

GOVERNMENT OF THE PUNJAB

**TECHNICAL EDUCATION & VOCATIONAL
TRAINING AUTHORITY**



**CURRICULUM FOR
INDUSTRIAL STITCHING MACHINE OPERATOR
(QABP-Project)**

(6- Weeks Course)
Developed August, 2024

**CURRICULUM SECTION
ACADEMICS DEPARTMENT**

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TRAINING OBJECTIVES

This course is designed for the participants who want to join garment industry as a stitcher or industrial stitching machine operator. In this course, the students will get the knowledge, function, lubrication and maintenance/troubleshooting of special industrial garment stitching machines. The purpose of this course is to enhance productivity of garment units with quality.

This course aims at producing skilled workforce for Garments Industry in the field of Industrial Stitching Machine Operator. This workforce shall be given adequate training in operating the various industrial stitching machines generally used in Garments Industry.

Emphasis will also be given on character building of students during their training by delivering motivational lectures on patriotism, discipline, work ethics, team work, soft skills and organizational behaviors.

CURRICULUM SALIENT

Name of Course	:	Industrial Stitching Machine Operator
Entry Level	:	Primary preferable Middle (age limit in light of applicable labor laws)
Duration of course	:	6-weeks
Total training hours.	:	150 Contact hours
Training Methodology	:	Practical 90%
		Theory 10%

SKILL PROFICIENCY DETAILS

On successful completion of this course, the trainee should be able to: -

1. Clean workstation (before & after work).
2. Bobbin winding, Fix the Thread & Needle Breakage issues, perform Machine operations according to seems /boots.
3. Differentiate the needles used for different types of Lock Stitch and Chain Stitch Industrial Stitching Machines.
4. Operate machines, handle garment and control speed of each machine properly.
5. Maintain Quality of garments as per requirements.
6. Exercises paper / card sewing (simple to complex shapes).
7. Sew on Rags
8. Make various shapes on fabric pieces e.g. collar, placket, side-vents etc.
9. Produce maximum work in minimum time with required quality.
10. Rectify the causes of different stitching faults as skip stitch, broken stitch, stitch hole etc.
11. Perform and coopt work ethics and organizational behaviors.

KNOWLEDGE PROFICIENCY DETAILS

On successful completion of this course, the trainee should be able to: -

1. Explain types and functions of different Industrial Stitching Machines and their parts.
2. Explain Oiling and Cleaning of Stitching machines (before & after work).
3. Describe installation of different accessories/ machine attachments
4. Define causes of thread breakages, needle breakage, stitching faults and their remedies.
5. Describe occupational health and safety precautions.
6. Define machine maintenance and its troubleshooting.

SCHEME OF STUDIES
Industrial Stitching Machine Operator
 (6-weeks Course)

S. No	Main Topics	Theory Hours	Practical Hours	Total Hours
1.	Introduction to Garment Industry, Fabric & Industrial Stitching Machines	04	-	04
2.	Occupational Health Safety & Environment	03	-	03
3.	Basic Fabric Cutting for Production	01	09	10
4.	Operate Single needle lock stitch sewing machine for basic operations	02	30	32
5.	Operate different types of Industrial stitching machines for specific Operations • Double needle lock stitch machine • Loop Make Machine • Feed of the arm • Waist band attaching Machine • Bartak Machine • Eyelet Machine • Over Lock Machine (4 & 5 Thread) • Button attach/ Snap button Machine	02	09 04 15 06 04 04 22 04	70
6.	Product finishing and packing	-	12	12
7.	Work Ethic & organizational behavior	03	-	03
8.	Project 8.1 Cut & Stitch Denim Garment (Pant/Jacket) OR Any other Assigned Garment	-	16	16
Total		15	135	150

DETAIL OF COURSE CONTENTS
Industrial Stitching Machine Operator
 (6-weeks Course)

S. No.	Detail of Topics	Theory Hours	Practical Hours
1	Introduction to Garment Industry, Fabric & Industrial Stitching Machines 1.1 Introduction to Garment Industry 1.2 Fabric and its types 1.2.1 Knitted Fabric 1.2.2 Woven Fabric 1.2.3 Denim Fabric 1.3 Industrial Stitching Machines 1.3.1 Lock Stitch Machines 1.3.2 Chain Stitch Machines	04	-
2	Occupational Health Safety & Environment 2.1 Identify Hazards at Workplace 2.1.1 The importance of safety procedures at workplace at garment industry. 2.1.2 Briefing the team about risks factors regarding safety during working at garment industry especially respiratory system. 2.1.3 Knowledge of tools and equipment used for safety purposes 2.1.4 Reviewing the safety precautions signs and posters placed at the walls of the garment industry 2.2 Apply Occupational Safety and Health (OSH) 2.2.1 Application of PPEs required for garment industry for protection as: a. Respiratory protection - Eye protection	03	-

