

e-Briefing on Productivity Improvement

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Line Layout for Increasing Productivity

Line layout is the physical arrangement or plan of people, machine, material and production facilities to produce product (s).

Principle of line layout:

- Always consider the safety, security and satisfaction for the worker
- Distance travelled by people and material should be minimum and straight line as much as possible
- Space should be used effectively both horizontally and vertically

- Material should move forward along the work with minimum handling of material
- Flexible enough to change the layout quickly and efficiently

Types of line layout:

Typically, there are four types of line layout: product layout, process layout, mixed layout and fixed position layout.

In this e-briefing product layout will be discussed and in subsequent ebriefings there will be other layouts.

What is Product Layout?

In product layout machines are placed in the sequence of process to make specific product. It is mainly used when product are highly repetitive and large in volume such as garment production. A schematic diagram of product layout is given in the Figure for attaching back pocket in a garment unit.

Advantage of product layout:

- Less material handling
- Maximum utilization of manpower and machine
- Optimum line balancing
- Less floor space and no interim store is required
- Reduce number of quality inspection point
- Ease of production planning and controlling
- Less processing time is required
- Reduce cycle time
- Easy supervision

Disadvantage of product layout:

- Less flexible and increase cost of volume when style change frequently
- Shut down the total production even by single machine breakdown of the line
- Idle time is more during style change

Product layout is not usually used for short/small order quantity. However, the the limitations can be minimized by three ways:

Way 1: Line should be set up based on the moderate complexity of the garment so that layout can be adjusted easily for high or low complexity style.

Way 2: A machine or two can be reserved to counter. Any sudden breakdown of machines or to reduce the bottleneck during the production.

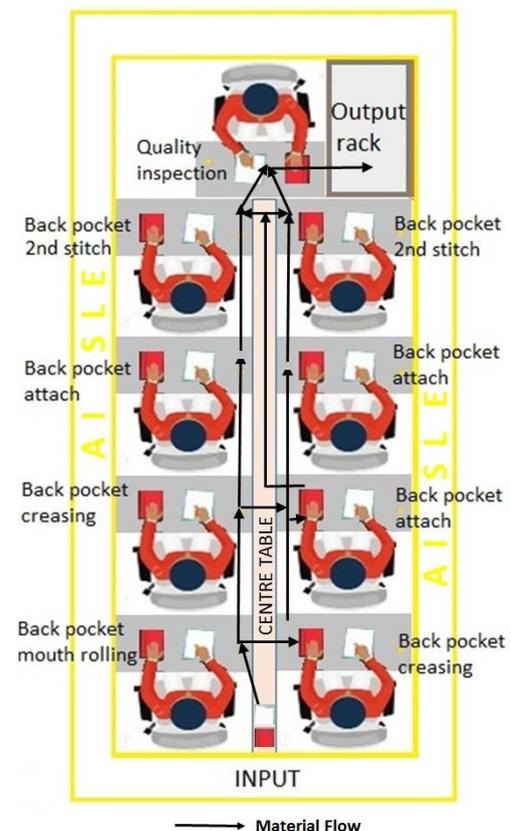


Fig: Typical backpart joining of a basic 5 pocket pant

Way 3: With advance planning, which will require production sample, fabric, trims and accessories, guides and folders, patterns etc. ready just in time.