

Keenan & Associates

**OFFICE PRODUCTS
PURCHASING
GUIDE**

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QUESTIONS TO ASK VENDORS

1. Can the district “try” a product first?

Ergonomic equipment doesn't come cheap! There isn't anything more frustrating than spending money on an ergonomic solution for an employee only to follow up and find that expensive solution in their drawer. “I didn't like it”... “It felt funny when I used it”... “It took too long to get my work done.” This is a mighty expensive “trial and error” method.

One way to avoid this expensive trap is to ask the vendor about a free trial period. Many vendors allow the user to try out an item for several weeks to give the employee time to acclimate to the new equipment and see if they like it.

One word of caution: Be sure to follow up with the employee! If they don't like the equipment, ship it back or the vendor will charge you!

2. Is there “training” available or does the vendor supply handouts?

Many times, a piece of ergonomic equipment is purchased and sent to the employee and there isn't any instruction on how to use it, how to adjust it or where to get their questions answered. This increases the odds that the equipment will end up in the drawer! Ask the vendor if the equipment comes with an instruction and user guide. If it doesn't, what kind of training will they provide the district or the employee?

One word of caution: Many vendors will bend over backwards to offer the individual employees training on their product. If the vendor visits the school site and “talks up” their product, you may have other employees in that office requesting the same new piece of equipment. Vendors may take the “training” opportunity and turn it into a new “sales” opportunity.

Consider asking the vendor to train your risk management department, workers' compensation staff or safety officers. This way, knowledgeable people on your staff can train site employees and answer their questions.

3. Are there “volume discounts” for the school district?

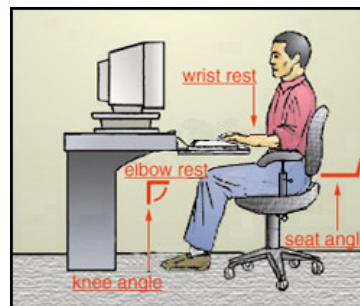
Ergonomic products are big business! There are a multitude of vendors that handle a wide variety of products. Shop around for the best prices. Find vendors that are willing to offer a “volume discount” to the district.

One word of caution: Be sure to compare “apples to apples.” Get the ‘specs’ on the piece of equipment you are bidding out and **be sure** you are comparing the same piece of equipment (size, features, etc.)! You don't want to purchase 100 items of a product that is inadequate and won't be used. Do your homework before comparing vendors.

RECOMMENDATION

The following section, SETTING UP YOUR WORKSTATION, is available for use as a supplemental handout that can accompany any piece of office equipment ordered. The vendor may or may not supply information on how to use/set up their piece of office equipment. In the event that there isn't any information available, it is recommended that SETTING UP YOUR WORKSTATION be given to the employee with each piece of office equipment purchased. This will offer the employee assistance in setting up their office correctly.

SETTING UP YOUR WORKSTATION TO FIT YOU!



1. **Chair.** Office chairs are designed to provide seated support for employees working at the computer workstation. A good chair can provide comfort and support for the body. A properly adjusted chair can reduce fatigue by supporting the back, legs, and arms.

- **Adjust Properly –**

- **Height:** Correct chair height is when your feet are resting flat on the floor or a footrest, and the back of the knee is slightly higher than the seat of the chair. This will allow the blood in the legs to circulate freely.
- **Backrest:** The backrest should support the entire back comfortably. The rounded, curved section of the backrest should be adjusted to support your waistline or “belt” line. The backrest should be close enough to support your back during all desk activities.
- **Armrests (Optional):** The armrests should be adjusted high enough so the forearms rest lightly on them. If they are too low, you will find yourself slouching or leaning to one side in order to reach them. If they are too high, you will find yourself working with your shoulders elevated.

2. **Keyboard.** Keyboards either sit on top of the desk surface or on a pull-out keyboard platform. A good rule of thumb to remember when working at the keyboard is to keep your elbows level with the spacebar of the keyboard, with the elbows resting comfortably at your side. This allows you to work with your wrists in a straight, neutral position and your shoulders relaxed.

- **Adjust Properly –**

- **Keyboard:** Make sure the keyboard legs are flat. Keyboards should be flat on the desktop or pull-out keyboard tray or angled negatively with the back side slightly lower than the front.
- **Wrist rest:** This provides a soft place to rest on and helps to keep the wrists straight. **Remember to use only during *pauses* from keying.**

3. **Mouse.** Most computers have a mouse. Overuse of the mouse can cause fatigue. Remember that keyboard commands are a very effective alternative for excessive mouse usage.

- **Use Properly –**

- Ensure that the mouse is properly placed close to the body.
- Don't over-grip the mouse. Use a relaxed hold.
- When using the mouse, don't just move the wrist! Move the entire arm to move the mouse around.
- Program the mouse to help with common functions.
- Use pull-down menus and keyboard commands to reduce mouse usage.

4. **Monitor.** Monitors are usually placed where space allows. Many people shove their monitors into a corner so they can have increased desk space. This can create problems.

