Guide to workstation configuration

...the 8 basic ergonomic principles

Adjustability in a workstation is essential if it is to be truly ergonomic. And the ease by which adjustment can be made is important to lock in maximum productivity gains.

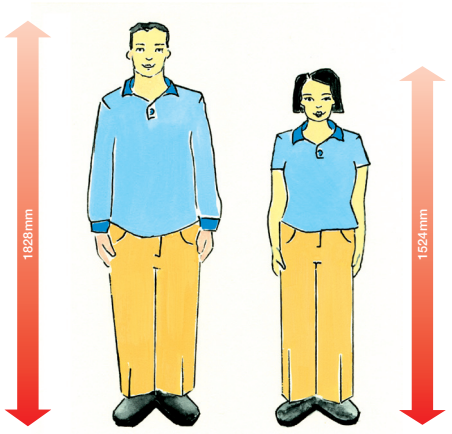
This guide to the successful implementation of eight basic ergonomic principles has been produced by ergonomic workstation specialist AME System, so you can maximise worker efficiency, safety and job motivation.

1. Each job is different, each worker is different

The height of the worktop surface must suit people of different sizes.

Workstation design hints:

- Freedom of movement must be available under the benchtop – a minimum of 600mm footroom, and 400mm legroom.
- Avoid mounting tool or keyboard drawers between the benchtop and the upper thigh.



2. Lower or raise the work surface to suit the task

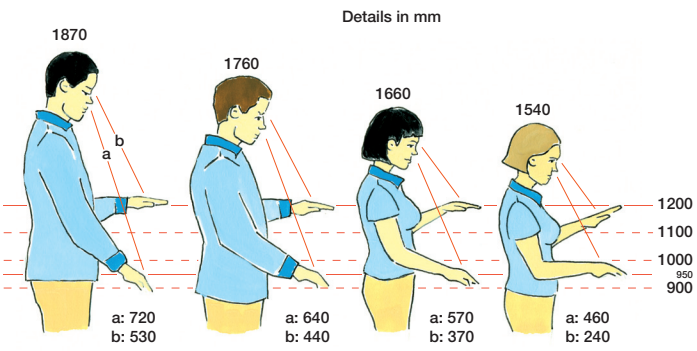
The size of an object to be assembled will determine correct benchtop height.

For large objects, the work surface should be lower than for small items.

If the benchtop is too low, workers will need to lean over to see better, resulting in poor posture, with strain on the back, neck and head.

Recommended sitting positions:

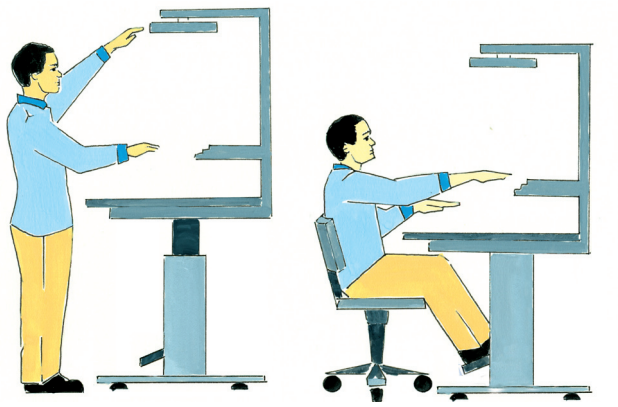
- Forward, for assembly operations requiring force
- Central, for small components, assembly or testing
- Rear, slightly backwards, testing or monitoring.



3. To relax your body alternate between sitting and standing

Ergonomists recommend that the worker should vary working height throughout the working period – changing from seated to standing positions, to relieve fatigued muscles.

AME System's ErgoMan electric height-adjustable workstations become a natural extension of the body – with rapid height changes available at the press of a button.

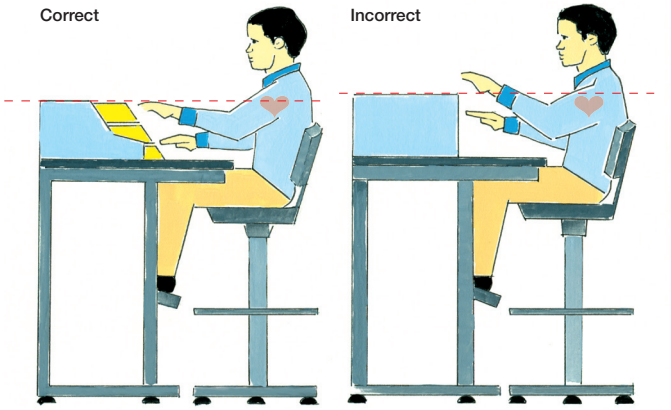


4. Work below your heart level

Seated workers should maintain correct posture – with the lower back against the lumbar support of the backrest, and feet flat on the footrest.