	b. Hearing protection - Hand protection 2.2.2 Knowledge of hazards addressed by protective equipment include: physical, electrical, heat, biohazards, and airborne particulate matter. Communicating within team and safety officer if any unwanted thing occurs during working regarding safety measures. 2.2.3 Importance and using of First Aid box in emergency situations. Knowledge of ensuring the date of expiry of medicines available in the first aid box. 2.2.4 The importance of clean workplace and its advantages to the personal health. Knowledge of proper place for tools and equipment used at workplace. 2.2.5 Importance and Types / classes of fire extinguishers		
3	Basic Fabric Cutting for Production 3.1 Perform fabric spreading 3.1.1 Understand fabric defects and its remedies. 3.1.2 Types of fabric spreading 3.1.3 Machines used for fabric spreading 3.1.4 Calculations of fabric plies. 3.1.5 Determine relaxation time after fabric spreading 3.1.6 Ensure the Lay Height limit as per fabric quality 3.1.7 Knowledge of End cutter machine 3.2 Perform range cutting 3.2.1 Ensure Personal Protective Equipment	01	09

	(PPEs) to avoid any unwanted accident 3.2.2 Knowledge of range cutting 3.2.3 Knowledge and types of cutting machines 3.2.4 Determining range cutting 3.2.5 Types of drilling & notches and its advantages. 3.2.6 Knowledge of Grain line 3.2.7 Disposal of waste materials as per SOPs (Standard Operating procedures) 3.3 Perform Bundling 3.3.1 Types and uses of bundling 3.3.2 Knowledge of marking, numbering and tagging 3.4 Prepare fabric cutting report 3.4.1 Knowledge of report formation as per given format 3.4.2 Assist in generating reports of cutting department 3.4.3 Calculations for waste %age. 3.4.4 Proper disposal of waste 3.4.5 Assistant in generating fabric inspection		
4	Operate Single Needle Lock Stitch Sewing Machine for basic operations 4.1 Introduction of Machine Parts & Operator Sitting Posture. 4.2 Machine Cleaning & Oiling 4.3 Machine Maintenance and its Troubleshooting 4.4 Machine Threading/Color Changing 4.5 Needle Selection according to the Fabric 4.6 Needle changing	2	30

	4.7 Thread Breakages and its causes 4.8 Needle Breakages and its causes 4.9 Use of different size of boots according to seams 4.10 Machine Control exercises 4.11 Paper sew exercises without thread, straight, curved, rectangle, square & circle etc. 4.12 Repeat the same exercises on fabric. 4.13 Practice to attach pocket on a simple fabric (Ten Exercises). 4.14 Practice to make placket on simple fabric (Ten Exercises). 4.15 Practice to attach Zip on fabric (5 Exercises)		
5	Operate different types of Industrial Stitching Machines for specific operations 5.1 Double Needle Lock Stitch Machine 5.1.1 Introduction of Machine Parts and Operator Sitting Posture. 5.1.2 Machine Cleaning & Oiling 5.1.3 Machine Maintenance and its troubleshooting 5.1.4 Machine Threading/Color Changing 5.1.5 Needle Selection according to the Fabric 5.1.6 Thread Breakage & its causes 5.1.7 Needle Breakage & its causes 5.1.8 Use of different sizes of boots according to seams 5.1.9 Machine Control exercise 5.1.10 Paper sew exercises without Thread, straight, curved, rectangle, square & circle	2	68