- **Adjust Properly –**

- **Location:** The monitor should be placed *directly in front of you!* Posture follows vision. If the monitor is in the corner, you will twist your neck and head to view the monitor. This is not a good posture to hold eight hours a day.
- **Distance:** The monitor should be at the correct viewing distance. Generally, it should be placed out 18 to 24 inches, or about an arm's distance away. If you find yourself leaning forward to read the monitor, it is too far away. Pull it closer.
- **Height:** For normal vision, typically the top of the monitor screen should be AT eye level. The top of the monitor screen should never be above eye level. If it is, it forces you to look up and places the neck into an awkward position. If your monitor is flat on the desktop and angled up, it may be too low, which pulls your posture forward. With the monitor angled up, it can catch too much glare which can create eyestrain.
NOTE: Bifocal users may have trouble if the monitor is too high as they will tilt their head back and lift their chin up to view the screen through the bottom portion of the glasses. One recommendation for bifocal users is to lower the monitor flat onto the desktop and angle it down a bit until it is easily read through the bottom portion of the glasses.
- **Glare:** Place the computer set up perpendicular to the window. Shield outside sources of light with blinds, curtains, or window tinting.

- **Article Link:**

http://www.osha.gov/SLTC/computerworkstations_ecat/index.html

SEATING

1. **Office Chairs.** Office chairs are designed to provide seated support for employees working at the computer workstation. A good chair can provide comfort and support for the body. A properly adjusted chair can reduce fatigue by supporting the back, legs, and arms. Chair quality and service varies widely among chair manufactures.



- **What to watch for when purchasing:**

1. **Consider stocking 3 sizes of office chairs.** People come in all sizes and shapes. Some employees are tiny and quite mobile. For these, a smaller chair without armrests would work well. Some employees can be 6'2" and weigh over 350 pounds. These employees will require a much larger chair. The average person will take a middle-sized chair, with or without armrests. Having three sizes available in the stockroom or warehouse for the employee to try out will help the employee find the chair that fits them.
2. **Three minimum adjustments for a chair.** Chairs should have an adjustment for **height**, and the backrest should be capable of being **raised and lowered**, as well as brought **closer** to support the back.
3. **Vendor Warranty Issues.**
 - Many times the **pneumatic height adjustment** on the chair will wear out over the years. What is the maximum weight limit each chair can handle? Will your vendor replace this without cost to the district? Is it a "no hassle" replacement policy?
 - If the **upholstery** becomes loosened at the seams on the seat pan, will the vendor replace the seat pan without cost to the district?
 - **How long** has the vendor been in business? Will they still be in business 5 to 10 years down the road when the chairs start to wear out?

- **Safety issues:**

1. Chairs should have a 5-star base for stability.

FINDING A CHAIR THAT FITS YOU!

The seat pan:

- The seat pan should be wide enough to fit you comfortably.
- When seated, there should be two inches between the back of your knees and the front edge of the chair.
- The seat pan should be about two inches wider than your legs and buttocks.



The backrest:

- The backrest should support your entire back comfortably.
- When seated, the lumbar support (curved out portion) of the chair should be adjusted to your waist or “belt line”.
- Keep the backrest of the chair close to your back to offer maximum support.

The arm rests (Optional):

- The arm rests should be adjusted high enough so the forearms rest lightly on them.
- If they are too low, you will find yourself slouching or leaning to one side in order to reach them.
- If they are too high, you will find yourself working with your shoulders elevated.

KEYBOARDS

1. **Standard Keyboards.** A piece of office equipment used to input data into a computer. It is a straight keyboard containing alphanumeric keys on a flat panel.



- **Advantages –**
 1. Standard models are inexpensive.
 2. They are easily found in office supply stores and catalogs.
 3. Most models operate with a standard design.
- **Disadvantages –**
 1. The design doesn't allow for a neutral, ergonomically correct wrist and forearm posture.
 2. May limit employees with a larger upper body girth.
- **What to watch for when purchasing:**
 1. If purchasing a keyboard for use WITH an existing articulating keyboard tray, will the new keyboard fit on it?
 2. Make sure that the keyboard surface can accommodate the keyboard and mouse on the same level.
 3. Durability.
- **Safety issues:**
 1. Make sure employees are trained on how to maintain a “neutral” wrist when using a keyboard. By keeping the keyboard flat (feet down on the back of keyboard), it allows for a straighter wrist when keying.

KEYBOARDS (CONTINUED)

2. **Alternative Keyboards.** An alternative style keyboard is designed to increase comfort and keep the wrists and forearms in a more neutral position while inputting data into the computer.



- **Advantages –**

1. Available in a variety of styles aimed at keeping the wrists in a more ergonomically correct position while keying.
2. They may increase comfort for employees who have a wider upper body girth.

- **Disadvantages –**

1. The curved keyboards will not fit on a standard straight articulating keyboard tray. You will have to purchase an additional special tray that fits the design of the alternative keyboard.
2. Many employees request them and not all like them. There is a ***“learning curve”*** experienced with the alternative keyboards. This typically results in a decrease in productivity during the first three to four weeks with the new design. Given time, most learn to use them.

- **What to watch for when purchasing:**

1. If purchasing an alternative keyboard for use WITH an existing articulating keyboard tray, will it fit? Usually not. You may have to purchase the “alternative” keyboard platform with it. Make sure it can accommodate the keyboard and mouse on the same level.
2. Make sure that there is room on the desk surface to accommodate the keyboard and mouse on the same level. The alternative keyboards are usually wider than standard keyboards.
3. If they employee doesn’t like the alternative keyboard, will the vendor allow you to return it? Is there a time limit for returns?

