Competency Standard (CS)

Sewing Machine Maintenance

Level-2

RMG and Textile Sector

Competency Standard Code: CS-RMGT-SMM-L2-EN-V1

National Skills Development Authority
Chief Advisor's Office
Government of the People's Republic of Bangladesh

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This Competency Standard for **Sewing Machine Maintenance** is a document for the development of curricula, teaching and learning materials, and assessment tools. It also serves as the document for providing training consistent with the requirements of industry in order to meet the qualification of individuals who graduated through the established standard via competency-based assessment for a relevant job.

Public and private institutions may use the information contained in this standard for activities benefitting Bangladesh.

Introduction

The NSDA aims to enhance an individual's employability by certifying completeness with skills. NSDA works to expand the skilling capacity of identified public and private training providers qualitatively and quantitatively. It also aims to establish and operationalize a responsive skill ecosystem and delivery mechanism through a combination of Well-defined set of mechanisms and necessary technical supports.

Key priority economic growth sectors identified by the government have been targeted by NSDA to improve current job skills along with existing workforce to ensure required skills to industry standards. Training providers are encouraged and supported to work with industry to address identified skills and knowledge to enable industry growth and increased employment through the provision of market responsive inclusive skills training program. " **Sewing Machine Maintenance** " is selected as one of the priority occupations of **RMG and Textile** Sector. This standard is developed to adopt a demand driven approach to training with effective inputs from Industry Skills Councils , employer associations and employers.

Generally, a competency standard informs curriculum, learning materials, assessment and certification of trainees enrolled in Skills training. Trainees who successfully pass the assessment will receive a qualification in the Bangladesh National Qualification Framework (BNQF) and will be listed on the NSDA's online portal.

This competency standard is developed to improve skills and knowledge in accordance with the job roles, duties and tasks of the occupation and ensure that the required skills and knowledge are aligned to industry requirements. A series of stakeholder consultations, workshops were held to develop this document.

The document also details the format, sequencing, wording and layout of the Competency Standard for an occupation which is comprised of Units of Competence and its corresponding elements.

Overview

A **competency standard** is a written specification of the knowledge, skills and attitudes required for the performance of an occupation, trade or job corresponding to the industry standard of performance required in the workplace.

The purpose of a competency standards is to:

- provide a consistent and reliable set of parts for training, recognising and assessing people's skills, and may also have optional support materials
- enable industry recognised qualifications to be awarded through direct assessment of workplace competencies
- encourage the development and delivery of flexible training which suits individual and industry requirements
- encourage learning and assessment in a work-related environment which leads to verifiable workplace outcomes

Competency standards are developed by a working group comprised of occupation specific experts, academicians, representatives from NSDA and ISC to identify the competencies required of an occupation in **RMG and Textile Sector**.

Competency standards describe the knowledge, skills and attitude needed to perform effectively in the workplace. CS acknowledge that people can achieve technical and vocational competency in many ways by emphaprinting what the learner can do, not how or where they learned to do it.

With competency standards, training and assessment may be conducted at the workplace or at training institute or any combination of these.

Competency standards consist of a number of units of competency. A unit of competency describes a distinct work activity that would normally be undertaken by one person in accordance with industry standards.

Units of competency are documented in a standard format that comprises of:

- unit title
- nominal duration
- unit code
- unit descriptor
- elements and performance criteria
- variables and range statement
- curricular content guide
- assessment evidence guides

Together, all the parts of a unit of competency:

- describe a work activity
- guide the assessor to determine whether the candidate is competent or not yet competent

The ensuing sections of this document comprise of a description of the relevant occupation, trade or job with all the key parts of a unit of competency, including:

- a chart with an overview of all Units of Competency for the relevant occupation, trade or job including the Unit Codes and the Unit of Competency titles and corresponding Elements
- the Competency Standard that includes the Unit of Competency, Unit Descriptor, Elements and Performance Criteria, Range of Variables, Curricular Content Guide and Assessment Evidence Guide.

Competency Standards for National Skill Certificate – 2 in Sewing Machine Maintenance, RMG and Textile Sector

Level Descriptors of Skills Sector, BNQF Level 1-6

Level & Job classification	Knowledge Domain	Skills Domain	Responsibility Domain
6-Mid-Level Manager/ Sub Assistant Engineer	Comprehensive actual and theoretical knowledge within a specific work or study area with an awareness of the validity and limits of that knowledge, able to analyse, compare, relate and evaluate.	Specialised and wider range of cognitive and practical skills required to provide leadership in the development of creative solutions to defined problems. Communicate professional issues and solutions to the team and to external partners/users.	Work under broad guidance and self-motivation to execute strategic and operational plan/s. Lead lower-level management. Diagnose and resolve problems within and among work groups.
5-Supervisor	Broad knowledge of the underlying, concepts, principles, and processes in a specific work or study area, able to scrutinize and break information into parts by identifying motives or causes.	Broad range of cognitive and practical skills required to generate solutions to specific problems in one or more work or study areas. Communicate practice-related problems and possible solutions to external partners.	Work under guidance of management and self-direction to resolve specific issues. Lead and take responsibility for the work and actions of group/team members. Bridge between management.
4-Highly Skilled Worker	Broader knowledge of the underlying, concepts, principles, and processes in a specific work or study area, able to solve problems to new situations by comparing and applying acquired knowledge.	A range of cognitive and practical skills required to accomplish tasks and solve problems by selecting and applying the full range of methods, tools, materials and information. Communicate using technical terminology and IT technology with partners and users as per workplace requirements.	Work under minimal supervision in specific contexts in response to workplace requirements. Resolve technical issues in response to workplace requirements and lead/guide a team/ group.
3-Skilled Worker	Moderately broad knowledge in a specific work or study area, able to perceive ideas and abstract from drawing and design according to workplace requirements.	Basic cognitive and practical skills required to use relevant information in order to carry out tasks and to solve routine problems using simple rules and tools. Communicate with his team and limited external partners upholding the values, nature and culture of the workplace	Work or study under supervision with considerable autonomy. Participate in teams and responsible for group coordination.
2-Semi Skilled Worker	Basic understanding of underpinning knowledge in a specific work or study area, able to interpret and apply common occupational terms and instructions.	Skills required to carry out simple tasks, communicate with his team in the workplace presenting and discussing results of his work with required clarity.	Work or study under supervision in a structured context with limited scope of manipulation
1 –Basic Skilled Worker	Elementary understanding of ability to interpret the underpinning knowledge in a specific study area, able to interpret common occupational terms and instructions.	Specific Basic skills required to carry out simple tasks. Interpret occupational terms and present the results of own work within guided work environment/ under supervision.	Work under direct supervision in a structured context with limited range of responsibilities.

