



UTM
UNIVERSITI TEKNOLOGI MALAYSIA

SCHOOL OF COMPUTING

SESSION 2020/2021

SECP1513-03

Technology Information System

Assignemt 3 (Step by Step PC Assembly)

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Table of Contents

GROUP NAME/NUMBER 2

PART A 4

Tools needed to assemble a PC 4

PART B 10

PART C 11

PART D 24

PART A

Tools needed to assemble a PC

Nowadays in this era of technology, there are different kind of PCs and the technology is improvising day by day. So there are different technologies and different models of PCs and laptops. But there are certain tools required to assemble or disassemble a PC.

The Following are the tools required to build a PC:

1. SCREWDRIVER

The most important tool while building a PC is the screwdriver and various sizes of the screws.

Of course without the screws, we can't assemble and tighten a PC, and we need to use a certain type of screwdriver. The screwdriver used to assemble a PC is the Phillips-head screwdriver with a big bit so it will be more comfortable to use it.

We need a [Precision Screwdriver Set](#), which should have all the screwdrivers we need.





2. iFixit Opening tool:

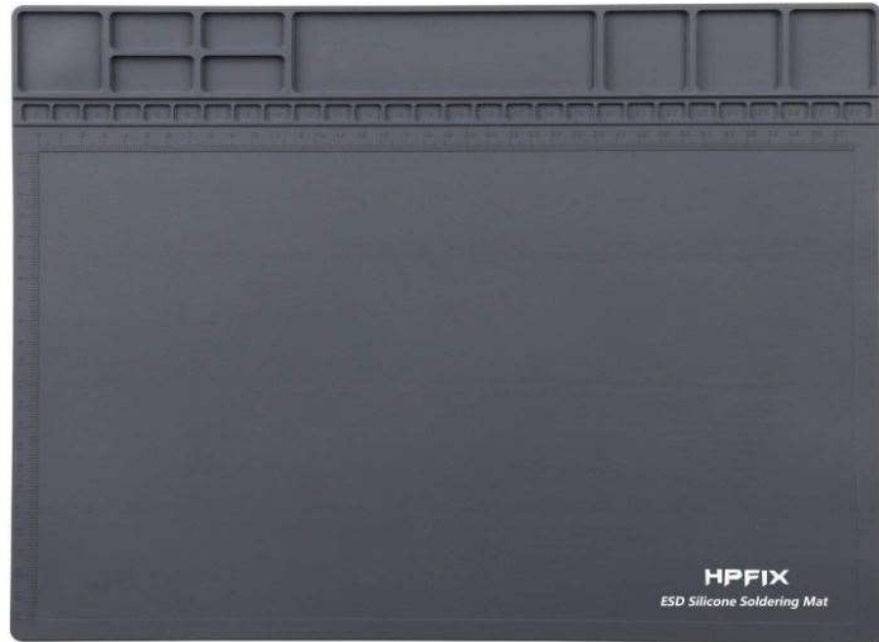
There are so many wires and connections in almost every PC so we need to be very careful in order to assemble or disassemble it. iFixit opening tool or plastic opening tool is used to remove the connections without destroying the wires.



3. **Cable Ties:** [Plastic cable ties](#) are useful for neatly bundling wires and cables away from fans and other components inside the computer.



4. Anti-Static Kit which consists of a rubberized mat and a wrist band that attaches to both the mat and the computer you're working on. This both protects the equipment from static damage and protects your tabletop from scratches.