- **Safety issues:**

1. Make sure employees are trained on how to maintain a “neutral” wrist when using a keyboard. By keeping the keyboard flat (feet down on the back of keyboard), it allows for a straighter wrist when keying.

KEYBOARD PLATFORMS AND TRAYS

1. **Articulating Keyboard Platform.** This platform is an extended surface for the keyboard when there isn't enough room on the desktop for the keyboard and monitor. It typically attaches under the desk and can be adjusted for height and angle.



- **Advantages –**

1. Those models that adjust for height and tilt will allow the user to place the keyboard and mouse into a variety of positions.
2. They work well when the desk isn't deep enough to fit the keyboard and monitor.
3. They also work well if the desk height is too high and the chair cannot be adjusted to accommodate it.

- **Disadvantages –**

1. On some inexpensive models, the knobs tend to wear out after a while which can cause the platform to lose its position and angle.
2. The keyboard platform / tray may limit the knee and leg space under the desk.
3. It pulls the employee back farther from their monitor and into the center of their work area. This creates a greater reach for the phone, 10-key, and writing surfaces.

- **What to watch for when purchasing:**

1. **Make sure the platform is wide enough to fit the keyboard and mouse.**
2. Is there enough space to fit the platform? Are you purchasing the correct size?
3. Is training available to teach the user how to adjust the tray and correctly use the features? If not, users can use these trays with their wrists in awkward postures.
4. What is their warranty? Is there a guarantee or warranty on the knob replacement?

- **Safety issues:**

1. Make sure there are no sharp edges on the tray and ample leg clearance for the user.
2. Be sure there are no “pinch points” on the adjustment knobs.

KEYBOARD DRAWERS

2. **Pull-Out Keyboard Drawer.** A pull-out keyboard drawer can be used when there isn't enough space on the desktop to accommodate the keyboard and the monitor. **They pull out to only one height and there are no angle adjustments.**



- **Advantages –**
 1. Glides in and out easily and there are no knobs to adjust.
 2. They work well when the desk isn't deep enough to fit the keyboard and monitor.
 3. Keyboard drawers are available in above-desk and below-desk models.

- **Disadvantages –**
 1. **They pull out to only one height and there are no angle adjustments.**
 2. The above-desk models can place the wrists into awkward postures as the keying height is increased.
 3. It pulls the employee back farther from their monitor and into the center of their work area. This creates a greater reach for the phone, 10-key, and writing surfaces.

- **What to watch for when purchasing:**
 1. **Make sure the drawer is wide enough to fit keyboard and mouse.**
 2. Is there enough space to fit the drawer? Are you purchasing the correct size?
 3. What is their warranty? Is there a guarantee or warranty for replacement?

- **Safety issues:**
 1. Make sure there are no sharp edges on the tray and ample leg clearance for the employee.
 2. Be sure there are no “pinch points” on the tracks.

MOUSE / INPUT DEVICES

1. **Ergonomic Mouse.** A piece of office equipment designed to allow the employee to input data with the hand in a more neutral position.



- **Advantages –**

1. They are designed to allow the wrist and hand to work in a more ergonomically correct position.
2. Available in variety of different sizes and shapes.
3. Some manufacturers make an ergonomic mouse for left hand users.

- **Disadvantages –**

1. Individual employees will have a personal preference on which mouse “feels” better to them.

- **What to watch for when purchasing:**

1. ***Contact the vendor to inquire about a “trial” period.*** Personal preference can determine if the product will be used or end up in the drawer.
2. ***Make sure you match the size and shape of the mouse to the employee.*** Most people prefer a “teardrop” shaped mouse. Choose a mouse that is large enough to support the natural curve of the hand but one that doesn’t cramp the fingers or spread them too far apart.

- **Safety issues:**

1. Make sure employees are trained on how to use a mouse properly. ***Training should emphasize that keyboard commands are very effective alternatives for excessive mouse usage.***
 - Ensure that the mouse is properly placed close to the body.
 - Don’t over-grip the mouse. Use a relaxed hold.
 - When using the mouse, don’t just move the wrist! Move the entire arm to move the mouse around.
 - Program the mouse to help with common functions.
 - Use pull-down menus and keyboard commands to reduce mouse usage.

MOUSE INPUT DEVICES (CONTINUED)



2. **Trackball Mouse.** A piece of office equipment designed to use a ball movement to manipulate the cursor around on the screen.

- **Advantages –**

1. It eliminates many of the wrist and shoulder movements required to move a standard mouse cursor.
2. The trackball mouse can be used when desk space is limited because it doesn't need any mouse excursion area. Cursor movement is with the ball and not the arm.

- **Disadvantages –**

1. Some trackball input devices tend to be slower and less accurate.
2. If not trained on proper usage, employees may deviate wrist while operating the trackball.

- **What to watch for when purchasing:**

1. ***Contact the vendor to inquire about a “trial” period.*** Personal preference can determine if the product will be used or end up in the drawer.
2. ***Handouts on proper use.*** Does the vendor supply them?