	etc. 5.1.11 Repeat the same exercises on fabric. 5.1.12 Practice to attach pocket on a simple fabric 5.1.13 Practice to make placket on simple fabric 5.1.14 Practice to attach Zip on fabric 5.2 Loop Make Machine 5.2.1 Introduction of machine parts and 5.2.2 Machine Cleaning & Oiling 5.2.3 Machine Maintenance and its troubleshooting 5.2.4 Selection of needle and threading of machine 5.2.5 Adjustment of Folder 5.2.6 Placement of fabric in folder 5.2.7 Practice (Make 20 loops) 5.3 Feed Of the Arm Machine 5.3.1 Introduction of Machine and Operator sitting posture 5.3.2 Machine Oiling & Cleaning 5.3.3 Machine Maintenance and its Troubleshooting 5.3.4 Precautions/Safety Measures 5.3.5 Machine Parts (Tension big and small) stitch, high and low Speed 5.3.6 Machine control exercises 5.3.7 Panel exercises, Top stitch, Yock attach Seat seam/Back Rise 5.4 Waist Band Attach Machine 5.4.1 Introduction of machine parts 5.4.2 Machine Oiling & Cleaning 5.4.3 Machine Maintenance and its		
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	Troubleshooting 5.4.4 Selection of Needle and Threading of machine 5.4.5 Adjustment of Folder 5.4.6 Placement of fabric in folder 5.4.7 Placement of fabric under presser foot 5.4.8 Practice (Attach waist band on back panel 5 exercises) 5.5 Bartak Machine 5.5.1 Introduction of machine parts 5.5.2 Machine Oiling & cleaning 5.5.3 Machine Maintenance and its Troubleshooting 5.5.4 Placement of fabric under boot speed adjustment 5.5.5 Tension adjustments 5.5.6 Exercises of Bartak machine on fabric (5 Nos.) 5.6 Eyelet Machine 5.6.1 Introduction of machine parts 5.6.2 Machine Oiling & Cleaning 5.6.3 Machine Maintenance and its Troubleshooting 5.6.4 Needle and Threading 5.6.5 Machine and adjustment of cutter 5.6.6 Placement of fabric under boot 5.6.7 Practice of eyelet on fabric (5 exercises) 5.7 Over Lock Machine (4 & 5 Thread) 5.7.1 Introduction of machine, machine parts and functions 5.7.2 Machine Oiling and Cleaning		
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	5.7.3 Machine Maintenance and its Troubleshooting 5.7.4 Precautions & Care in operation 5.7.5 Needle & thread knowledge. 5.7.6 Tension & Cutter adjustment 5.7.7 Machine control exercises 5.7.8 Fabric shape exercises (Straight, round and curved) 5.7.9 Needle & thread breakages, its faults and remedies 5.7.10 Stitch length adjustment 5.7.11 Panel Exercises (Crotch. Arm hale, front and back panel edges parallel. 5.7.12 Adjust overlock stitch bites 5.8 Button/Stud Attach Machine 5.8.1 Introduction of Button stitch machine 5.8.2 Adjustment of Button on machine 5.8.3 Placement of Fabric under die 5.8.4 Machine Maintenance and its Troubleshooting 5.8.5 Attach different sizes of buttons (5- Exercises)		
6	Product Finishing and Packing 6.1 Perform cropping 6.1.1 The importance of cropping the excess Thread of the product as per standard to maintain the quality 6.1.2 Understanding the working principles of loose thread sucking machine 6.2 Perform Garment Pressing/Ironing 6.2.1 Prepare workstation and maintain	-	12

	housekeeping as per policy 6.2.2 Types of pressing and their requirement in different circumstances 6.3 Quality Assurance and Quality Control 6.3.1 Concept of Line Supervisor, Knowledge and understanding of clockwise inspection 6.3.2 Understanding of Garments Faults and their remedies 6.3.3 Ensure the final product as per approved sample 6.3.4 Ensure all trims and accessories are as per requirement 6.3.5 Performing garment inspection and record findings 6.4 Perform Garment Packing 6.4.1 The importance of accessories and its placement 6.4.2 Determine the folding process and its advantages 6.4.3 Understand types of packing 6.4.4 Understand packing list as per job requirement		
7	Work Ethics & Organizational Behaviors 7.1 Team/Group work 7.2 Dealing with subordinate 7.3 Working with peers 7.4 Dealing with superior	3	-
8	Project 8.1 Cut & Stitch Denim Garment OR any other assigned Garment 8.2 Stitching Steps for garment Project:	-	16

	8.2.1 Fabric selection 8.2.2 Fabric cutting 8.2.3 Small parts stitching 8.2.4 Full garment stitching 8.2.5 Garment Pressing 8.2.6 Garment Finishing & Packing 8.2.7 Maintain Quality as per requirement		
Total		15	135

LIST OF LABS

Industrial Stitching Machine Operator

- Industrial Stitching Lab.

LIST OF MACHINERY / EQUIPMENT / TOOLS

(For a Class of 25 Students)

Name of Trade	Industrial Stitching Machine Operator
Duration of Course	6-weeks

Stitching & Sewing related machines

S. No.	Nomenclature of Machines	Quantity
1	Single Needle Lock Stitch Machine	25
2	Double Needle Lock Stitch Machine	01
3	Over Lock Machine (4 thread)	02
4	Over Lock Machine (5 thread)	01
5	Feed of the Arm Machine	02
6	Button/stud Attach Machine	01
7	Eyelet Machine	01
8	Bartak Machine	02
9	Waistband Machine	02
10	Loop-make Machine	01

Equipment

S. No.	Nomenclature of equipment / Tools	Quantity
1	First Aid Box	1
2	Fire Extinguishers	2
3	Fire hose reel	1
4	Fire blanket	1
5	Telephone set	1
6	Smoke detecting Alarm	1
7	Technician Tool Box for stitching machines	2
8	Scissor	25
9	Blower	1

