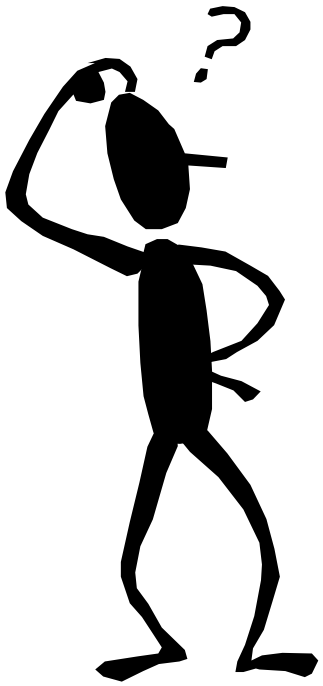
PC Assembly Review

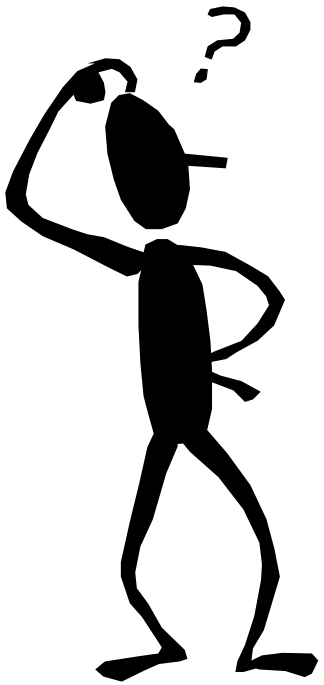
INSTRUCTIONS: The following screens contain a series of questions and answers you should know about this subject. Read the stem of the question, review your notes, and then write down the answer the question. The correct answer can be found on the next screen. Review and compare your answer with mine. If they match… Great! If they don't… You have some studying to do before you take the module exam.

Thermal compound or a thermal pad is required to transfer the heat from the _____ to the heat-sink assembly.



The most commonly used interface material in the electronics cooling area is thermal compound, a sticky paste applied directly on the heat-sink or microprocessor. A good-quality thermal compound will provide the best possible performance. However, the disadvantage of thermal compound is that it is quite messy to handle, and therefore not suitable for mass production. For this reason, most heat-sink manufacturers ship their heat-sinks with a "thermal pad", which is supposed to replace thermal compound. Handle both type of material because they're loaded with mercury.

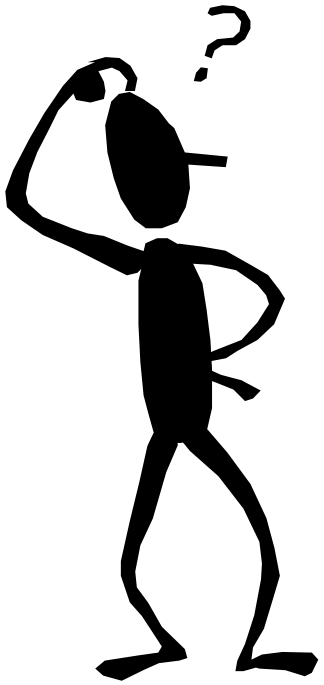
The mainboard is secured to the PC chassis on metal _____.



Standoffs could be in the form of mounts pressed into the sheet metal of the chassis or they could be fasteners that are secured to the chassis with screws. In most cases, these standoffs are made of metal… Typically brass. The standoff is secured to the case and then the mainboard is secured to the

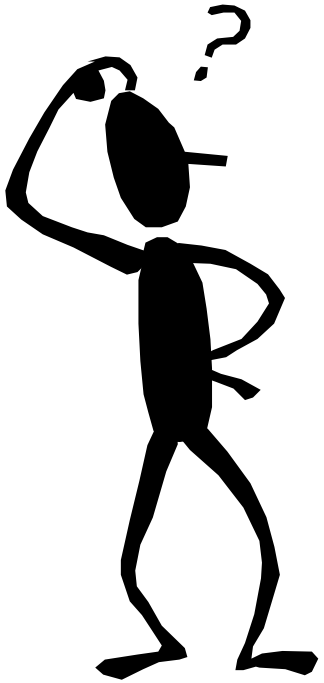
standoff. This keeps all of the solder connections on the bottom of the motherboard from shorting out against the chassis. Be sure to use metal standoffs if the manufacture prescribes their use. Using plastic standoffs will not provide a conductive path from the motherboard to chassis ground and could cause irreparable damage to the motherboard.