- **Safety issues:**

1. Make sure employees are trained on how to use a mouse properly. ***Training should emphasize that keyboard commands are very effective alternatives for excessive mouse usage.***
 - Ensure that the mouse is properly placed close to the body
 - Don't over-grip the mouse. Use a relaxed hold.
 - When using the trackball, don't just use the first finger. Keep the entire wrist straight.
 - Program the mouse to help with common functions.
 - Use pull-down menus and keyboard commands to reduce mouse usage.

MOUSE INPUT DEVICES (CONTINUED)

3. **Touchpad.** An input device with a small, touch-sensitive pad that is designed to navigate the cursor movement with a finger rather than a mouse. These can typically be found on laptop computers.



- **Advantages –**

1. It eliminates wrist and hand risks associated with the grasping of a regular mouse.
2. A touchpad reduces awkward shoulder postures.
3. An external mouse can be plugged into the back of most laptops and the touchpad can be used as an alternative input device and shoulder position/rest from the standard mouse.
4. Touchpads have a high tolerance to user abuse. They don't wear out easily.

- **Disadvantages –**

1. There is a *“learning curve”* experienced with touchpads. This typically results in a decrease in productivity during the first three to four weeks with the touchpad. Given time, most learn to use them.
2. They are *“constrictive”* in that there is only a two-inch by two-inch pad to click and drag.

- **What to watch for when purchasing:**

1. Make sure there is a port available on the laptop for an external mouse. Alternating between the touchpad and the external mouse has been found to be effective in offering the muscles periodic relief.

- **Safety issues:**

1. Make sure employees are trained on how to use a touchpad properly. *Training should emphasize that keyboard commands are very effective alternatives for excessive mouse usage.*

MOUSE / INPUT DEVICES (CONTINUED)

4. **Wireless, Optical Mouse.** A piece of office equipment designed to input data into the computer without a cord. This reduces any limitations set by the cord.



- **Advantages –**

1. These are a good option when there is limited desk space or a unique office set up where cord length inhibits proper mouse placement.
2. It has an ergonomic design to allow the user to work with the wrist and hand in a more ergonomically correct position.
3. They are available with button click or trackball design.
4. They are available for left and right hand employees.

- **Disadvantages –**

1. Individual employees will have a personal preference on which mouse “feels” better to them.
2. These models are substantially more costly than other mouse designs because they utilize newer technology.

- **What to watch for when purchasing:**

1. **Contact the vendor to inquire about a “trial” period.** Personal preference can determine if the product will be used or end up in the drawer.
2. These models are available with the typical button click or with a trackball feature. Choose a design that is preferred by the employee.

- **Safety issues:**

1. Make sure employees are trained on how to use a mouse properly. **Training should emphasize that keyboard commands are very effective alternatives for excessive mouse usage.**
 - Ensure that the mouse is properly placed close to the body.
 - Don’t over-grip the mouse. Use a relaxed hold.
 - When using the mouse, don’t just move the wrist! Move the entire arm to move the mouse around.
 - Program the mouse to help with common functions.
 - Use pull-down menus and keyboard commands to reduce mouse usage.

MOUSE INPUT DEVICES (CONTINUED)

5. **Voice-Activated Software.** An alternative method used to input information into the computer and to significantly reduce the amount of keying being performed. These are typically used when trying to accommodate individuals with special needs.



- **Advantages –**

1. Voice activated software can drastically reduce the number of keystrokes being performed.
2. They are a viable option when trying to accommodate those employees with special needs.
3. They are a good alternative to using the keyboard and mouse.

- **Disadvantages –**

1. There is a tremendous **“learning curve”** experienced with voice-activated software. They are made for one specific user and it takes several weeks of working with the system for the software to recognize the user’s voice and intonations accurately.
2. This type of input may be disturbing to others in the work area as the employee will be **speaking out loud** in order to input into the system.
3. Overuse of the voice-activated software has been associated with voice strain. Most experts encourage taking plenty of fluids to keep the throat lubricated.

- **What to watch for when purchasing:**

1. **Computer system requirements.** Most voice-activated input device software requires large amounts of computer RAM, speed, etc. Check to make sure the system can handle and support these requirements and any problems that occur with them.

- **Safety issues:**

1. **Voice strain prevention.** Keep the vocal folds moist by drinking plenty of water. Find a pitch that is comfortable and natural, one used normally when speaking. Breathe more often and remember to take slow, deep breaths between pauses. Stretch the neck, shoulder and facial muscles periodically. If the vocal cords become irritated, rest them.

MONITOR ARMS, LIFTS, & RISERS

1. **Monitor Arm (articulating).** An articulating monitor arm is a piece of office equipment that attaches to the desktop and is capable of supporting a monitor weighing up to 50 pounds. This allows the employee to easily adjust the monitor to the correct viewing height and distance.



- **Advantages –**

1. This is an ideal solution for multiple user workstations.
2. It allows for more room on the desktop.
3. They are easily adjusted.

- **Disadvantages –**

1. The design doesn't allow the monitor to be placed low enough on the desktop for some employees, especially bifocal users.
2. Individuals may raise the monitor too high if no training is provided.
3. Some models are not easily adjustable.
4. It will require additional help when attaching it to the workstation.
5. This can be an expensive solution if purchased for a single-user workstation.

