to pull out of your computer would be like a wireless card which might be attached here to the PCI slot, but in this case, that's it. If we wanted to keep going, we could remove the cooling unit from here. All we would need to do first is remove this plastic housing, remove the cooling unit, then the CPU and then we can remove the entire motherboard by unscrewing it from the base. Computer is disassembled.