List of Abbreviations

NSDA	- National Skills Development Authority
CS	- Competency Standard
SCVC	- Standard and Curriculum Validation Commettee
ISC	- Industry Skills Council
CBLM	- Competency Based Learning Material
UoC	- Unit of Competency
PPE	- Personal Protective Equipemnt
OSH	- Occupational Safety and Health
CBC	- Competency Based Curriculum
RMGT	- Readymade Garments Manufacturing and Textile
SMM	- Sewing Machine Maintenance
BNQF	- Bangladesh National Qualification Framework
STP	- Skills Training Provider
SOP	- Standard Operating Procedure
UoC	- Unit of Competency
4 IR	- 4th Industrial Revolution

Approved by

39th Authority Meeting of NSDA

Held on 23.01.2025

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Competency Standards for National Skill Certificate – 2 in

Sewing Machine Maintenance

Course Structure

SL	Unit Code and Title		UoC Level	Nominal Hours
Generic Units of Competencies				**30**
1.	GU-02-L1-V1	Apply Occupational Health and Safety (OHS) Procedure in the Workplace.	1	15
2.	GU-04-L1-V1	Work in the Team Environment	1	15
Sector Specific Units of Competencies				**30**
3.	SU-RMGT- 01-L1-V1	Interpret Drawings and Manuals	1	15
4.	SU-RMGT-02-L2-V1	Perform Measurements and Calculations	2	15
Occupation Specific Units of Competencies				**280**
5.	OU-RMGT-SMM-01-L2-V1	Interpret Maintenance Procedure of Sewing Machine	2	30
6.	OU-RMGT-SMM-02-L2-V1	Perform Preventive Maintenance of Sewing Machines	2	25
7.	OU-RMGT-SMM-03-L2-V1	Troubleshoot Common Issues in Sewing Machines	2	75
8.	OU-RMGT-SMM-04-L2-V1	Perform Preventive and Corrective Maintenance of Single Needle Lock Stitch Machine	2	45
9.	OU-RMGT-SMM-05-L2-V1	Perform Preventive and Corrective Maintenance of Double Needle Lock Stitch Machine	2	30
10.	OU-RMGT-SMM-06-L2-V1	Perform Preventive and Corrective Maintenance of Over lock Machine	2	45
11.	OU-RMGT-SMM-07-L2-V1	Perform Preventive and Corrective Maintenance of Flat Lock Machine	2	30
Total Learning Hours				**340**
Workplace Visit				**20**
Total Nominal Hours				**360**

Units & Elements at a Glance:

Generic Unit of Competency - 30 Hrs.

Code	Unit of competency	Elements of competency	Duration (hours)
GU-02-L1-V1	Apply Occupational Health and Safety (OHS) Procedure in The Workplace	1. Identify OSH policies and procedures 2. Follow OSH procedure 3. Report hazards and risks. 4. Respond to emergencies 5. Maintain personal well-being	15
GU-04-L1-V1	Work in the team environment	1. Define team role and scope 2. Identify individual role and responsibility 3. Participate in team discussions 4. Work as a team member	15
Total Hours			**30**

Sector Specific Units of Competencies (30Hours)

Code	Unit of competency	Elements of competency	Duration (hours)
SU-RMGT- 01-L1-V1	Interpret Drawings and Manuals	1. Interpret information form manuals 2. Identify drawings and specifications 3. Interpret drawings and specifications	15
SU-RMGT -02-L2--V1	Perform Measurements and Calculations	1. Prepare for work 2. **C**heck measuring instruments 3. Carry out measurements 4. Interpret simple calculations 5. Clean and store measuring instruments	15
Total hours			30

Occupation Specific Unit of Competencies – 280 Hours

Code	Unit of competency	Elements of competency	Nominal hours
OU-RMGT-SMM-01-L2-V1	Interpret Maintenance Procedure of Sewing Machine	1. Interpret sewing process 2. Identify maintenance activities	30
OU-RMGT-SMM-02-L2-V1	Perform Preventive Maintenance of Sewing Machines	1. Maintain preventive schedule of Sewing machine 2. Check and adjust Sewing machine setup 3. Perform machine cleaning 4. Perform machine lubrication	25
OU-RMGT- SMM -03-L2-V1	Troubleshoot Common Issues in Sewing Machines	1. Prepare for work 2. Check and identify Stitching defect 3. Perform Trouble shooting of mechanical issues 4. Trouble Shoot Electrical and electronics issues 5. Maintain workplace cleanliness and store tools.	75
OU-RMGT- SMM -04-L2-V1	Perform Preventive and Corrective Maintenance of Single Needle Lockstitch Machine	1. Prepare for work 2. Identify parts of single needle lock stitch machine 3. Check and identify stitching and machine faults 4. Maintain preventive schedule 5. Carry out corrective maintenance 6. Maintain workplace cleanliness and store tools	45
OU-RMGT- SMM -05-L2-V1	Perform Preventative and Corrective Maintenance of Double Needle Lockstitch Machine	1. Prepare for work 2. Identify parts of double needle lock stitch machine 3. Check and identify stitching and machine faults 4. Maintain preventive schedule 5. Carry out corrective maintenance 6. Maintain workplace cleanliness and store tools	30

OU-RMGT- SMM - 06-L2-V1	Perform Preventive and Corrective Maintenance of Over Lock Machine	1. Prepare for work 2. Identify parts of over lock machine 3. Check and identify stitching and machine faults 4. Maintain preventive schedule 5. Carry out corrective maintenance 6. Maintain workplace cleanliness and store tools	45
OU-RMGT- SMM - 07-L2-V1	Perform Preventive and Corrective Maintenance of Flat Lock Machine	1. Prepare for work 2. Identify parts of flat lock machine 3. Check and identify stitching and machine faults 4. Maintain preventive schedule 5. Carry out corrective maintenance 6. Maintain workplace cleanliness and store tools	30
Total hours			280

Generic Unit of Competenceis

Unit Code and Title	GU-02-L1-V1: Apply Occupational Safety and Health (OSH) Procedure in the Workplace
Unit Descriptor	This unit covers the knowledge, skills and attitudes required to apply occupational health and safety (OHS) procedure in the workplace. It specifically includes identifying OHS policies and procedures, following OHS procedure, reporting hazards and risks, responding to emergencies, and maintaining personal well-being.
Nominal Hours	**15 Hours**
Elements of Competency	**Performance Criteria** **Bold & Underlined** terms are elaborated in the Range of Variables
1. Identify OSH policies and procedures	1.1. **OHS policies** and **safe operating procedures** are accessed and stated 1.2. **Safety signs and symbols** are identified and followed 1.3. Emergency response, evacuation procedures and other contingency measures are determined according to workplace requirements
2. Follow OSH procedure	2.1 **Personal protective equipment (PPE)** is selected and collected as required 2.2 Personal protective equipment (PPE) is correctly used in accordance with organization OHS procedures and practices 2.3 A clear and tidy workplace is maintained as per workplace standard 2.4 PPE is maintained to keep them operational and compliant with OHS regulations
3. Report hazards and risks.	3.1 **Hazards** and risks are identified, assessed and controlled 3.2 Incidents arising from hazards and risks are reported to designated authority
4. Respond to emergencies	4.1 Alarms and warning devices are responded 4.2 Workplace **emergency procedures** are followed 4.3 **Contingency measures** during workplace accidents, fire and other emergencies are recognized and followed in accordance with organization procedures 4.4 Frist aid procedures is applied during emergency situations
5. Maintain personal well-being	5.1 OHS policies and procedures are adhered to 5.2 OHS awareness programs are participated in as per workplace guidelines and procedures 5.3 Corrective actions are implemented to correct unsafe condition in the workplace 5.4 **"Fit to work" records** are updated and maintained according to workplace requirements.