- **What to watch for when purchasing:**

1. **The platform holding the monitor must fit the size of the base of the monitor. The model selected must be able to support the weight of the monitor.**
2. **The method used for attaching the monitor arm must be matched to the workstation.** If the model has a clamp attachment and it doesn't have anywhere to clamp onto, it will not work. Many are available with clamps, grommet mounts or wall brackets.
3. Some monitor arm platforms may not remain level because of inexpensive parts or because the monitor weight exceeds the limit.

- **Safety issues:**

1. Inexpensive models may require more force to adjust and this may contribute to an injury.

MONITOR ARMS, LIFTS, & RISERS (CONTINUED)

2. **Monitor Lifts / Stands.** A monitor lift / stand is a freestanding piece of office equipment that sits on top of the desktop. Different models are capable of supporting different monitor weights. The monitor lift / stand allows the employee to adjust the monitor to the correct viewing height.



- **Advantages –**

1. This is an ideal solution for multiple user workstations.
2. There is no mounting or attachment required.
3. It allows for more room on the desktop.

- **Disadvantages –**

1. These have a limited amount of height adjustment capability.
2. The design doesn't allow the monitor to be placed low enough for some employees, especially bifocal users.
3. The stand and monitor are not securely attached to anything.
4. There are a limited number of manufacturers making this type of lift.

- **What to watch for when purchasing:**

1. **The model selected must be able to support the weight of the monitor.**
2. **Is it sturdy?** It is a freestanding unit. Will it withstand earthquakes, typical office movement, etc?
3. It may not remain level because of inexpensive parts or monitor weights that exceed the limit.

- **Safety issues:**

1. As this piece of equipment is a freestanding model, inexpensive brands may present a falling object hazard.

MONITOR ARMS, LIFTS, & RISERS (CONTINUED)

3. **Monitor Risers (Stackers).** Monitor risers / stackers are freestanding stackable blocks that can be placed one atop the other. The monitor is then placed on the top level of the riser / stack. Their purpose is to raise the monitor to an appropriate viewing height.



- **Advantages –**

1. Standard models are inexpensive.
2. It is fairly easy to change the height of the monitor by adding or subtracting the number of risers.
3. They are available in one to two inch increments.
4. These are ideal for single user workstations.
5. Some designs have paper storage slots available within the monitor stacker.

- **Disadvantages –**

1. These are not easily adjustable because it means the employee must ***manually lift*** the heavy monitor.
2. They will only work with single user workstations.

- **What to watch for when purchasing:**

1. **Are they sturdy?** Will they withstand the weight of the monitor?

- **Safety issues:**

1. Make sure they can hold the weight of the monitor and the monitor base completely fits on the stacker.
2. Train employees on how to **safely add or remove** monitor risers. Reaching across the desk to lift a heavy monitor may cause an injury.

DOCUMENT HOLDERS

1. **Articulating Document Holder.** A piece of office equipment designed to help keep the neck in a more neutral position. The articulating arm attaches to the desktop and is capable of supporting documents, heavy books, manuals, drawings or printouts.



- **Advantages –**

1. A document holder will help reduce neck strain associated with looking at documents that are placed flat on the desktop.
2. This is an ideal solution for multiple user workstations.
3. Allows the individual to easily adjust the documents to the appropriate working height and distance.
4. Clamps onto the desktop for easy installation.

- **Disadvantages –**

1. Inexpensive models may not hold large books, ledgers, etc. because of excessive weight.
2. Over time, knobs may wear out and not hold the original position.
3. Some models are quite large and take up a lot of desk space.

- **What to watch for when purchasing:**

1. ***Make sure to match the document holder to the employee's activity.*** If it will be used to hold books, make sure it is capable of supporting the weight of the heaviest book. If it will be used with ledgers or legal sized documents, make sure it is long enough to hold the longer papers. Selection depends on the type and size of documents or books that will be used.
2. ***The method used for attaching the articulating document holder arm must be matched to the workstation.*** If the model has a clamp attachment that doesn't have anywhere to clamp onto, it will not work.

- **Safety issues:**

1. ***Employee training:*** A document holder should be positioned with the reference material as close to and as high as the monitor screen.

DOCUMENT HOLDERS (CONTINUED)

2. **Document Stand.** A freestanding piece of office equipment designed to raise documents to an appropriate viewing height. This helps to place the neck in a more neutral position by limiting the amount of neck twisting.



- **Advantages –**

1. Most styles can be moved around the desktop easily and stored away when not in use.
2. Available in different sizes and shapes.

- **Disadvantages –**

1. These models come in one standard height, which may not be the correct viewing height.
2. Most freestanding models cannot accommodate books or large numbers of papers because of excessive weight.
3. These units take up space on the desktop and can get in the way when not being used.

- **What to watch for when purchasing:**

1. ***Make sure to match the document holder to the employee's activity.*** If it will be used with ledgers or legal sized documents, make sure it is wide enough to hold the longer papers. If it will be used to hold books, make sure it is capable of supporting the weight of the heaviest book. Selection depends on the type and size of documents or books that will be used.
2. ***Make sure the model purchased is stable.*** As these are a freestanding unit, inexpensive models are not as stable and can tip over easily when loaded with large amounts of paper.