5. Heat Sink Compound which improves the thermal efficiency of heat sinks and improves cooling.



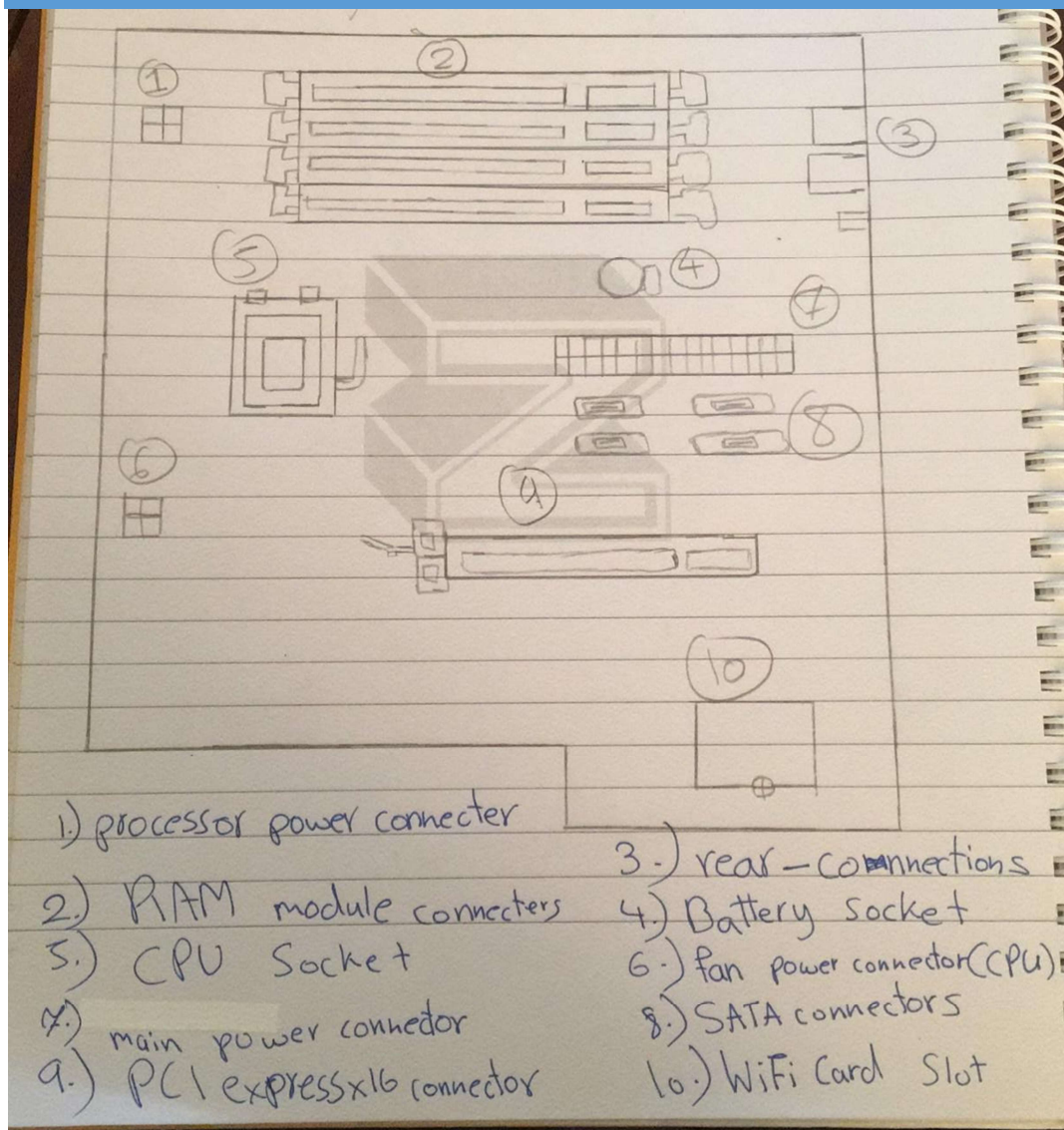
6. Canned Air or Canless Air Duster is used to remove dust out of the nooks and cracks of your computer.



7. **Pill Bottle or a Small Container.** You'll need a pill bottle or other small container to hold the various screws, jumpers, and other small parts used to assemble and configure a computer.



