PARTICIPANT HANDBOOK

Apparel

Specialized Sewing Machine Operator

Language: English
Specialized Sewing Machine Operator

SPECIALIZED SEWING MACHINE OPERATOR
### Table of Contents

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Chapter Name</th>
<th>Page No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Introduction to Stitching and Apparel Sector</td>
<td>4-13</td>
</tr>
<tr>
<td>2.</td>
<td>Carry out different types of stitches using a Specialized Sewing Machine</td>
<td>14-108</td>
</tr>
<tr>
<td>3.</td>
<td>Different types of stitches using a specialized sewing machine</td>
<td>109-167</td>
</tr>
<tr>
<td>4.</td>
<td>Achieve Quality in Sewing Work</td>
<td>168-218</td>
</tr>
<tr>
<td>5.</td>
<td>Maintain Work Area, Tools And Machines</td>
<td>219-244</td>
</tr>
<tr>
<td>6.</td>
<td>Maintain Healthy, Safety and Security At Workplace</td>
<td>245-281</td>
</tr>
</tbody>
</table>
Chapter 1

Introduction to Stitching and Apparel Sector
Specialized Sewing Machine Operator

Learning Outcome:
After attending the session, the trainees would be able to:

- Understand the stitching and apparel industry in India
- Learn about the different roles of a sewing machine operator

Pre Session Activity

- This activity is in the form of “Flash Card” session.
- The Trainer shows the Trainees pictures/images/icons/clip arts of parts of a sewing machine.
- The Trainees are instructed to identify the components and mention its uses if any.
- The Trainees are expected to raise their hands before answering.
Unit 1.1: Introduction to Stitching and Apparel Section India

The stitching sector is the oldest industry in the Indian economy. Currently, the stitching sector in India is one of the largest contributors to her exports, comprising approximately 13 per cent of the total exports. The Apparel industry provides one of the largest employment opportunities in India.

The present stitching industry in India can be separated into three distinct segments:

1. **The market of traditional and local stitching.** The tailors in this segment are skilled groups of persons that take care of the local orders. They have very less exposure to changing fashion trends, technology and product-specific knowledge. Around 80 per cent of the market comprises local tailors.

2. **The retail outlets and online shopping sites.** There are number of organised apparel brands that offer stitching services in their fabric retail outlets and multiple online shopping sites. The tailors are specially trained to take appropriate care of the delicate fabrics and also to ensure the right fit and look of the tailored products. This segment comprises around 15 per cent of the market.

3. **The luxury segment.** The finest stitching segment consists of fashion designers for the luxury segment. These fashion designers have their own special designs that caters to the requirements of the fashion-conscious selected sections of society. They ensure that the tailored clothing suits the personality, social status and occasion of their client. This segment comprises around 5 percent of the market.

The Indian stitching and apparel industry has the capacity to produce a wide variety of products suitable to different market segments, both on domestic and international fronts.
Unit 1.2: Role of a Sewing Machine Operator

Sewing machine operators will perform the following tasks:

- Operating the sewing machine
- Taking measurement of materials for production accuracy
- Fixing accessories such as buttons, zippers and other items on finished products
- Cleaning sewing machines continuously to avoid them getting rusty or bad
- Inspecting equipment, structures, and production materials to identify the reason for errors in production and other defects that may arise
- Promoting personal hygiene by keeping production environment clean
- Understanding and following safety rules, directions, and company procedures
- Placing order for production materials when in shortage
- Distributing finished products to clients as arranged
- Inspecting production equipment

Skills, Knowledge and Abilities of the Sewing Machine Operator are:

Sewing machine operators are expected to possess the following skills, knowledge and abilities, which are vital to their performance on the job:

- Having good knowledge of how sewing machines work
- Having good knowledge about the different fabric
- Having good knowledge about different types of stitches
- Having good knowledge of quality control analysis
- Knowing good time management skills
- Knowing the ability to multitask
- Having the ability to think critically
- Having the ability to make sound decisions
- Working hard
- Working patiently
**Exercise:**

Fill in the blanks:

1. The present stitching industry of India has been separated into _____ distinct segments. [3, 6, 8]
2. Around ___________ of the market comprises of local tailors. [70%, 80%, 82%]
3. The ___________ segment comprises around 5 percent of the market. [Luxury segment, Online shopping segment, Local market segment]

**Summary:**

- The stitching sector is the oldest industry in the Indian economy. Currently, the stitching sector in India is one of the largest contributors to her exports, comprising approximately 13 per cent of the total exports. The Apparel industry provides one of the largest employment opportunities in India.
- The present stitching industry of India has been separated into three distinct segments.
- Few job role of a sewing machine operator are taking measurements, fixing accessories, cleaning and operating the machine and following rules of the company.
- Skills, knowledge and abilities of a sewing machine operator are – knowledge of operating the machine, quality control methods and management skills, ability to multitask and take a sound decision, should be hard working and have patience.