Self-adhesive rubber _____ are attached to the bottom of the CPU case to prevent it from scratching tabletops during use.



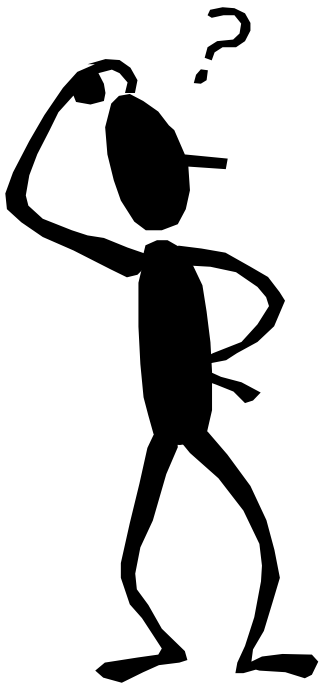
Some feet are self-adhesive or they may be the bolt-on or even snap-on variety. In any case, be sure you put them on in the very first steps of CPU assembly. The feet will protect your work surface from being scratched.

The most common tool required to properly assembly a personal computer is a _____ screwdriver.



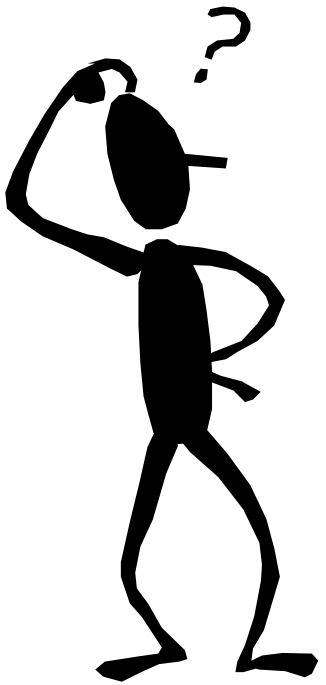
Nearly all screws found in a PC are Phillip's head screws. Typically... The only tool you'll need to assemble a personal computer is a #2 Phillip's Screwdriver. Having that big toolkit seems like a real waste... Doesn't it? However, when you need a tool, it’s nice to know you have it.

Typically... How many screws are required to secure the floppy, CD-ROM, or hard disk drives into a computer chassis?



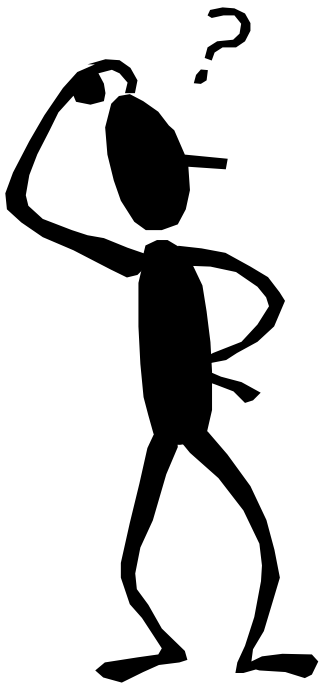
This is a tricky question. It really depends upon the type of chassis the drives are mounted in. Typically, it takes 4 screws to properly secure the drives into the computer chassis. Some computer frames mount the drives in carriers that can be secured with 2 screws from the front.

Which of the following devices can be damaged by static electricity that is stored on a technician's body?