PART B



1.) processor power connector

2.) RAM module connectors

3.) CPU Socket

4.) main power connector

9.) PCI express x16 connector

3.) rear connections

4.) Battery socket

6.) fan power connector (CPU)

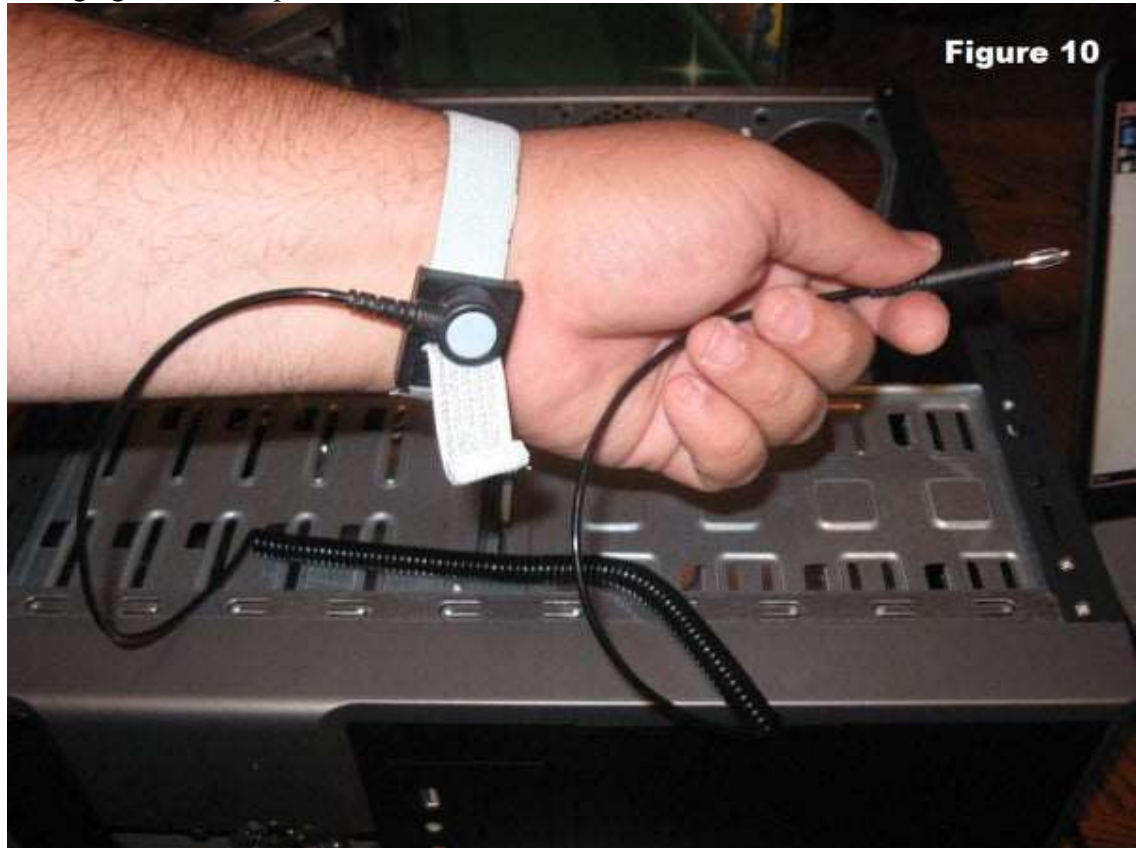
8.) SATA connectors

10.) WiFi Card Slot

PART C

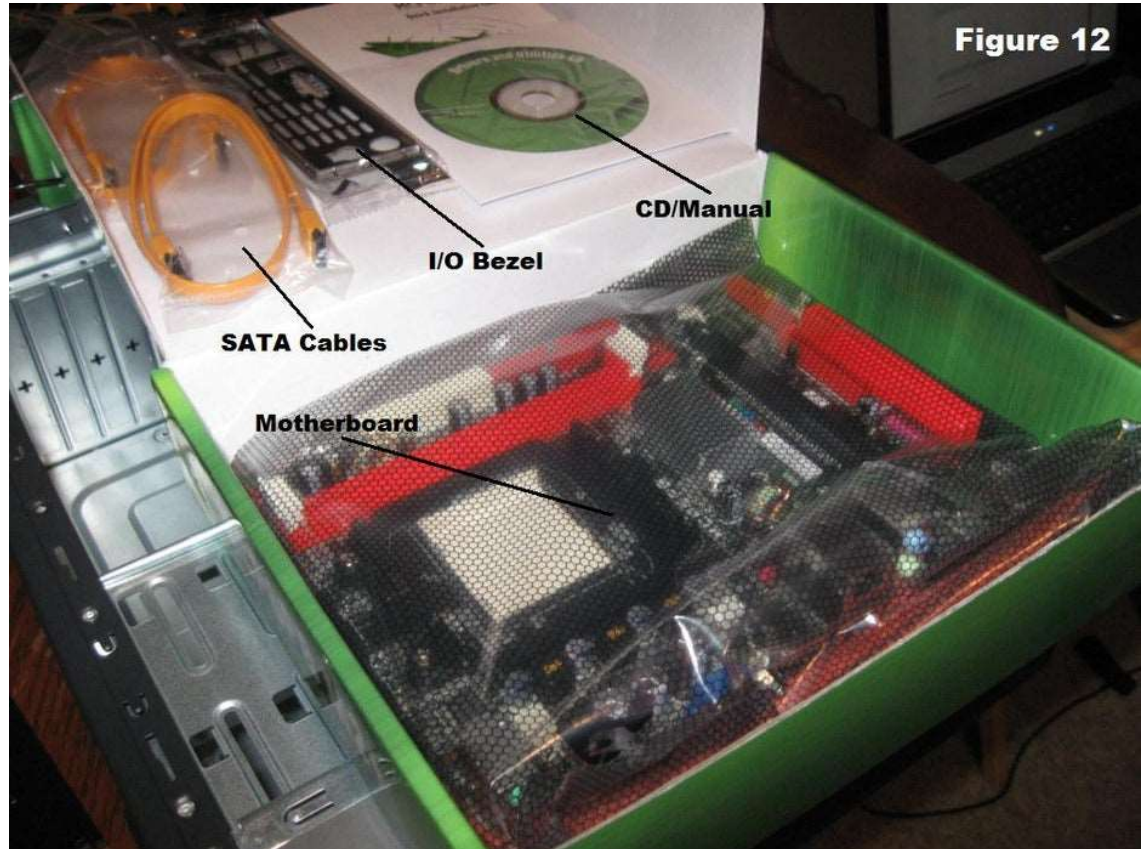
Step 1:

- Ground Yourself to prevent any buildup of static electricity on your body from damaging the PC components



Step 2:

- Motherboard installation :