- **Safety issues:**

1. ***Employee training:*** A document holder should be positioned with the reference material as close to and as high as the monitor screen.

DOCUMENT HOLDERS (CONTINUED)

3. **Podium Style, Large Item Holder.** A freestanding piece of office equipment designed to raise large, heavy items to an appropriate viewing height. It can reduce neck strain from looking at books that are placed flat on the desktop.



- **Advantages –**

1. It places heavy items, such as books, ledgers, etc., at a better viewing angle. This will increase visual comfort and reduce awkward neck postures.
2. Allows for easy manipulation of book pages or multiple documents.
3. They can be easily moved around on the desk.

- **Disadvantages –**

1. These models typically come in one standard height, which may not be the correct viewing height.
2. Because they accommodate heavy books, these units themselves can be heavy and cumbersome when they need to be moved out of the way.
3. Podium style document holders take up a lot of space on the desktop and can get in the way when not being used.

- **What to watch for when purchasing:**

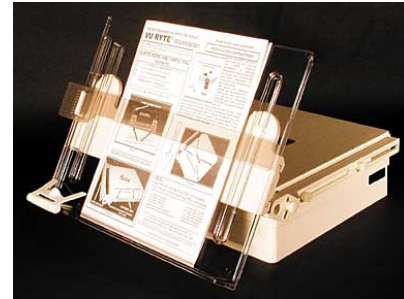
1. ***Make sure to match the document holder to the employee's activity.*** If it will be used to hold books, make sure it is capable of supporting the size and weight of the heaviest book. If it will be used with ledgers or legal sized documents, make sure it is wide enough to hold the longer papers. Selection depends on the type and size of documents or books that will be used.

- **Safety issues:**

1. These units can be heavy and may present a falling object hazard.

DOCUMENT HOLDERS (CONTINUED)

4. **In-Line Document Holders.** A piece of office equipment designed to raise documents while keeping the body in line with the keyboard and monitor. It can reduce neck strain from looking at documents that are flat on the desktop.



- **Advantages –**

1. In-line document holders allow employees to keep their bodies centered with the keyboard and monitor. Employees do not have to twist to the right or left to view documents. As there are fewer eye and neck movements, employees may find the in-line document holders more comfortable and preferred.
2. They can easily be adjusted for tilt and/or height.
3. They can be positioned closer to the employee to accommodate a variety of visual ranges.
4. In-line document holders are capable of holding fairly heavy documents or computer printouts.

- **Disadvantages –**

1. In-line document holders require adequate space between the monitor and the keyboard. They work well in workstations that have an articulating pull-out keyboard tray.
2. Adjustment knobs or mechanisms may wear out with time.
3. They take up a lot of desk space.

- **What to watch for when purchasing:**

1. ***Make sure to match the document holder to the employee's activity.*** Will it be used with ledgers, legal sized documents, or 8.5 x 11 sheets of paper? Selection depends on the size of documents that will be used.
2. Is there adequate space on the desktop between the monitor and keyboard to fit the in-line document holder?

- **Safety issues:**

1. Make sure there are no pinch points on the adjustment tracks.

DOCUMENT HOLDERS (CONTINUED)

5. **Monitor Attached Document Holder.** A piece of office equipment designed to raise documents to a more appropriate viewing height. This accessory attaches to the monitor and uses a clip to hold the papers in place.



- **Advantages –**

1. Monitor attached document holders raise documents to monitor height, which is usually considered the best viewing height.
2. Because they are attached to the monitor, they free up space on the desk for other activities.
3. They are inexpensive and readily available in office supply stores and catalogs.
4. They are easily installed.

- **Disadvantages –**

1. This type of document holder is capable of holding only a few sheets of paper.
2. Methods of attachment to the monitor (double-sided tape, Velcro, etc.) tends to lose its holding power after awhile and the document holder falls off easily.
3. They will not support the weight of ledgers or books.

- **What to watch for when purchasing:**

1. ***Make sure to match the document holder to the employee's activity.*** Will it be used with legal sized documents or 8.5 x 11 sheets of paper? How many sheets can it hold at one time? Selection depends on the size and number of documents that will be used.

- **Safety issues:**

1. Monitor attached document holders could create a reaching hazard if papers are handled a lot.

DOCUMENT HOLDERS (CONTINUED)

6. **Slant Board.** A piece of office equipment designed to angle documents at a more appropriate viewing height. Slant boards assist in maintaining a neutral back and neck posture by placing reference material at an angle, above the flat work surface. Slant boards can either be placed on top of the desk or they can be attached to the front edge of the desk.



- **Advantages –**

1. Slant boards place reference materials at an angle, which can increase comfort and reduce neck strain.
2. Ideal when used as an inclined writing surface, when reading, reviewing files, or working with large amounts of paperwork.
3. They provide forearm support while working on an angled surface.
4. They can collapse to lie flat on the desktop when not in use.
5. Angled height adjusts between 0° and 80°.
6. They are available in various sizes depending on the width of the materials to be used.

- **Disadvantages –**

1. Slant boards that do not collapse may take up space on the desktop when not in use.
2. Certain models provide only a limited number of angle adjustments.

- **What to watch for when purchasing:**

1. ***Make sure to match the slant board to the employee's activity.*** Slant boards are available in a variety of sizes and should be matched to the type and size of documents that will be used.