Range of Variables	
Variables	**Range** (may include but not limited to):
1. OHS policies	1.1. Bangladesh standards for OHS 1.2. Fire Safety Rules and Regulations 1.3. Code of Practice 1.4. Industry Guidelines
2. Safe operating procedures	2.1 Orientation on emergency exits, fire extinguishers, fire escape, etc. 2.2 Emergency procedures 2.3 First Aid procedures 2.4 Tagging procedures 2.5 Use of PPE 2.6 Safety procedures for hazardous substances
3. Safety signs and symbols	3.1 Direction signs (exit, emergency exit, etc.) 3.2 First aid signs 3.3 Danger Tags 3.4 Hazard signs 3.5 Safety tags 3.6 Warning signs
4. Personal Protective Equipment (PPE)	4.1 Gas Mask 4.2 Gloves 4.3 Safety boots 4.4 Face mask 4.5 Overalls 4.6 Goggles and safety glasses 4.7 Sun block 4.8 Chemical/Gas detectors
5. Hazards	5.1 Chemical hazards 5.2 Biological hazards 5.3 Physical Hazards 5.4 Mechanical and Electrical Hazard 5.5 Mental hazard 5.6 Ergonomic hazard
6. Emergency Procedures	6.1 Fire fighting 6.2 Earthquake 6.3 Medical and first aid 6.4 Evacuation
7. Contingency measures	7.1 Evacuation 7.2 Isolation 7.3 Decontamination
8. “Fit to Work” records	8.1 Medical Certificate every year 8.2 Accident reports, if any

	8.3 Eye vision certificate
Evidence Guide The evidence must be authentic, valid, sufficient, reliable, consistent, recent and meet all requirements of current version of the Unit of Competency	
1. Critical aspects of competency	Assessment required evidence that the candidate: 1.1 stated OHS policies and safe operating procedures 1.2 followed safety signs and symbols 1.3 used personal protective equipment (PPE) 1.4 maintained workplace clear and tidy 1.5 assessed and controlled hazards 1.6 followed emergency procedures 1.7 followed contingency measures 1.8 implemented corrective actions
2. Underpinning knowledge	2.1 Define OHS 2.2 OHS Workplace Policies and Procedures 2.3 Work Safety Procedures 2.4 Emergency Procedures 2.5 Hazard control procedure 2.6 Different types of Hazards 2.7 PPE and there uses 2.8 Personal Hygiene Practices 2.9 OHS Awareness
3. Underpinning skills	3.1 Accessing OHS policies 3.2 Handling of PPE 3.3 Handling cleaning tools and equipment 3.4 Writing report 3.5 Responding to emergency procedures
4. Required attitude	4.1 Commitment to occupational health and safety 4.2 Sincere and honest to duties 4.3 Promptness in carrying out activities 4.4 Environmental concerns 4.5 Eagerness to learn 4.6 Tidiness and timeliness 4.7 Respect of peers and seniors in workplace 4.8 Communicate with peers and seniors in workplace
5. Resource implications	5.1 Workplace 5.2 Equipment and outfits appropriate in applying safety measures 5.3 Tools, materials and documentation required 5.4 OHS Policies and Procedures

6. Methods of assessment	Assessment methodes may include but not limited to: 6.1 Written test 6.2 Demonstration 6.3 Oral questioning 6.4 Portfolio
7. Context of assessment	7.1 Competency assessment must be done in a training center or in an actual or simulated workplace after completion of the training module. 7.2 Assessment should be done by a NSDA certified/nominated assessor

Accreditation Requirements

Training Providers must be accredited by National Skills Development Authority (NSDA), the National Quality Assurance Body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of qualification under BNQF. Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by NSDA.

Unit Code and Title	GU-04-L1-V1: Work in the Team Environment
Unit Descriptor	This unit covers the knowledge, skills and attitudes (KSA) required in working in a team environment. It includes defining team role and scope, identifying individual role and responsibility. participating in team discussions and working as a team member.
Nominal Hours	**15 Hours**
Elements of Competency	**Performance Criteria** **Bold & Underlined** terms are elaborated in the Range of Variables
1. Define team role and scope	1.1. Role and objectives of the team are defined 1.2. Team structure, responsibilities and reporting relations are identified from team discussions and other external sources
2. Identify individual role and responsibility	2.1 Individual roles and responsibilities of **team members** are identified 2.2 Reporting relationships among team members are defined and clarified 2.3 Reporting relationships external to the team are defined and clarified
3. Participate in team discussions	3.1 Ideas related to team plans are contributed 3.2 Recommendations for improving team work are put forward
4. Work as a team member	4.1. Effective forms of communication are used to interact with team members 4.2. Communication channels are followed 4.3. OHS practices are followed
Range of Variables	
Variables	**Range** (may include but not limited to):
1. Sources of information	1.1 Standard Operating Procedures 1.2 Job Description 1.3 Operations Manual 1.4 Organizational Structure
2. Team Members	2.1 Coach/mentor 2.2 Supervisor/Manager 2.3 Peers/Colleagues 2.4 Employee representative
3. Workplace context	3.1 National Laws and Statutes 3.2 Standard Operating Procedures 3.3 Workplace Rules and Regulations

Evidence Guide The evidence must be authentic, valid, sufficient, reliable, consistent, recent and meet all requirements of current version of the Unit of Competency	
1. Critical aspects of competency	Assessment required evidence that the candidate: 1.1 demonstrated knowledge in working in a team environment. 1.2 satisfied the requirements mentioned in the Performance Criteria and Range of Variables
2. Underpinning knowledge	2.1 Team Structure, Role and Responsibility 2.2 Individual Members' Roles and Responsibilities 2.3 Communication Flow and Reporting Structures 2.4 Team Planning 2.5 Interpersonal Communication Skills 2.6 Team Meeting Procedures 2.7 OHS Practices
3. Underpinning skills	3.1 Identifying the role and responsibility of the team 3.2 Identifying roles and responsibilities of individual members 3.3 Participating in team discussions 3.4 Working as a team member
4. Underpinning Attitudes	4.1 Commitment to occupational health and safety 4.2 Environmental concerns 4.3 Eagerness to learn 4.4 Tidiness and timeliness 4.5 Respect for rights of peers and seniors in workplace 4.6 Communication with peers and seniors in Workplace
5. Resource implications	5.1 Pens 5.2 Telephone 5.3 Computer 5.4 Writing materials 5.5 Online communication
6. Methods of assessment	Methods of assessment may include but not limited to: 6.1. Demonstration 6.2. Oral questioning 6.3. Written test 6.4. Portfolio
7. Context of assessment	7.1 Competency assessment must be done in a training center or in an actual or simulated workplace after completion of the training module. 7.2 Assessment should be done by a NSDA certified/nominated assessor

Accreditation Requirements

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Sector Specific Unit of Competencies