Install the I/O bezel plate (shown in figure 12) into the opening in the back of the case
it usually pushes in from inside



- Install the standoffs in the case to separate the motherboard from the case body shown in figure 14 below



- Lower the motherboard into the case and align it with I/O bezel then install the screw to mount the motherboard shown in figure 15 below \



Step 3 :

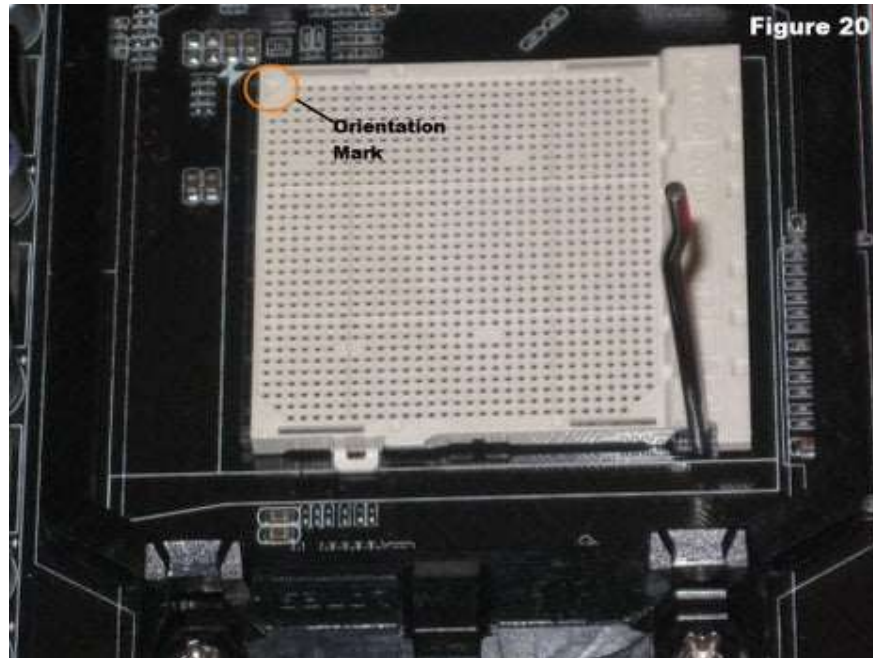
- Install Hard Drive its usually a 3.5 inch wide and it needs to be mounted so that you can access the cable connections on the back shown in figure 16