10	Machine cover	38
11	Tweezers	25
12	Garments Checking/Inspection table	1
13	Vacuum sucking machine	1
14	Steam Iron	1
15	Pressing table	2
16	Spot Gun	1
17	Weighing scale	1
18	Camera	1
19	Glue Gun	2
20	Barcode Reader	1
21	Pallets	2
22	Hand Lifter	1
23	Calculator	2
24	Computer System	2
25	Mobile phone	1
26	Audio System	1
27	Speakers	1 set
28	Multimedia	1

LIST OF CONSUMEABLES

For Industrial Stitching Machine Operator (6-weeks course)

S. No.	List of Consumable Items	Quantity
1	Respiration protection Nose Covers	20
2	Thread cone (for whole course)	150
3	Bobbin and bobbin case for single needle stitching machine	50
4	Bobbin and Bobbin case	50 sets
5	Needles (DB1)	150
6	Needles (DP5)	60
7	Needles (DC27)	60
8	Needles (DV43)	60
9	Machine Oil	50 ltr.
10	Fabric (for whole course)	800 m
11	Clipper	30
12	Measuring Tape (60 inches of length)	30
13	Seam Ripper	30
14	Duster for cleanliness	40
15	Dust bin	20
16	Cleaning Brush	20
17	DHU format	200
18	Measurement audit sheet	100
19	AQL Chart	25
20	Defect / Arrow Sticker	50 sheets
21	Tape dispenses	2
22	Tape dispenser roll	10
23	Glue stick	20

24	Tag Card for identification	100
25	Tag Gun pin	1 packet
26	Hangtag	100
27	Price tag	2 sheets
28	Poly bag	100
29	Strings	50
30	Note book for writing	20
31	Hand glove	30

MINIMUM QUALIFICATION OF TEACHER / INSTRUCTOR

- 3-Years Diploma (D.D.M) + 2-Years relevant Industrial Experience.

OR

- 2 Years Certificate in Dress Making / DVG + 5-years relevant Industrial Experience.

OR

- Matric having “Industrial Stitching Machine Operator 6- Months’ Certificate Course + 10-Years relevant Industrial Experience

EMPLOYABILITY OF PASS OUTS

The pass-out of this course may work in the following sectors / areas and positions:

1. Garment Factory (Knitwear/ Woven-Denim Garments)
2. Buying office
3. Brand outlet
4. Textile apparel division
5. Textile made ups division
6. Self-Employment/ Entrepreneurship

REFERENCE BOOKS

1. IGS by PVTC
2. Industrial Stitching Machine Operator by P-TEVTA
3. Machine Operating and Maintenance Manuals
4. Garments Manufacturing Technology by Eiri

Curriculum Development Committee

Muhammad Usman Ali Butt

Convener

Assistant Manager (Export Department)
Sapphire textile & finishing Mills Ltd.

Muhammad Irfan

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Sumera Bashir

Member

Trainer, GAMTI Township Lahore

Roopila Denil

Member

Trainer, GAMTI Township Lahore

LIST OF TRADE RELATED JARGON

Words	Meaning
Skill	ہنر
High Speed	تیز رفتار
Separately driven needle change over lever	علحدہ سے چلنے والا سوئی کا چنچ اوور لیور
Thread Take-up Cover	تھریڈ ٹیک اپ کور
Knitted fabric	کٹنگ مشین پر بنا کپڑا
Finger Guard	فنگر گارڈ
Skip Stitch	ٹانگہ چھوڑنا
Thread Tension Controller	تھریڈ ٹینشن کنٹرولر
Pedal	پیدل
Knee Lifter	نی لفٹر
Power Switch	پاور سوئچ
Operation	آپریشنل پینل
Attachment	جڑنے والا پرزہ
Oil Supply Window	آئل سپلائی ونڈو
Reverse Lever	ریورس لیور
Needle Breakage	سوئی ٹاٹنا
Presser Foot	پریسر فٹ
Feed Dog	فید ڈاگ
Needle Bar	نیڈل بار

Needle Screw	نیڈل سکر یو
Pully	پلی
Boot	پُریسرفٹ
Shuttle	شٹل
Tension Disk	ٹینشن ڈسک
Thread Retainer	تھریڈ ریٹینر
Throat Plate	تھروٹ پلیٹ
Toes (Prongs)	ٹوز
Instructions	ہدایات
Selection	انتخاب
Stitch length	ٹانکے کی لمبائی
Shauk	سوئی کا اوپر والا حصہ
Blade	سوئی کا پتلا حصہ
Woven Fabric	کھدی پر بنا کپڑا
Quality	معیار
Cliper	دھاگہ کاٹنے والا
Damage	خراب
Alteration	مرمت
Reject	معیار پر پورا نہ اُترنا
Furing	چپکانے والی بکرم
Pile	بُر دار