Unit Code and Title	SU-RMGT- 01-L1-V1: Interpret Drawings and Manuals
Unit Descriptor	This unit covers the knowledge, skill and attitude required in interpret drawings and manuals. It specifically includes interpreting information form manuals, identifying drawings and specifications and interpreting drawings and specifications.
Nominal Hours	**15 Hours**
Elements of Competency	**Performance Criteria** (**Bold & Underlined** terms are elaborated in the Range of Variables)
1. Interpret information form manuals	1.1 **Manuals** are identified. 1.2 Version and date of manual are checked to ensure up-to-date specifications of tools, equipment, materials and procedures. 1.3 Information is identified according to job requirements 1.4 Information is interpreted.
2. Identify drawings and specifications	2.1. Relevant **drawings** and **specifications** are identified. 2.2. Terms and abbreviations are identified. 2.3. **Signs and symbols** are identified.
3. Interpret drawings and specifications	3.1 Drawings and specifications are interpreted. 3.2 Schedules, dimensions and specifications contained in drawings are interpreted.
Range of Variables	
Variable	**Range** (may include but not limited to):
1. Manuals	1.1 Manufacturer's Specification Manual 1.2 Repair Manual 1.3 Maintenance Procedure Manual 1.4 Periodic Maintenance Manual 1.5 Quality Manual 1.6 Manual of Instruction/Parts book
2. Drawings	2.1 Technical drawings 2.2 Sketch
3. Specifications	3.1 Machine and spare parts specifications 3.2 Performance specifications 3.3 Method specifications
4. Signs and symbols	1.1 Work instructions 1.2 OSH sign
Evidence Guide The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.	

1. Critical aspects of competency	Assessment required evidence that the candidate: 1.1 interpreted manuals 1.2 identified relevant drawings and specifications 1.3 identified signs and symbols 1.4 identified terms and abbreviations 1.5 interpreted schedules, dimensions and specifications
2. Underpinning knowledge	2.1 Types of RMG and Textile Manuals 2.2 Schedules, dimensions and specifications contained in drawings 2.3 Drawings and specifications 2.4 Signs and Symbols 2.5 Terms and Abbreviations
3. Underpinning skills	3.1. Identifying manuals 3.2. Interpreted information from manual 3.3. Identifying signs and symbols 3.4. Identifying Drawings and specifications 3.5. Interpreting Schedules, dimensions and specifications
4. Underpinning Attitudes	1.1 Commitment to occupational health and safety 1.2 Environmental concerns 1.3 Eagerness to learn 1.4 Tidiness and timeliness 1.5 Respect for rights of peers and seniors in workplace 1.6 Communication with peers and seniors in workplace
5. Resource implications	5.1 Manuals 5.2 Drawings 5.3 Specifications
6. Methods of Assessment	Methods of assessment may include but not limited to: 6.1 Written test 6.2 Demonstration 6.3 Oral questioning 6.4 Portfolio
7. Context of assessment	7.1 Competency assessment must be done in a training center or in an actual or simulated workplace after completion of the training module. 7.2 Assessment should be done by a NSDA certified/nominated assessor

Accreditation Requirements

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Unit Code and Title	**SU-RMGT -02-L2--V1: Perform Measurement and Calculations**
Unit Descriptor	This unit covers the knowledge, skills and attitudes required for performing measurements and calculations in Textile sector. It specially includes preparing for work, checking measuring instruments, carrying out measurements, performing simple calculations, maintaining measuring devices measurements and performing simple calculation.
Nominal Hours	15 Hours
Elements of Competency	**Performance Criteria** **Bold and Underlined** terms are elaborated in the Range of Variables.
1. Prepare for work	1.1 OSH is followed and Personal Protective equipment (PPE) worn as per job requirement 1.2 Work place is prepared as per job requirement 1.3 Materials to be measured are identified and classified. 1.4 **measuring devices** are selected based on materials to be measured 1.5 **Documents** and manuals are collected in accordance with job requirement
2. **C**heck measuring instruments	2.1 Work instructions are confirmed and applied. 2.2 Specifications are obtained from relevant documents. 2.3 Instrument are checked for any physical damage, wear, or corrosion 2.4 Measuring instruments are calibrated to ensure accurate reading/measurement 2.5 Tolerance and clearance limits are identified and adjusted according to job requirements.
3. Carry out measurements	3.1 **measurements** are obtained in accordance with the drawing and job requirements 3.2 Systems of measurements are identified and measurement conversions done as per requirement 3.3 Measurements are recorded on form/drawings/sketches as per company procedures 3.4 Recorded measurements are interpreted andcommunicated to supervisor
4. Perform simple calculations	4.1 Simple calculations involving **basic operations** and **other operations** are carried out 4.2 Appropriate formulas for calculating quantities of materials are selected 4.3 **calculations** are performed and verifiedMaterial quantities are calculated and shared with team as per requirement

5. Clean and store measuring instruments	5.1 Measuring instruments are cleaned 5.2 Measuring instruments are stored as per industry procedure. 5.3 Workplace is cleaned as per industry standard
Range of Variables	
Variables	Range (may include but not limited to):
1. Measuring device	1.1 Measuring Tape 1.2 Steel rule 1.3 Calculator 1.4 Sets square 1.5 Vernier caliper 1.6 Micrometer
2. Documents	2.1 Technical Manuals 2.2 parts catalog 2.3 Specifications 2.4 Sketches 2.5 Charts 2.6 Photographs 2.7 Drawing
3. Measurements	3.1 Length 3.2 Width 3.3 Weight 3.4 Tolerance
4. Basic operation	4.1 Addition 4.2 Subtraction 4.3 Multiplication 4.4 Division
5. Other operations	5.1 Fractions 5.2 Percentages 5.3 Mixed numbers 5.4 Conversions 5.5 Scales
6. Calculations	6.1 Area 6.2 Volume 6.3 Circumference 6.4 Volumetric Weight
Evidence Guide The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.	

1. Critical aspects of competency	Assessment required evidence that the candidate: 1.1 selected measuring devices based on materials to be measured 1.2 identified systems of measurements 1.3 obtained measurements as per job requirements 1.4 carried out calculations for quantities of materials 1.5 confirmed and recorded measurements as per standard 1.6 maintained measuring devices
2. Underpinning knowledge	2.1 Information on measuring devices 2.2 Units of Measurement 2.3 Units of Conversion 2.4 Selection technique of appropriate measuring devices 2.5 Necessity of calibration of measuring instrument 2.6 Measurement and calculation technique for apparel merchandising 2.7 Techniques of recording measurements 2.8 Way to allowance and Tolerance 2.9 Presentation of data and information 2.10 Instructions to use of measuring devices
3. Underpinning skills	3.1 Identifying measuring devices based on materials to be measured 3.2 Obtaining specification of measuring devices from relevant document 3.3 Taking measurement according to the job requirements 3.4 Identifying tolerance and clearance limits and adjusting according to the job requirements 3.5 Interpret calculations for quantities of materials 3.6 Conforming and recording measurements as per standard 3.7 Maintaining measuring devices
4. Underpinning attitudes	4.1 Commitment to occupational health and safety 4.2 Environmental concerns 4.3 Eagerness to learn 4.4 Tidiness and timeliness 4.5 Respect for rights of peers and seniors in workplace 4.6 Communication with peers and seniors in workplace
5. Resource implications	5.1. Work instructions 5.2. Relevant Documents 5.3. Measuring instruments & other tools, equipment and physical facilities appropriate to perform activities. 5.4. Materials to be measured

6. Methods of assessment	Methods of assessment may include but not limited to: 6.1 Written test 6.2 Demonstration 6.3 Oral questioning 6.4 Portfolio
7. Context of assessment	7.1 Competency assessment must be done in a training center or in an actual or simulated workplace after completion of the training module. 7.2 Assessment should be done by a NSDA certified/nominated assessor.