- Slide the Hard Drive into its place until the screw holes are lined up with the holes in the case than install the screws .

Step 4:

- Install the CPU it is installed on the motherboard in the socket shown in figure 20 below



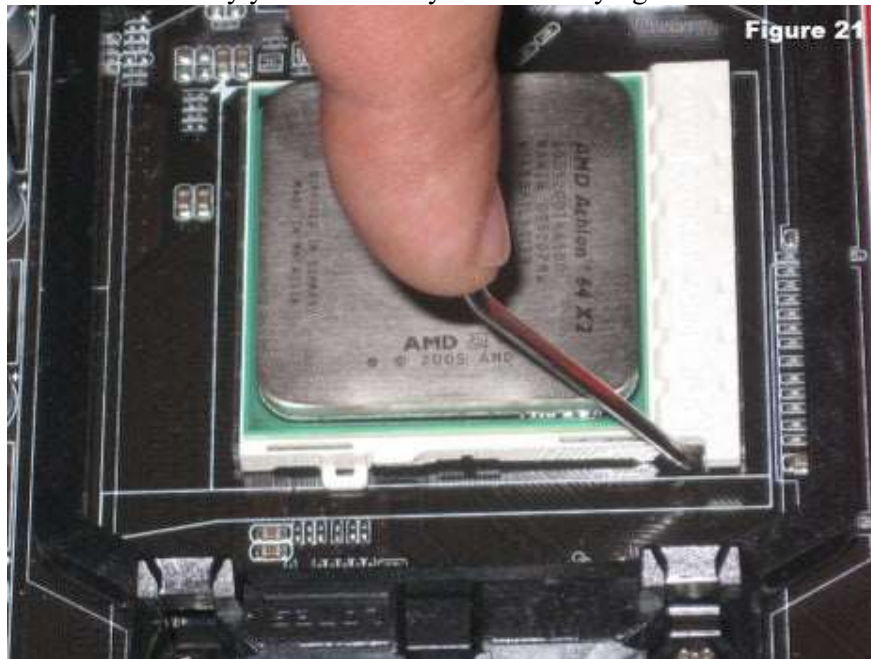
- Installing the cpu in its socket Is a sensitive process because it contains a lot of pins and they should be aligned properly before pushing the CPU in .

- First Find the corner marking that designates pin 1 of the CPU as shown in figure 19 below



- Lift the small metal rod next to the socket as shown in figure 20 above
- Find the matching marking on the CPU socket and insert the CPU so that the markings are lined up

- Last step for mounting the CPU is to push it down to lock the processor in its place and if its done correctly you will usually hear a satisfying click as shown in figure 21



Step 5:

- Install Ram in the socket shown in fig.22 below and check if the notch in the board is in the correct location . if it is not ,turn it around 180 degree



- Press down gently when the notch is aligned properly on both ends of the ram at the same time if its done right you should here a satisfying sound .

Step 6:

- Install the CPU fan
 1. Place the thermal compound to the CPU .
 2. Set the fan assembly on the CPU with mounting tabs aligned .
 3. Pull the locking rod down on the fan assembly to lock the fan in place
 4. Connect the fan assembly power connector to the motherboard .