- **Safety issues:**

1. Be sure that the adjustments on the slant board can be easily manipulated for angle height and that the height adjustment holds steadily.

WRIST RESTS

1. **Wrist Rests.** A comfort aid designed to allow *periodic* rest and support for the wrists and / or palms of the hands. These can be used with a keyboard, 10-key calculator or mouse.



- **Advantages –**

1. A wrist rest provides a soft padded surface to *periodically rest on when pausing* from working on the keyboard, 10-key or mouse.
2. They can help the employee maintain a neutral wrist position.
3. Wrist rests can eliminate the risk of resting on a sharp edge of the work surface, which is known as contact stress.
4. Standard models are inexpensive.
5. They come in a variety of styles and materials. They are available filled with gel or foam, and covered in fabric or vinyl.

- **Disadvantages –**

1. The term “wrist rest” implies that it is okay to “rest” the wrists on the pad while keying. This is not true! Hands should move above the keys while inputting and *rest on the wrist rest only when not keying*.

- **What to watch for when purchasing:**

1. **Make sure you match the size and shape of the wrist rest to the equipment it will be used on.** Wrist rests come in several shapes and sizes to accommodate both, standard and alternative keyboards, the mouse, 10-key, and laptops.
2. **Multi-user stations.** Wrist rest fabrics can absorb oils and aromas. There are hygienic, washable types that can be used at these stations.

- **Safety issues:**

1. Make sure employees are trained on how to use a wrist rest properly. *Training should emphasize that employees need to keep their wrists from constantly resting on the wrist rest.* The rests should only be used when not actively using the keyboard or mouse, such as when editing, reading e-mails, etc.

- **Article Link:** <http://www.onsightergo.com/articles/wristrest.html>

FOOTRESTS

1. **Footrests.** A piece of office equipment designed to support the feet when the chair must be raised to work at a high, non-adjustable workstation. Any seated worker, who cannot easily place their feet flat on the floor, when the chair is adjusted to the correct working height, needs a footrest.



- **Advantages –**

1. Seated comfort is greatly increased when the feet are resting flat on the floor or supported by a footrest because circulation in the legs is not inhibited by the front edge of the chair.
2. Adjustable footrests can be moved to a variety of heights and angles and should tilt front-to-back to keep the feet in a neutral position.
3. Non-adjustable footrests (similar to an aerobic step platform) are wider and allow more leg movement.

- **Disadvantages –**

1. Footrests can limit postural variety and the amount of leg movement, which can lead to static postures.
2. Non-adjustable footrests allow for only one height and a flat angle, which may not be the correct height and may place the feet in an awkward position.
3. Footrests take up a lot of floor space under the desk.

- **What to watch for when purchasing:**

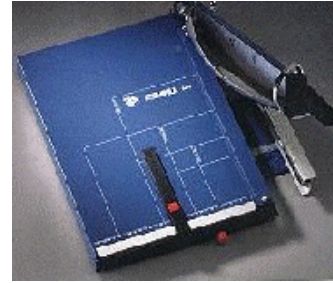
1. ***Footrests should be large and wide enough to allow for foot movement.*** Small footrests keep the feet in one position and this can lead to static postures and increase fatigue.
2. ***Adjustable footrests*** with a selection of heights/ angles are preferred.

- **Safety issues:**

1. ***Employee training.*** A footrest should position the knees so that the backs of the knees are slightly higher than the seat of the chair. This will increase circulation in the lower legs.
2. Freestanding footrests should not be so light that they move accidentally.
3. Footrests can sometimes present a tripping hazard.

PAPER CUTTERS

1. **Guillotine Cutters.** A piece of office equipment designed to cut papers, poster boards, computer printouts, etc. They are designed to save time by simultaneously cutting several pieces of paper.



- **Advantages –**

1. Guillotine cutters are able to simultaneously cut several pieces of paper. Some models are capable of cutting up to 50 sheets of paper at a time.
2. They can handle larger sized projects.
3. Some models are available with a rotary safety guard to ensure that the blade is covered throughout the entire cutting process.

- **Disadvantages –**

1. The guillotine cutters present more safety hazards (cut fingers, hands, etc.), as most have exposed blades and cutting surfaces. In addition, the paper must be held in place with the hand rather than with a clamp.
2. Over time, the spring tends to wear out and allows the handle to fall by itself, which is a safety hazard.
3. They require frequent preventive maintenance and adjustments to keep them safe.
4. The blades are not easily replaced or sharpened.
5. Guillotine cutters are not as accurate as rotary trimmers.

- **What to watch for when purchasing:**

1. **Blade guarding.** Does it come with a guard to protect the fingers?
2. **Blade safety lock.** Is there a mechanism to lock down the blade?
3. **Spring replacement.** What is the vendor's policy on replacing the spring? Over time, springs may wear out and the unit becomes unsafe.
4. Is there an **adjusting mechanism** for the blade to cutting surface tension?
5. **Is it secure?** Does it have rubber feet to protect the work surface and prevent skidding?

- **Safety issues:**

1. Be sure the **blade guard** is permanently attached to the cutter and **NEVER** removed.
2. A **blade safety lock** should be installed and used to keep the blade in a down, latched position.
3. The **spring** should be adjusted or replaced if it becomes loose. The spring should also have a **spring guard** that is **NEVER** removed.