Accreditation Requirements

Training Providers must be accredited by National Skills Development Authority (NSDA), the National Quality Assurance Body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of qualification under BNQF. Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by NSDA.

Occupation Specific Unit of Competency

Unit Code and Title	**OU-RMGT-SMM-01-L2-V1: Interpret Maintenance Procedure of Sewing Machine**
Unit Descriptor	This unit covers the knowledge, skills and attitudes required to interpret interpret fundamentals of maintenance procedure of sewing machine. It specifically includes interpreting sewing process and identifying maintenanceactivities
Nominal Hours	**30 hours**
Elements of Competency	**Performance Criteria** **Bold and Underlined** terms are elaborated in the Range ofVariables.
1. Interpret sewing process	1.1 **Types of machines** are identified 1.2 **Types of sewing methods** are interpreted 1.3 **Steps of sewing process** are interpreted 1.4 **Technical terminology** in sewing process is interpreted.
2. Identify maintenance activities	2.1 **Tools** and **equipment** are identified which are used in maintenance. 2.2 **Machine maintenance departments** are identified and interpreted. 2.3 Role of a maintenance technician in sewing machinery is explained. 2.4 **Types of maintenance** are interpreted. 2.5 Maintenance instruction process is interpreted as per instructional manual. 2.6 **Sewing machines faults** are identified and interpreted
Range of Variables	
Variables	**Range** (may include but not limited to):
1. Types of machines	1.1 Single needle lockstitch machne 1.2 Double needle lockstitch machne 1.3 Single needle chain stitch machne 1.4 Double needle Chain stitch machine 1.5 Four threads overlock machine 1.6 Five threads overlock machine 1.7 Flat lock machine 1.8 Multi Needle Chain Stitch Machine (Kanchai) 1.9 Feed of the ARM 1.10 Cylinderbed machine 1.11 Button hole machine 1.12 Button stitch machine 1.13 Bartake machine 1.14 Zigzag Machine
2. Types of sewing methods	2.1 Lock Stitch 2.2 Chain Stitch 2.3 Interlock

3. Steps of sewing process	3.1 Threading 3.2 Adjusting ▪ Needle adjusting ▪ Bobbin winding ▪ Bobbin case setting ▪ Looper adjusting 3.3 Stitching 3.4 Thread tension adjustment 3.5 Sewing
4. Technical Teminology	4.1 Needle 4.2 Bobbin 4.3 Rotary hook 4.4 Looper 4.5 Edge Stitching 4.6 Feed Dogs 4.7 Presser Foot 4.8 Stitch Per Inch (SPI) 4.9 Revulation Per Minute (RPM) 4.10 Tension
5. Tools	5.1 Adjustable wrench 5.2 Allen-key set 5.3 Files (flat, round, half round) 5.4 Hammer 5.5 Pliers (Nose, combination) 5.6 Assorted Screw drivers 5.7 Open ended wrench 5.8 Measuring tape 5.9 Vernier caliper 5.10 Tweezer 5.11 Scissor 5.12 Thread cutter 5.13 Stitch opener
6. Equipment	6.1 Swing machine 6.2 Grease Gun 6.3 Pedestal Grinding machine 6.4 Hand Drill machine 6.5 Table vice 6.6 Vacuum cleaner machine 6.7 Hand blower
7. Machine maintenance departments	7.1 Mechanical 7.2 Electrical and electronics 7.3 Utility
8. Types of Maintenance	8.1 Breakdown/corrective maintenance 8.2 Preventive maintenance 8.3 Predictive maintenance 8.4 Schedule Maintenance
9. Sewing machine	9.1 Thread bunching or birdnesting

faults	9.2 Needle breakage 9.3 Skipped stitches 9.4 Machine not sewing 9.5 Tension problems (too tight or too loose) 9.6 Thread tangling or knots in bobbin area 9.7 Thread breaking 9.8 Machine jamming 9.9 Uneven stitching or wavy seams 9.10 Sewing machine makes noise 9.11 Fabric jamming or pulling 9.12 Machine sticking or stopping mid-stitch 9.13 Bobbin case problems (unraveling or misalignment) 9.14 Zigzag or decorative stitches not working 9.15 Needle not moving up and down 9.16 Presser foot not lifting properly 9.17 Machine skipping stitches when sewing thick fabric 9.18 Sewing machine overheating 9.19 Incorrect threading of the machine 9.20 Foot pedal not responding 9.21 Stitch length or width not adjusting 9.22 Sewing machine not moving the fabric (feed dogs not engaging) 9.23 Thread looping under fabric 9.24 Machine is not feeding fabric properly 9.25 Sewing machine not turning on 9.26 Broken stitch 9.27 Gathering stitch 9.28 Pukering stitch 9.29 Gap/skip stitch 9.30 Improper rotary hook timing
Evidence Guide The evidence must be authentic, valid, sufficient, reliable, consistent, and recent and meet therequirements of the current version of the Unit of Competency.	
1. Critical aspects of competency	Assessment required evidence that the candidate: 1.1 interpreted sewing process; 1.2 interpreted types of sewing methods; 1.3 interpreted technical terminology in sewing process; 1.4 identified maintenanceactivities; 1.5 identified sewing machines faults;
2. Underpinning knowledge	2.1 Types of machines and their uses 2.2 Types of sewing methods 2.3 Steps of sewing process 2.4 Technical terminology 2.5 Role of maintenance technician 2.6 List and uses of tools and equipment 2.7 Safe handling of tool and equipment 2.8 Type of Maintenance 2.9 Machine maintenance departments 2.10 Sewing machine faults

3. Underpinning skills	3.1 Identifying typew of machines 3.2 Using tools and equipment 3.3 Communication skills 3.4 Explaining types of maintenance 3.5 Interpreting Types of sewing methods 3.6 Interpreting Steps of sewing proces 3.7 ExplainingRole of maintenance technician 3.8 IdentifyingSewing machine faults
4. Underpinning Attitudes	4.1. Commitment to occupational health and safety 4.2. Environmental concerns 4.3. Eagerness to learn 4.4. Tidiness and timeliness 4.5. Respect for the rights of peers and seniors in the workplace 4.6. Communication with peers and seniors in the workplace
5. Resource implications	5.1 Workplace (simulated or actual) 5.2 Tools and equipment 5.3 Sewing machine 5.4 Relevant materials 5.5 Work instruction
6. Methods of assessment	Methods of assessment may include but not limited to: 6.1 Written test 6.2 Demonstration 6.3 Oral questioning 6.4 Portfolio
7. Context of assessment	7.1 Competency assessment must be done in a training center or in an actual or simulated workplace after completion of the training module. 7.2 Assessment should be done by a NSDA certified/nominated assessor

Accreditation Requirements

Training Providers must be accredited by National Skills Development Authority (NSDA), the National Quality Assurance Body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of qualification under BNQF. Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by NSDA.