Step 7:

- Install Case Fan
 1. Install the case fan on the back panel of the case
 2. Align the mounting holes with the fan holes inside the case shown in figure 25 below

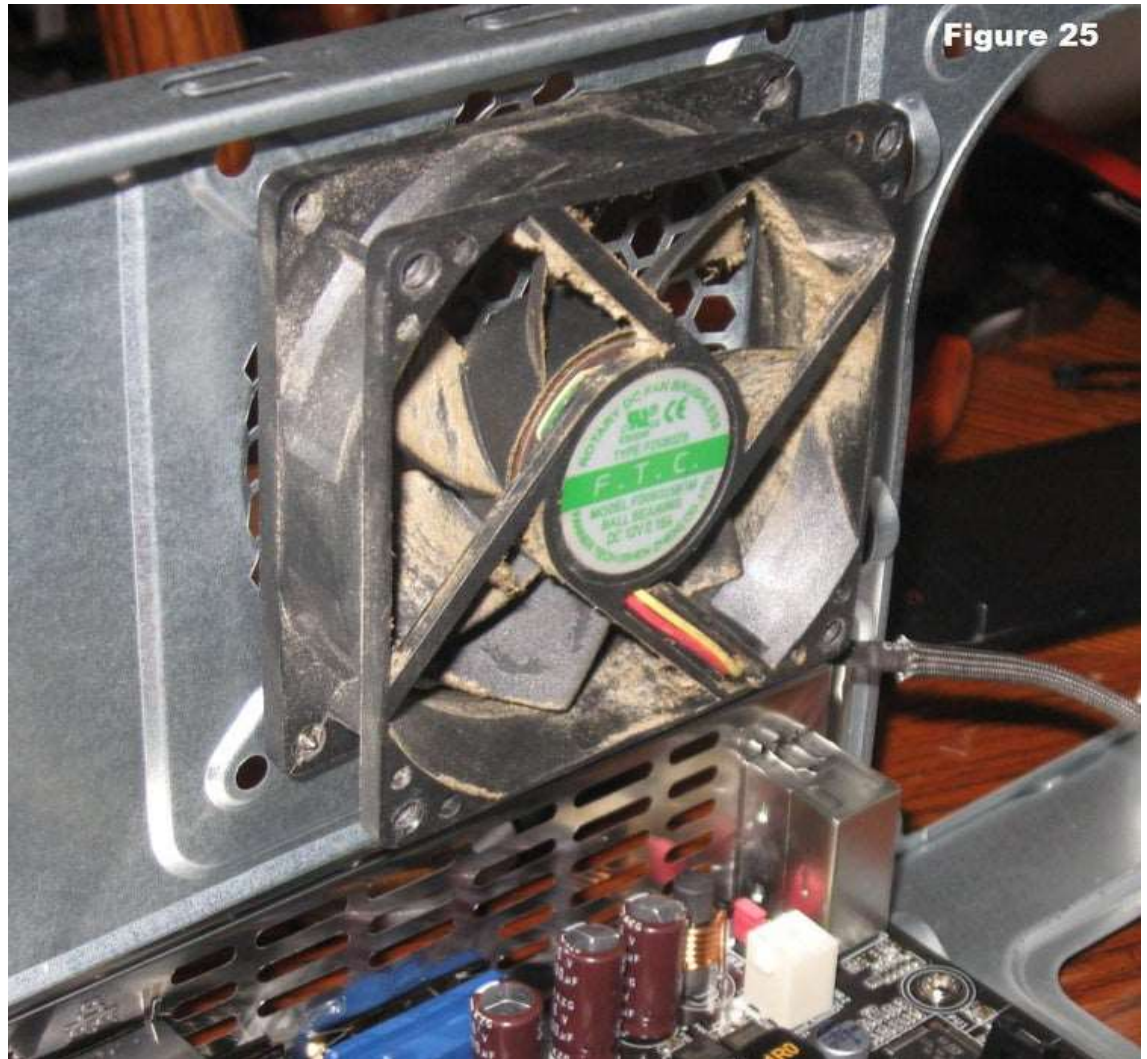
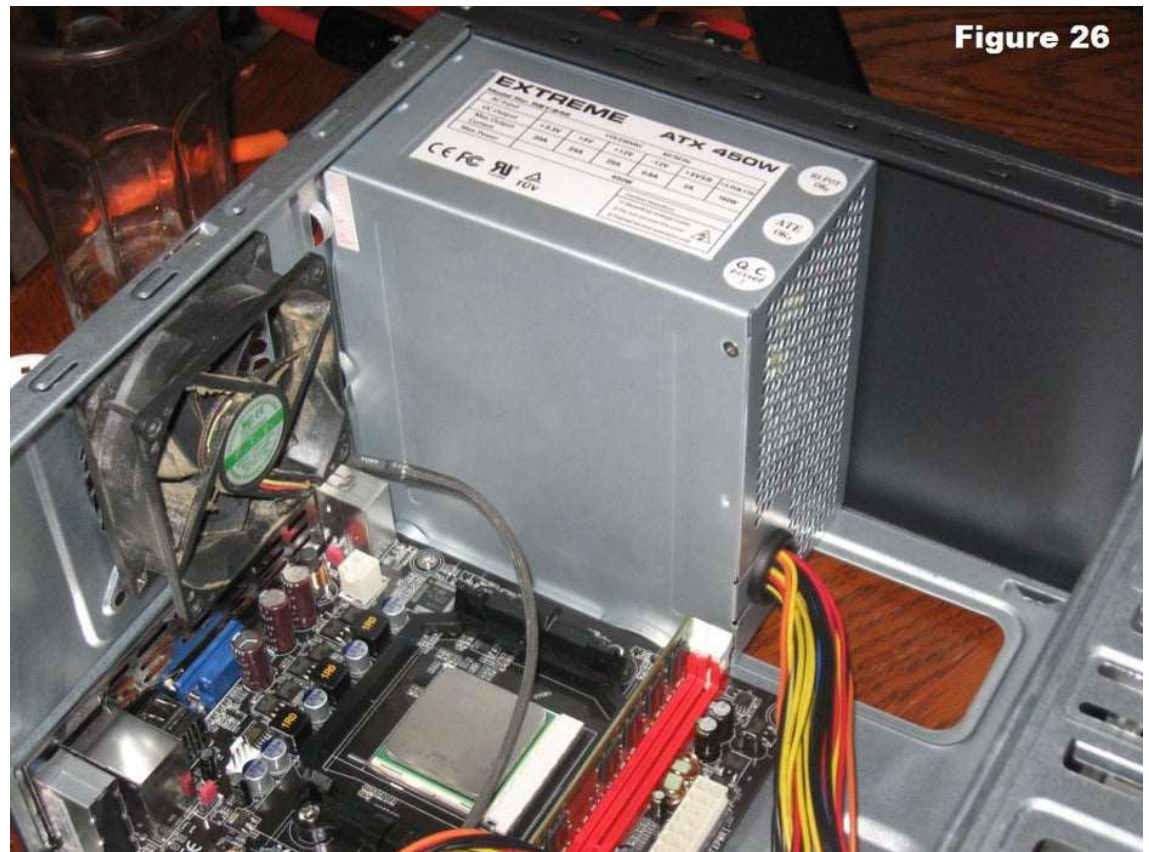