Avoid placing workpieces above heart height, as this reduces heart circulation, which will rapidly diminish worker performance.

Minimise holding objects in a static position during assembly, as blood supply to muscles will be reduced, increasing muscle tiredness. This affects coordination, with a direct effect on quality of output.



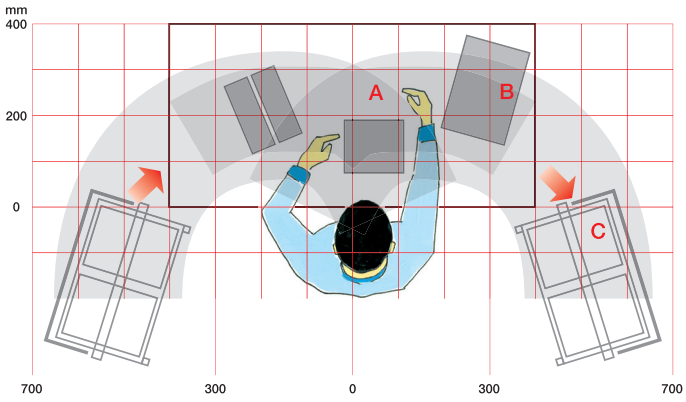
5. Reach comfortably for objects

Most tasks are performed on a flat surface in front of the operator. Reaching out should be minimised in the horizontal reach zones.

Area **A** should contain frequently-used tools and components, for rapid access and less muscle stress.

Area **B** is for parts or tools frequently collected with one hand, requiring arm extension, using the rotary joint and shoulder without any body turning.

Area **C** requires the full arm and trunk to reach. Because the body and head moves more, efficiency is reduced. No parts containers should be placed outside this area.

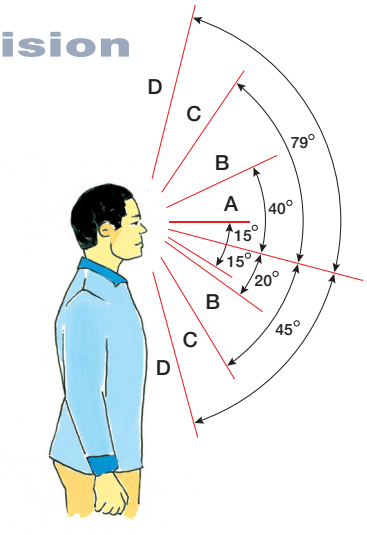


6. Position parts within optimum field of vision

The field of vision should be considered too.

The position of the head should be natural:
15° for sitting, and
25° for standing.
Containers should be positioned at the same distance, to avoid unnecessary head and eye movement, and the eye-strain of repeated re-focussing.

Frequently used parts should be within field of vision **A**.



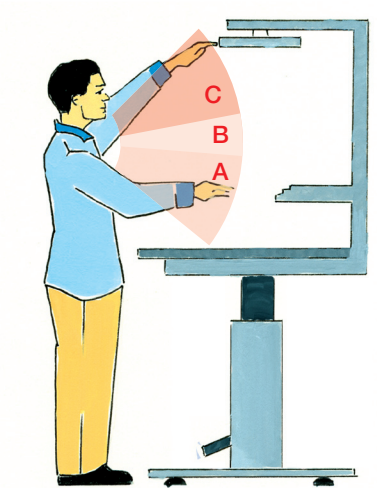
7. Adjust shelves to minimise reach

Efficient use of space often means using more than the horizontal work surface – vertical shelving extends available space.

Zone **A** should contain high priority items.

Zone **B** can contain equipment used for short periods only.

Zone **C** is a low priority area which can be improved by extending upper shelves closer to the operator. They may also be tilted down towards the work surface.



8. Place your work where you need it

Position trolleys and shelves within reach, and angle them in such a way to enhance accessibility.

Utilise the adjustments of working aids to achieve an economic, fatigue-free posture.

Ensure correct chair and footrest position.

Properly adjusted working aids will improve productivity, and reduce strain and downtime.