Unit Code and Title	**OU-RMGT-SMM-02-L2-V1: Perform Preventive Maintenance of Sewing Machine**
Unit Descriptor	This unit covers the knowledge, skills and attitudes required to perform preventive maintenance of sewing machine. It specifically includes maintaining preventive schedule of sewing machine, checking and adjusting sewing machine setup, performing machine cleaning and performing machine lubrication
Nominal Hours	**25 Hours**
Elements of Competency	**Performance Criteria** **Bold and Underlined** terms are elaborated in the Range ofVariables.
1. Maintain preventive schedule of Sewing machine	1.1 **Maintenance schedule** is interpreted as required 1.2 Lockout-tagout procedure is interpreted as required 1.3 Preventive maintenance is selected as per job requirement 1.4 Lubricants are selected and used as required 1.5 **Preventive machine maintenance checklist** is collected as per job instruction 1.6 Sewing machine maintenance is carried out as per maintenance schedule.
2. Check and adjust Sewing machine setup	2.1 **Main components** of sewing machine are identified 2.2 Power supply is checked for machine operation 2.3 Settings of **threading components** and positions are checked 2.4 Correct positions of foot pedal and V-belt are checked and adjusted 2.5 Right position of pressure foot and **lifter** are checked and adjusted 2.6 **Feed mechanism** are checked and replaced as per requirement 2.7 The timing between the needle and rotary hook is checked and adjusted as per sewing requirement 2.8 SPI is checked for correctness as per given specification.
3. Perform machine cleaning	3.1 Machine is cleaned using the right solution 3.2 **Tension post assembly** is opened, reassembled and cleaned each part 3.3 Screws are loosened to take out the needle plate and feed dog clean 3.4 rotary hook and bobbin case are cleaned from the inside 3.5 machine bed is cleaned as per workplace requirement 3.6 correct **tools** are used for cleaning & maintenance work 3.7 cleaning & maintenance of machines are carried out as per the work schedule on a regular basis.

4. Perform machine lubrication	4.1 Oil tank and pump are checked and cleaned as per requirement 4.2 The **level and conditions** of oil is checked to maintain the standard quality and quantity 4.3 Oil is kept in the tank as per standard level and condition 4.4 Oil in the tank is changed as per requirement 4.5 The lubrication points are cleaned as per industry standard. 4.6 Few drops are put in the lubrication points as per requirement 4.7 Quantity of oil is regulated in accordance with the demand of **movable parts**
Range of Variables	
Variables	**Range** (may include but not limited to):
1. Maintenance schedule	1.1 Daily 1.2 Weekly 1.3 Fortnightly 1.4 Monthly
2. Preventive machine maintenance checklist	2.1 Cleaning points 2.2 Lubricating points 2.3 Gauge check 2.4 Belt alignment check 2.5 Bearing check 2.6 Gear box check 2.7 Pulley check 2.8 Tension check 2.9 Tightness check 2.10 Sound and vibration check 2.11 Oil check 2.12 Rotary hook check 2.13 Knife check 2.14 Needle check

3. Main components	3.1 Needle 3.2 Presser Foot 3.3 Pressure foot drive bar 3.4 Pressure spring 3.5 Pressure foot adjusting screw 3.6 Pressure foot rod 3.7 Pressure foot holder 3.8 Feed Dog 3.9 Needle Bar 3.10 Bobbin and Bobbin Case 3.11 Bobbin Winder 3.12 Tension post Assembly 3.13 Take-up Lever 3.14 Stitch Selector/Control/Stitch length regulator 3.15 Throat Plate /Needle Plate 3.16 Reverse Lever/Back stitch leve 3.17 Rotary Hook 3.18 Positioning Finger 3.19 Oil Pump 3.20 Lopper 3.21 Slide Plate 3.22 Hand lifter 3.23 Knee lifter 3.24 Upper Knife 3.25 Lower knife 3.26 V-Belt
4. Threading components	4.1 Correct position of thread post and stand. 4.2 Entire bobbin unit 4.3 Correct position of the thread guides. 4.4 Thread take-up spring is not broken 4.5 Tension of the spring 4.6 Stitch tension 4.7 Thread Spol 4.8 Three hole Eyelet 4.9 Tention Post Dise 4.10 Frame Thread Guide Left/Right 4.11 Take Up lever 4.12 Needle Bar Thread Guide 4.13 Needle Thread Guide 4.14 Needle Eye
5. lifter	2.1 Knee lifter 2.2 Hand lifter

6. Feed mechanism	6.1 Needles and the needle bar 6.2 Pressure foot 6.3 Needle plate and feed dog
7. tension post assembly	7.1 Tension post base 7.2 Tension bar screw 7.3 Tension takeup spring 7.4 Tension disc 7.5 Tension disc stopper 7.6 Tension spring 7.7 Tension rotation stopper 7.8 Tension nut 7.9 Tension release pin
8. Tools	8.1 Hand blower 8.2 Tweezer 8.3 Thread cutter 8.4 Different types of screwdrivers
9. level and conditions of oil	9.1 High level 9.2 Low level 9.3 Mid level 9.4 Maintain proper density 9.5 Maintain standard colour
10. Movable parts	10.1 Needl bar and bush 10.2 Main shaft 10.3 Connecting shaft 10.4 Rotary hook driving shaft 10.5 Feed dog upper shaft 10.6 Feed dog lower shaft
Evidence Guide The evidence must be authentic, valid, sufficient, reliable, consistent, and recent and meet therequirements of the current version of the Unit of Competency.	
1. Critical aspects of competency	Assessment required evidence that the candidate: 1.1 maintained preventive schedule of sewing machine 1.2 checked and adjusted sewing machine setup 1.3 performed machine cleaning 1.4 performed machine lubrication
2. Underpinning knowledge	2.1 Different components of sewing machine 2.2 Threading components and positions 2.3 Type of lifter and their functions 2.4 Tension post assembly 2.5 List of tools and their functions 2.6 Level and conditions of oil 2.7 Movable parts 2.8 Maintenance schedule

	2.9 Preventive machine maintenance checklist
3. Underpinning skills	3.1 Identifying typew of machines 3.2 Using tools and equipment 3.3 Communication skills 3.4 Explaining types of maintenance 3.5 Interpreting Types of sewing methods 3.6 Interpreting Steps of sewing proces 3.7 ExplainingRole of maintenance technician 3.8 IdentifyingSewing machine faults
4. Underpinning Attitudes	4.1. Commitment to occupational health and safety 4.2. Environmental concerns 4.3. Eagerness to learn 4.4. Tidiness and timeliness 4.5. Respect for the rights of peers and seniors in the workplace 4.6. Communication with peers and seniors in the workplace
5. Resource implications	5.1 Workplace (simulated or actual) 5.2 Tools, equipment and machineries 5.3 Relevant materials 5.4 Work instruction
6. Methods of assessment	Methods of assessment may include but not limited to: 6.1 Written test 6.2 Demonstration 6.3 Oral questioning 6.4 Portfolio
7. Context of assessment	7.1 Competency assessment must be done in a training center or in an actual or simulated workplace after completion of the training module. 7.2 Assessment should be done by a NSDA certified/nominated assessor