PAPER CUTTERS (CONTINUED)

2. **Rotary Trimmers.** A piece of office equipment designed to cut papers, poster boards, computer printouts, etc. They are designed to save time by simultaneously cutting several pieces of paper.



- **Advantages –**

1. Rotary trimmers are *safer* to use than guillotine cutters.
2. They don't have an exposed blade but rather an enclosed stainless steel blade.
3. Papers are held in place with a clamp, not the hand.
4. Dull cutting wheels are easily replaced on this type of cutter.
5. Rotary trimmers are more versatile. They are available with different wheels that can perforate, make fold lines and serrated cuts.
6. They are more accurate than guillotine cutters in that they have a transparent cutting guide feature that makes the paper visible.

- **Disadvantages –**

1. They can't handle cutting a lot of papers at one time. Typically, they only cut 5 to 10 sheets of paper at a time.
2. The rotary trimmers become less accurate when cutting more papers.

- **What to watch for when purchasing:**

1. **Paper cutting capacity.** Rotary trimmers come in different sizes, each with different paper cutting capacities. Some models can cut a maximum of 5 sheets at one time while others are capable of cutting 8 to 10 sheets at a time.
2. **Does it have an automatic clamp to hold the papers in place?** This safety feature reduces the safety risks to the hands and fingers.
3. **Blade replacement.** What is the vendor's policy on replacing the blade? Over time, the blade may become dull and need replacing.
4. **Is it secure?** Does it have rubber feet to protect the work surface and prevent skidding?

- **Safety issues:**

1. Paper cutters can be heavy and take up a lot of space. If the cutter needs to be moved frequently, consider placing it on a workstation with locking wheels to make transportation easier.

FILE CABINETS

1. **File Cabinets.** A piece of office equipment designed to organize files and paperwork. Vertical file cabinets have anywhere from two to five drawers per cabinet. Lateral file cabinets are wider than vertical models and can serve as wall partitions or credenzas.



- **Advantages –**

1. Vertical file cabinets are often preferred in offices where wall space is minimal.
2. Lateral file cabinets hold more (about 1/3 more files) and are more flexible in terms of filing. They can hold letter and legal files in the same drawer.

- **Disadvantages –**

1. Lateral file cabinets take up more wall space.
2. Vertical cabinets must choose to hold either legal or letter-sized files.

- **What to watch for when purchasing:**

1. **Tipping hazards.** All file cabinets should have a **positive interlock, a counterweight, or an internal locking device to prevent them from tipping over.** These mechanisms allow only one drawer to be opened at a time. This is especially important with 5-high lateral file cabinets and all vertical models. They should also have a latching mechanism to ensure they stay closed during seismic activity.
2. **Drawers should open and close smoothly.** Even when filled with heavy files, the file drawers should have a high-quality suspension system that allows the cabinet drawers to open and close smoothly. Drawer rolling mechanisms should be in good repair. The drawers should not catch or hang up on obstructions.
3. **Fire resistance.** Insure that the fireproofing materials contained in the file cabinet are not asbestos containing products.

- **Safety issues:**

1. File cabinets should be securely anchored to the floor or wall.
2. All drawers must be closed when not being used to prevent trip or struck against hazards.
3. The heaviest items should be filed in the bottom drawers with lighter items in top drawers.



OFFICE LINKS

Health and Safety Information / Tailgate Safety Topics

- OSHA - Occupational Safety and Health Administration. www.osha.gov. This site offers information on health and safety regulations, eCAT (electronic Compliance Assistance Tools) information, and other great resources. The OSHA eCAT on how to set up the office correctly can be found at www.osha.gov/SLTC/computerworkstations_ecat/index.html.
- DIR – California Department of Industrial Relations. www.dir.ca.gov. This site offers information on California's safety regulations as well as the ergonomics regulation, 5110.
- NIOSH – National Institute of Occupational Safety and Health. www.cdc.gov/niosh. This site offers information directed at helping prevent work related illness and injuries. The Safety and Health Topics list can be found at www.cdc.gov/niosh/toplst.html.
- CCOHS – Canadian Centre for Occupational Health and Safety. www.ccohs.ca/resources. This site provides useful information on many aspects of occupational health and safety. They offer tailgate topics, bright ideas, ergonomics information, etc.

Office Products, Equipment, and Information

- AliMed. www.alimed.com. This site contains a catalog of office and ergonomics products.
- Back Be Nimble. www.backbenimble.com. This site contains products aimed at increasing back comfort at work and home.
- Ergoweb. www.ergoweb.com. This site provides information on office products and ergonomics, as well as periodic updates on ergo regulations, case studies and solutions, etc. Case studies can be linked through www.ergoweb.com/resources/casestudies/.
- Ergonomics4Schools. www.ergonomics4schools.com This is a great site for gathering information. Be sure to check the “FREQUENTLY ASKED QUESTIONS” and “THE LEARNING ZONE” sections.
- Office products:
 - www.ergosource.com
 - www.ergobuyer.com
 - www.haworth.com
 - www.hermanmiller.com
 - www.MorencyRest.com
 - www.contourdesign.com
 - www.mmm.com/office