Figure 25

3. Connect the fan to the power output supported from the power supply
4. Insert the screws to lock up the case fan in its place.

Step 8:

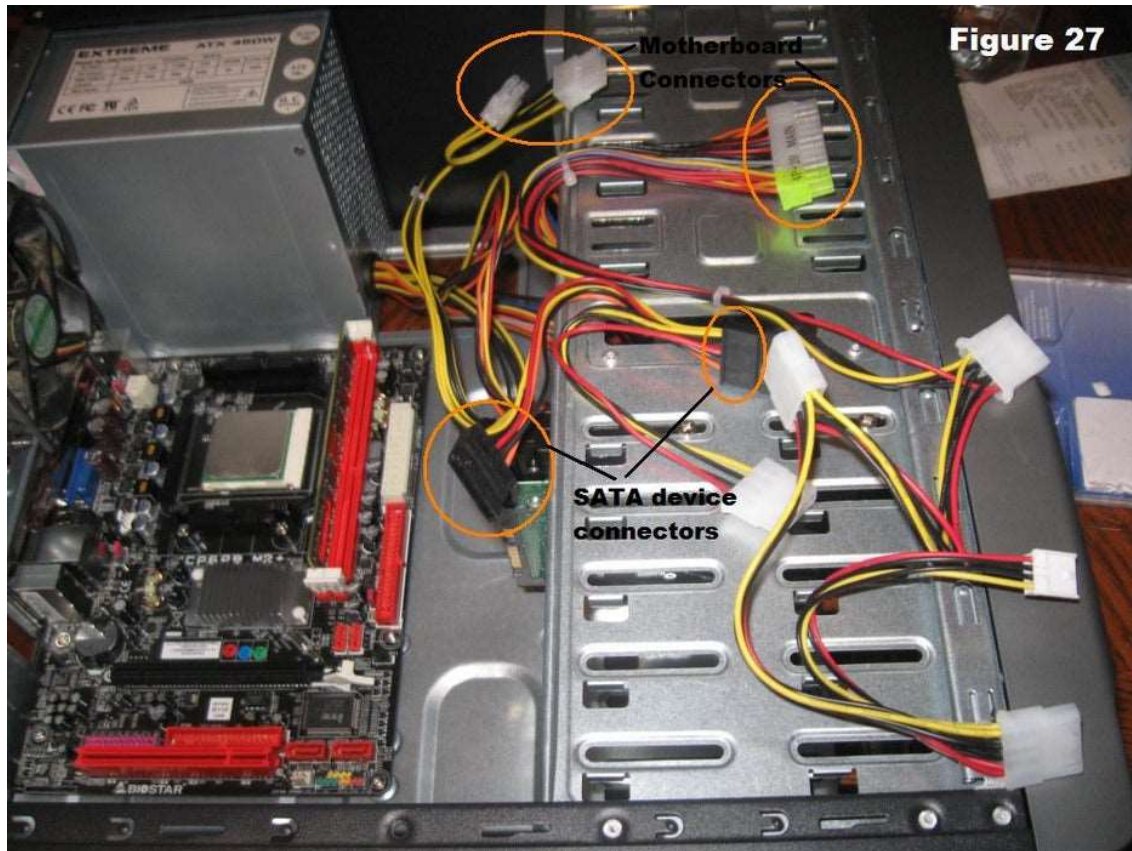
- Install the Power Supply
 1. Align the mounting holes in the case and power supply holes as shown in figure 26 below



2. Insert the screws to lockup the power supply in its own place .

Step 9:

- Connect Power cables and data Cables you need them to power up the unit
 1. Every device installed in the previous steps needs power and some of them needs data connection to the motherboard as shown in fig 27. Below there are two sata connections in the motherboard to connect the drives and the other connectors will run fans and the other non SATA devices .



2. Data cables will connect the drives and front panel devices eg.CD drive to the motherboard .

Step 10:

- Wrap-up

Now the components are completely installed so the last thing to do is to connect the side panel on the case and secure it by its own screws .now the PC unit is ready to be powered on .

PART D

Last STEP - CLOSING THE CASE AND CONNECTING THE PERIPHERALS.

Below is a figure showing the back of the case labelled to show you where you should connect your peripherals



- Step 1: Connect your mouse and keyboard to either usb port or PS/2 Connector depending on the model of the mouse and keyboard.
- Step 2: Connect power to the Power Connector shown in the figure above to power up the whole unit .
- Step 3: Connect your speakers system to Audio Out jack shown in the figure and your microphone to its port .
- Step 4: Connect your Ethernet cable to the Ethernet LAN port .
- Step 5: Connect your monitor using the VGA Port show in the figure .