Accreditation Requirements

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Unit Code and Title	**OU-RMGT-SMM-03-L2-V1: Trouble Shoot the Common Issues of Sewing Machine**
Unit Descriptor	This unit covers the knowledge, skills, and attitudes required to Perform dyeing machine maintenance. It specifically includes preparing for work, checking and identifying stitching defect, performing trouble shooting, trouble shooting in electrical issues and maintaining workplace cleanliness and storing tools.
Nominal Hours	**75 Hours**
Elements of Competency	**Performance Criteria** **Bold and Underlined** terms are elaborated in the Range of Variables.
1. Prepare for work	1.1 **Personal Protective Equipment (PPE)** is collected and worn as per job requirement 1.2 Occupational Health and Safety is followed as required 1.3 All safety requirements/regulations are adhered before, during and after work 1.4 Necessary **materials** are identified and collected as per job requirement 1.5 Required **tools and equipmen**t are identified and collected as per job requirement.
2. Check and identify Stitching defect	2.1 **Common machine related issues** are checked and idendtified that affect stitching 2.2 **Stitching defects** are checked and identified as per standard operating procedure 2.3 **Causes of stitching defects** are identified as per standard operating procedure.
3. Perform trouble shooting of mechanical issues	3.1 Faulty parts are dismantled as per manufacturer's manual 3.2 Spare parts are collected for replacement of damage parts as per specification 3.3 **Corrective maintenance** is performed as per standard procedure 3.4 required adjustments are made in the machine settings to ensure stitching quality 3.5 Machine is checked for smooth functioning 3.6 Maintenance records are updated as required as per **maintenance schedule** 3.7 Damage parts are returned to store as per workplace procedure 3.8 Maintenance report is prepared as per job requirement.

4. Trouble Shoot Electrical and electronics issues	4.1 **Electrical and electronics components and circuit** are chedked for functioning as per workplace procedure 4.2 **Defects of electrical components and circuit** are identified 4.3 Defective components and circuit are repaired and replaced following the standard operating procedure 4.4 Once the issue is resolved, reassemble any components that were removed or disassembled 4.5 Components and circuit are teced again to confirm that the problem is solved 4.6 Record of the symptoms, diagnosis, and repairs made are kept for future reference. And report to the designated authority.
5. Maintain workplace cleanliness and store tools	7.1 Work area is cleaned in accordance with workplace procedure. 7.2 Waste materials are disposed as per workplace procedure 7.3 Tools are cleaned and stored safely in appropriate location.
Range of Variables	
Variables	**Range** (may include but not limited to):
1. Personal Protective Equipment (PPE)	1.1 Apron 1.2 Mask 1.3 Gloves 1.4 Cap 1.5 Safety shoes
2. Materials	2.1 Thread 2.2 Cotton waste 2.3 Oil 2.4 Needle 2.5 WD 40 Spray/Contact cleaner 2.6 Emery paper 320 grade
3. Tools and Equipment	3.1 Hand blower 3.2 Tweezer 3.3 Thread cutter 3.4 Different types of screwdrivers 3.5 Allen key set 3.6 Pliers 3.7 Open ended wrench 3.8 Socket wrench 3.9 Measuring tape 3.10 Scissor

4. Common machine related issues	4.1 Thread bunching or birdnesting 4.2 Needle breakage 4.3 Thread breaking 4.4 Oil marked 4.5 Machine not sewing 4.6 Tension problems (too tight or too loose) 4.7 Thread tangling or knots in bobbin area 4.8 Machine jamming 4.9 Sewing machine makes noise 4.10 Fabric jamming or pulling 4.11 Machine sticking or stopping mid-stitch 4.12 Bobbin case problems (unraveling or misalignment) 4.13 Needle not moving up and down 4.14 Presser foot not lifting properly 4.15 Sewing machine overheating 4.16 Incorrect threading of the machine 4.17 Foot pedal not responding 4.18 Stitch length or width not adjusting 4.19 Sewing machine not moving the fabric (feed dogs not engaging) 4.20 Thread looping under fabric 4.21 Machine is not feeding fabric properly 4.22 Sewing machine not turning on
5. Stitching defects	5.1 Uneven Stitching or Wavy Seams 5.2 Gathering stitch 5.3 Puckering stitch 5.4 Gap/skip stitch/drop stitch 5.5 Down stitch 5.6 Loose stitch 5.7 Jam stitch 5.8 Broken stitch
6. Causes of stitching defects	6.1 Presser foot improper adjustment 6.2 Feed dog improper adjustment 6.3 Wrong threading 6.4 Tension post improper adjustment 6.5 Needle and rotery hook improper timming 6.6 Needle bar improper timming 6.7 Needle improper fixing 6.8 Improper thread winding on bobbin 6.9 Lopper improper adjustment 6.10 Thread guides improper adjustment 6.11 Needles are not attached as per machine requirement

7. Correctve maintenance	2.1 Adjust presser foot Properly 2.2 adjust Feed dog properly 2.3 threading sequentially 2.4 adjust Tension post properly 2.5 Timing Needle and rotery hook properly 2.6 Timing Needle bar properly 2.7 Fix the Needle properly 2.8 wind thread on bobbin properly 2.9 Adjust Lopper properly 2.10 Adjust Thread guide properly 2.11 Thread change 2.12 Lopper properly adjustment 2.13 Thread guide improperly adjustment 2.14 Set correct needles
8. Maintenance schedule	8.1 Daily 8.2 Weekly 8.3 Fortnightly 8.4 Monthly
9. Electrical and electronics components and circuit	9.1 Circuit Breaker 9.2 Outlet or Switch 9.3 Socket and Plug 9.4 Electrical Wiring 9.5 Grounding 9.6 Electrical motor 9.7 Motor switch 9.8 Electrical wire 9.9 Fuse 9.10 Machine sensors
10. Defects of electrical and electronincs components and circuit	10.1 Short Circuits 10.2 Ground Faults 10.3 Fuse wire cut 10.4 Defective cable 10.5 Reverse rotation of motor 10.6 Loose connection 10.7 Open circuit 10.8 Overloaded Circuit 10.9 Overheated Components 10.10 Faulty Circuit Breakers 10.11 Faulty Fuses 10.12 Ground Fault 10.13 Burnt or Melted Insulation 10.14 Damaged or Defective Outlets 10.15 Component Failures (Capacitors)

	10.16 Inadequate Grounding 10.17 Loose or Faulty Switches 10.18 Electrical Noise or Interference
Evidence Guide The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.	
1. Critical aspects of competency	Assessment required evidence that the candidate: 1.1 followed OSH 1.2 checked and identified stitching defect 1.3 performed trouble shooting of mechanical issues 1.4 identified common machine related issues 1.5 identified causes of stitching defects 1.6 performed correctve maintenance 1.7 fullowed maintenance schedule 1.8 identified defects of electrical and electronincs components and circuit 1.9 maintained workplace cleanliness and store tools
2. Underpinning knowledge	2.1 Personal Protective Equipment (PPE) 2.2 Safe handling of tools and equipment 2.3 Materials 2.4 Common machine related issues 2.5 Causes of stitching defects 2.6 Basic electricity 2.7 Electrical and electronics components and circuit 2.8 Defects of electrical components and circuit 2.9 Electrical faults finding procedure 2.10 Uses of machine wise needles 2.11 Functions of the different types of sewing machine 2.12 Maintenance schedule and checklist 2.13 Maintenance reporting procedure 2.14 Correctve maintenance
3. Underpinning skills	3.1 Following OSH 3.2 Handling tools and equipment 3.3 Explaining functions of the sewing machine 3.4 Identifying defects of sewing 3.5 Identifying common machine related issues 3.6 Identifying causes of sewing defect 3.7 Identifying electrical faults 3.8 Carrying out sewing machine maintenance 3.9 Preparing maintenance reports