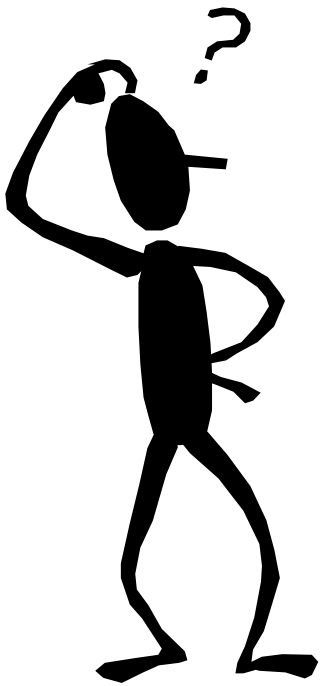
Well... The memory module for sure. The microprocessor is very sensitive to static electricity as well. The motherboard or mainboard are not as sensitive, but if you don't follow ESD procedures... You'll zap that too.

List the tools and procedures used to prevent ESD devices during assembly?



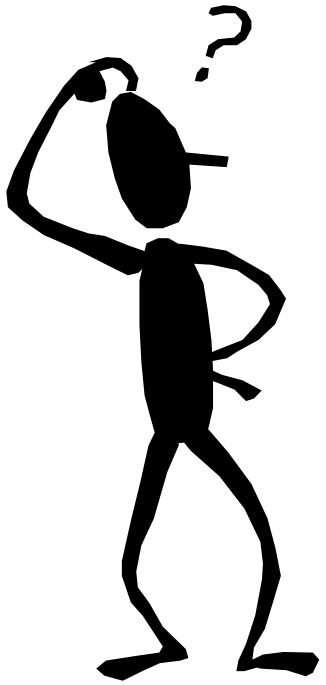
This is sort of true... In a pinch... If you don't have a wrist strap or antistatic mat you can be reasonably safe if you follow the procedures used to handle ESD devices. However, it's best to use all of these tools and procedures to make sure you don't damage critical components in the PC.

You're about to install a brand new memory module in a PC. You don't have a wrist strap or antistatic mat to work with so you'll have to use the ESD procedure. What are the step and in what order are they performed?



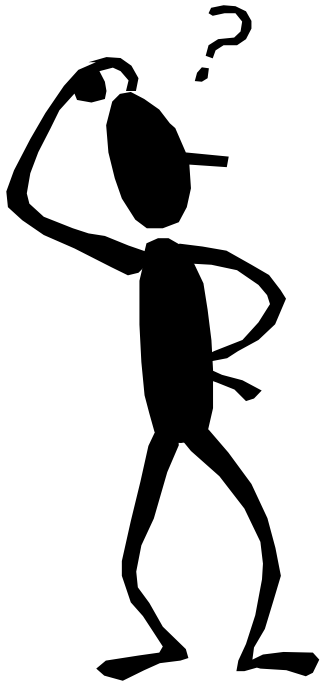
To do this right you need to follow all 8 steps. Following these steps in this order will save you a lot of grief: 1. Pick up the bag containing the memory module and open it; 2. Pick up the memory module and remove it from the bag; 3. Touch and maintain contact with the CPU chassis; 4. Touch and maintain contact with the motherboard; 5. Open the DIMM ejectors; 6. Line up the DIMM with the keys of the DIMM socket; 7. Push the DIMM into the socket while closing the ejectors at the same time; 8. Remove contact from the motherboard.

When using screws to secure disk drives, circuit boards, and the power supply to the CPU chassis. What precautions should you observe to make sure the installation is correct?



PC's use a variety of screws in their assembly. There are different threads, diameters, lengths, and even heads. You should always use the same type of screw to secure any specific component. Meaning... When securing the motherboard, use all the same type of screw even when others might fit. You should also make sure the thread matches the hole and that the screw isn't too long. Finally... If 8 screws are used to secure the motherboard to the chassis, then put them all in loosely and then tighten them once the motherboard is aligned correctly. The same is true for the drives and power supply.

What is the purpose of the filler plates used to block the open interface slots at the back of a computer?



The filler plates are not optional... Any opening in the CPU case is an opportunity for electromagnetic fields to enter or exit the case. The case acts as shield to EMI allowing it to operate more reliably.