

# Horizontal Reach Zone

## DEFINITIONS

The **Horizontal Reach Zone** is the maximum allowable horizontal space within which an individual works

### Normal Reach Zone

The normal reach area (A.) is the area that can be conveniently reached with a sweep of the forearm, with the upper arm hanging in a natural position vertically at the side.

### Extended Reach Zone

The extended reach area (B.) is the area that can be reached by extending the arm from the shoulder.

## RECOMMENDATIONS

Use this information to lay out work and material storage locations for both seated and standing workstations.

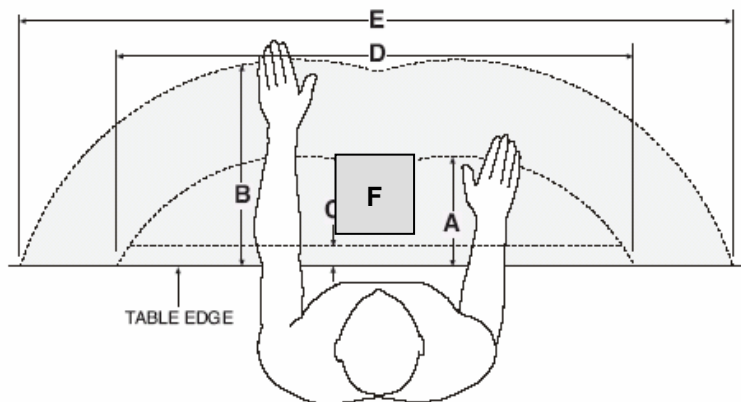
- Arrange all materials, tools, controls, and containers within the normal reach envelope whenever possible.
- Place frequently used items near the place of use.
- Store infrequently used items away from the place of use.
- Store items together if they are used together and store them in the sequence in which they are used.

## CRITERIA

Acceptable reach limit criteria are determined by the 5th percentile reach of the expected work population (ie. design for the shorter person).

- Refer to Anthropometry for more information.
- See the **Illustration** and the **Table** for reference points.

## ILLUSTRATION: Horizontal Reach Zone



**TABLE: Horizontal Reach Zone Dimensions**  
(based on 5<sup>th</sup> percentile female)

Zone	Description	Dimension
<b>A</b>	<b>Normal Reach:</b> Distance from table edge to hand grasping point with back straight and upper arm near vertical.	Max = 12"
<b>B</b>	<b>Extended Reach:</b> Distance from table edge to hand grasping point with back straight and arm fully extended.	Max = 18"
<b>C</b>	<b>Work Distance:</b> Distance from the table edge to the distance where work is performed most comfortably by the worker.	1" to 4"
<b>D</b>	<b>Normal Reach Width:</b> Width of the normal reach area at table edge.	Max = 40"
<b>E</b>	<b>Extended Reach Width:</b> Width of extended reach area at table edge.	Max = 60"
<b>F</b>	<b>Optimum work area:</b> Area within the reach envelope best suited for comfortable work. The optimum work area begins at the work distance or point C.	10" x 10"