**Post Session Activity:**

- This activity is in the form of “Question and Answer” session.
- The Trainer asks the class the question “**What are the key responsibilities of a sewing machine operator**”?
- The Trainees are expected to raise their hands to volunteer and answer the question.
- Each Trainee will answer one point only.
- The answers must be given in a language known by majority of the Trainees in the class.
- The best answer will be appreciated in the class.

**Test Yourself:**

1. What are the different segments of the stitching industry?
2. Write any 2 job role of a sewing machine operator.
3. Write any 3 skills required for a sewing machine operator.
Chapter 2

Carry Out Different Types of Stitches Using a Specialized Sewing Machine

(AMH/N 2301)
Recall Session:

In the previous chapter, we studied about:

- The stitching sector is the oldest industry in the Indian economy. Currently, the stitching sector in India is one of the largest contributors to her exports, comprising approximately 13 per cent of the total exports.
- The Apparel industry provides one of the largest employment opportunities in India.
- The present stitching industry of India has been separated into three distinct segments.
- Few job role of a sewing machine operator are taking measurements, fixing accessories, cleaning and operating the machine and following rules of the company.
- Skills, knowledge and abilities of a sewing machine operator are – knowledge of operating the machine, quality control methods and management skills, ability to multitask and take a sound decision, should be hard working and have patience.

Learning Outcome:

After attending the session, the trainees would be able to:

- Know about the types of fabrics, apparels and garments
- Know about the apparels that require handmade stitches or machine stitches
- Learn about specification charts
- Learn about the range of techniques suited for different apparels
- Learn about the different apparels and their parts
- Gather knowledge on the sources of updates on apparels
- Understand the common factors that affect stitching
- Get acquainted with different types of needles and broken needle procedure
- Learn about thread thickness, shades and sizes and parts of needle
- Learn about adjusting the top tension
- Know the machine parts
- Troubleshoot when the machine is not functioning correctly

Pre Session Activity:

- This activity will be in the form of a video session.
- The Trainer will show the Trainees a video, on the detail process of Sewing
- The link is: The first step to sewing - https://youtu.be/wZVWWuMu2tU
- The idea behind the activity is to impart an overview of the the sewing machine.
- The Trainees are expected to note down the important points.
Unit 2.1: Understanding the Types of Fabrics, Apparels and Garments

The most common types of fabrics are:

Cotton
Cotton fabric is used to make lightweight attire like Sari, Salwar kameez etc. This material is mostly used in summer season as it keeps the wearer cool and can be easily washed.

Crêpe
Crêpe fabric is woven in silk. It is mostly used to make suits and bridal clothing.

Georgette
Georgette is made by combining nylon and polyester. It is liked by most Indian women because of its graceful, soft and delicate appearance.

Silk
Silk is a fabric that is liked by all and can be used to create almost any design. However silk requires more care than any other fabrics.

Chiffon
Chiffon is made of a combination of nylon and silk. Sari created from chiffon gives an elegant look.
Types of fabrics available in different parts of India are:

![Fabric Tour of India Map](image-url)
<table>
<thead>
<tr>
<th>SL. NO.</th>
<th>FABRICS</th>
<th>ORIGINATED FROM</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Kalamkari</td>
<td>Andhra Pradesh</td>
</tr>
<tr>
<td>2.</td>
<td>Apatani</td>
<td>Arunachal Pradesh</td>
</tr>
<tr>
<td>3.</td>
<td>Muga Silk</td>
<td>Assam</td>
</tr>
<tr>
<td>4.</td>
<td>Bhagalpuri Silk</td>
<td>Bihar</td>
</tr>
<tr>
<td>5.</td>
<td>Kosa Silk</td>
<td>Chhattisgarh</td>
</tr>
<tr>
<td>6.</td>
<td>Kunbi</td>
<td>Goa</td>
</tr>
<tr>
<td>7.</td>
<td>Bandhani</td>
<td>Gujarat</td>
</tr>
<tr>
<td>8.</td>
<td>Panja Durries</td>
<td>Haryana</td>
</tr>
<tr>
<td>9.</td>
<td>Kullu Shawla</td>
<td>Himachal Pradesh</td>
</tr>
<tr>
<td>10.</td>
<td>Kuchai Silk</td>
<td>Jharkand</td>
</tr>
<tr>
<td>11.</td>
<td>Mysore Silk</td>
<td>Karnataka</td>
</tr>
<tr>
<td>12.</td>
<td>Kasavu</td>
<td>Kerala</td>
</tr>
<tr>
<td>13.</td>
<td>Chanderi</td>
<td>Madhya Pradesh</td>
</tr>
<tr>
<td>14.</td>
<td>Paithani</td>
<td>Maharashtra</td>
</tr>
<tr>
<td>15.</td>
<td>Phaneek</td>
<td>Manipur</td>
</tr>
<tr>
<td>16.</td>
<td>Eri Silk</td>
<td>Meghalaya</td>
</tr>
<tr>
<td>17.</td>
<td>Puans (Loin Cloth)</td>
<td>Mizoram</td>
</tr>
<tr>
<td>18.</td>
<td>Naga Shawls</td>
<td>Nagaland</td>
</tr>
<tr>
<td>19.</td>
<td>Sambalpuri Sari</td>
<td>Odisha</td>
</tr>
<tr>
<td>20.</td>
<td>Phulkari</td>
<td>Punjab</td>
</tr>
<tr>
<td>21.</td>
<td>Shisha</td>
<td>Rajasthan</td>
</tr>
<tr>
<td>22.</td>
<td>Lepcha</td>
<td>Sikkim</td>
</tr>
<tr>
<td>23.</td>
<td>Kanjeevaram Silk</td>
<td>Tamil Nadu</td>
</tr>
<tr>
<td>24.</td>
<td>Pochampally Ikat</td>
<td>Telangana</td>
</tr>
<tr>
<td>25.</td>
<td>Pachra</td>
<td>Tripura</td>
</tr>
<tr>
<td>26.</td>
<td>Chickankari</td>
<td>Uttar Pradesh</td>
</tr>
<tr>
<td>27.</td>
<td>Panchachuli Weave</td>
<td>Uttarakhand</td>
</tr>
<tr>
<td>28.</td>
<td>Tant</td>
<td>West Bengal</td>
</tr>
</tbody>
</table>
Follow the instructions & specifications given in the Techpack to stitch the sample

Importance of Techpack:
1. In the absence of Techpack, the merchandiser is clueless in processing the order
2. Techpack provides the direction for manufacturing a particular style.
3. It streamlines the production department.
4. It guides the quality department.
5. The buyer provides all the specifications in the Techpack.
6. It eliminates many problems, for eg. when the worker face problems, they can follow the Techpack to minimize their problem.
7. Ambiguous information in the Techpack lead to poor garment quality.
8. If Techpack is applied throughout value chain of the apparels effectively, then there will be success to everyone in the value chain.

Contents of the Techpack are:
1. Measurement sheet
2. Garment technical design or flat sketch
3. Fabric specification
4. Colour specification
5. Trim specification
6. Embroidery design scan or sample
7. Embroidery placement
8. Seam and stitch specification and placement
9. Point of measurement
10. Testing methods
11. Graphic specification
12. Graphic placement
13. Colour combination
14. Style number
15. Other technical data related to garment construction
### Garment Specification Sheet

**Style No. #** XYZ 01  
**Category:** Womenswear  
**Season:** Spring-Summer  
**Designers Name:** XYZ  
**Date:** 20-09-2015  
**Size:** Medium (D-12)  

**Description of Garment:** Women Casual Summer Top.

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Measurements (in Cms.)</th>
<th>Front</th>
<th>Back</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Neck Size</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Across Chest</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Chest</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Waist</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Shoulder</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Across Back</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Scye Depth</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Back Depth</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Length</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Wash Care Instructions:** Machine Wash, Line Dry, Iron Medium, Do not Bleach

**Fabrics / Lining**

- **Semi Crepe**
- **Cotton (Lining)**

**Fabric 1**

- **Fabric 2**

- **Fabric 3**

**Description of Fabric:**

- **Fabric composition**
- **Construction**
- **Width**

**Trims and Accessories**

- Roll On Crepe Straps
- Sequin Detailing in front
- Microdot Fusing

**Remarks**

- All fabric patterns need to be overlocked before stitching; Sequin Detailing has to be handled carefully. Lining should be overlocked.
Faults in fabrics
Common faults in fabrics are:

1. Dye marks

2. Holes in the fabrics by defective machine element

3. Ladder – Wales collapse in straight line means when the stitch suddenly breaks the straight line

4. Missing plush loops
5. Pin marks

6. Slub or thickness in yarn

7. Spirality, over twisted yarn

8. Stain, oil or dirt
9. Bar or variation in weft yarn

10. Colour bleeding

11. Poor construction selvedge

12. Slack wrap or faulty pattern
13. Incorrect weft insertion

14. Damaged reed

15. Insufficient wrap tension

16. Weft yarn slips from prin
17. Lack of control for wrap tension
Unit 2.2: Use of Specification Chart

Things to remember before measuring:
1. Use a non-stretchable tape
2. Ensure that the tape measure is level around your body and parallel to the floor
3. Keep tape close to your skin without depressing it

Measurements:
- **Bust**: Measuring all the way around the bust and back on the line of the nipples.
- **Chest**: Measuring directly under the breasts, as high as possible.
- **Waist**: Measuring at its narrowest point, width, usually just above the navel.
- **Hips**: Measuring around the widest part of the hipbones.
- **Midway**: Measuring midway between the widest part of the hips and the waist.
- **Thighs**: Measuring around fullest part of upper leg while standing
- **Knees**: Measuring immediately above the knee.
- **Calves**: Measuring around fullest part.
- **Upper arm**: Measuring above the elbows – around fullest part.
- **Forearms**: Measuring below the elbows – around fullest part
### Women size chart:
**SIZE: MEDIUM**

<table>
<thead>
<tr>
<th>S.NO.</th>
<th>SPECIFICATIONS</th>
<th>MEASUREMENTS (in Inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Chest</td>
<td>36</td>
</tr>
<tr>
<td>2</td>
<td>Waist</td>
<td>28</td>
</tr>
<tr>
<td>3</td>
<td>Shoulder</td>
<td>15</td>
</tr>
<tr>
<td>4</td>
<td>Half Sleeve Length</td>
<td>7</td>
</tr>
<tr>
<td>5</td>
<td>Half Sleeve Girth</td>
<td>12 1/2</td>
</tr>
<tr>
<td>6</td>
<td>Full Sleeve Length</td>
<td>21</td>
</tr>
<tr>
<td>7</td>
<td>Full Sleeve Girth</td>
<td>10</td>
</tr>
<tr>
<td>8</td>
<td>SalwarLength</td>
<td>10</td>
</tr>
<tr>
<td>9</td>
<td>SalwarBottom Opening</td>
<td>12 1/2</td>
</tr>
<tr>
<td>10</td>
<td>Hip</td>
<td>37</td>
</tr>
<tr>
<td>11</td>
<td>Trouser Length</td>
<td>42</td>
</tr>
<tr>
<td>12</td>
<td>Round Neck</td>
<td>15</td>
</tr>
<tr>
<td>13</td>
<td>Waist level from shoulder</td>
<td>15</td>
</tr>
<tr>
<td>14</td>
<td>Crotch</td>
<td>10</td>
</tr>
<tr>
<td>15</td>
<td>Knee</td>
<td>21</td>
</tr>
</tbody>
</table>

### Men size chart:
**SIZE: MEDIUM**

<table>
<thead>
<tr>
<th>S.NO.</th>
<th>SPECIFICATIONS</th>
<th>MEASUREMENTS (in Inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Chest</td>
<td>38</td>
</tr>
<tr>
<td>2</td>
<td>Waist</td>
<td>32</td>
</tr>
<tr>
<td>3</td>
<td>Shoulder</td>
<td>19</td>
</tr>
<tr>
<td>4</td>
<td>Half Sleeve Length</td>
<td>9</td>
</tr>
<tr>
<td>5</td>
<td>Full Sleeve Length</td>
<td>24</td>
</tr>
<tr>
<td>6</td>
<td>Waist level from shoulder</td>
<td>18</td>
</tr>
<tr>
<td>7</td>
<td>Round Neck</td>
<td>16</td>
</tr>
<tr>
<td>8</td>
<td>Half Sleeve opening</td>
<td>7 1/2</td>
</tr>
<tr>
<td>9</td>
<td>Full Sleeve opening</td>
<td>6</td>
</tr>
<tr>
<td>10</td>
<td>Hips</td>
<td>36</td>
</tr>
</tbody>
</table>