4. Underpinning attitudes	4.1 Commitment to occupational health and safety 4.2 Promptness in carrying out activities 4.3 Sincere & honest to duties 4.4 Environmental concerns 4.5 Eagerness to learn 4.6 Tidiness & timeliness 4.7 Respect for rights of peers and seniors 4.8 Communication with peers and seniors at workplace
5. Resource implications	5.1 Personal Protective Equipment (PPE) 5.2 Tools and equipment 5.3 Sewing machineries 5.4 Sewing machine parts 5.5 Adequate workplaces 5.6 Materials for proposed activities 5.7 Information and documentation 5.8 Manual, drawings, sketches, standards
6. Methods of assessment	Methods of assessment may include but not limited to: 6.1 Written test 6.2 Demonstration 6.3 Oral Questioning 6.4 Portfolio
7. Context of assessment	7.1 Competency assessment must be done in a training center or in an actual or simulated workplace after completion of the training module. 7.2 Assessment should be done by a NSDA certified/nominated assessor

Accreditation Requirements

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Unit Code and Title	**OU-RMGT-SMMP-04-L2-V1: Perform Preventive and Corrective Maintenance of Single Needle Lock Stitch Machine**
Unit Descriptor	This unit covers the knowledge, skills, and attitudes required to Perform maintenance of single needle lock stitch machine. It specifically includes preparing for work, identifying parts of single needle lock stitich machine, checking and identifying stitching and machine faults, maintaining preventive schedule, carrying out corrective maintenance, and maintaining workplace cleanliness and storing tools.
Nominal Hours	45 hours
Elements of Competency	**Performance Criteria** **Bold and Underlined** terms are elaborated in the Range of Variables.
1. Prepare for work	1.1 **Personal Protective Equipment (PPE)** is collected and worn as per job requirement 1.2 Occupational Safety and Health is followed as required. 1.3 All safety requirements/regulations are adhered before, during and after work 1.4 Necessary **materials** are identified and collected as per job requirement 1.5 Required **tools and equipment** are identified and collected as per job requirement.
2. Identify parts of single needle lock stitch machine	2.1 Origin, brand, model and needle of the machine is identified 2.2 **Single needle lock stitch machine parts** are identified 2.3 Functions of different parts of machine are explained 2.4 Control panel of single needle lock stitch machine is identified.
3. Check and identify stitching and machine faults	3.1 The operational function of each component is inspected and checked as per standard procedure 3.2 Correct operation of each component is assessed against standard operation 3.3 Malfunction is identified by testing as per standard procedure 3.4 machine is checked and identified **machine faults** that affect stitching 3.5 **Stitching defects** are checked and identified as per standard operating procedure.
4. Maintain preventive schedule	4.1 **Maintenance schedule** is interpreted as required 4.2 Lubricants are selected and used as required

	4.3 **Preventive machine maintenance checklist** is collected as per job requirement 4.4 preventive maintenance is carried out as per schedule 4.5 Machine is checked for smooth functioning 4.6 Maintenance records are updated as required.
5. Carry out corrective maintenance	5.1 Faulty parts are dismantled as per manufacturer's manual 5.2 Spare parts are collected for replacement of damage parts as per specification 5.3 **Corrective maintenance** is performed as per standard procedure 5.4 Machine is checked for smooth functioning 5.5 Damage parts are returned to store as per workplace procedure 5.6 Maintenance report is prepared as per requirement.
6. Maintain workplace cleanliness and store tools	6.1 Work area is cleaned in accordance with workplace procedure 6.2 Waste materials are disposed as per workplace procedure 6.3 Tools are cleaned and stored safely in appropriate location.
Range of Variables	
Variables	**Range** (may include but not limited to):
1. Personal Protective Equipment (PPE)	1.1 Apron 1.2 Mask 1.3 Gloves 1.4 Cap 1.5 Safety shoes
2. Materials	2.1 Thread 2.2 Cotton waste 2.3 Oil 2.4 Needle 2.5 WD 40 Spray/Contact cleaner
3. Tools and Equipment	3.1 Single needle lockstitch machine 3.2 Hand blower 3.3 Tweezer 3.4 Thread cutter 3.5 Different types of screwdrivers 3.6 Allen key set 3.7 Pliers 3.8 Open ended wrench 3.9 Socket wrench 3.10 Measuring tape 3.11 Scissor
4. single needle lock stitch machineries	4.1 Manual Single needle lock stitch machine 4.2 PLC Single needle lock stitch machine

5. single needle lock stitch machine parts	5.1 Presser Foot 5.2 Pressure foot drive bar 5.3 Pressure spring 5.4 Pressure foot adjusting screw 5.5 Pressure foot rod 5.6 Pressure foot holder 5.7 Feed dog 5.8 Needle bar 5.9 Bobbin and Bobbin Case 5.10 Bobbin Winder 5.11 Tension post Assembly 5.12 Take-up Lever 5.13 Stitch Selector/Control/Stitch length regulator 5.14 Throat Plate /Needle Plate 5.15 Reverse Lever/Back stitch leve 5.16 Rotary Hook 5.17 Positioning Finger 5.18 Oil Pump 5.19 Slide Plate 5.20 Hand lifter 5.21 Knee lifter
6. Machine faults	6.1 Thread bunching or birdnesting 6.2 Needle breakage 6.3 Skipped stitches 6.4 Machine not sewing 6.5 Tension problems (too tight or too loose) 6.6 Thread tangling or knots in bobbin area 6.7 Thread breaking 6.8 Machine jamming 6.9 Uneven stitching or wavy seams 6.10 Sewing machine makes noise 6.11 Fabric jamming or pulling 6.12 Machine sticking or stopping mid-stitch 6.13 Bobbin case problems (unraveling or misalignment) 6.14 Needle not moving up and down 6.15 Presser foot not lifting properly 6.16 Machine skipping stitches when sewing thick fabric 6.17 Sewing machine overheating 6.18 Incorrect threading of the machine 6.19 Foot pedal not responding 6.20 Stitch length or width not adjusting 6.21 Sewing machine not moving the fabric (feed dogs not engaging)

	6.22 Thread looping under fabric 6.23 Machine is not feeding fabric properly 6.24 Sewing machine not turning on 6.25 Broken stitch 6.26 Gathering stitch 6.27 Pukering stitch 6.28 Improper rotary hook timing
7. Stitching defects	7.1 Uneven Stitching or Wavy Seams 7.2 Gathering stitch 7.3 Puckering stitch 7.4 Gap/skip stitch/drop stitch 7.5 Down stitch 7.6 Loose stitch 7.7 Jam stitch 7.8 Broken stitch
8. Maintenance schedule	8.1 Daily 8.2 Weekly 8.3 Monthly 8.4 Quarterly
9. Preventive machine maintenance checklists	9.1 Cleaning points 9.2 oil points 9.3 Gauge check Belt alignment check 9.4 Bearing check 9.5 Pulley check 9.6 Tension check 9.7 Tightness check 9.8 Sound and vibration check 9.9 Oil check
10. Corrective maintenance	8.1 Bearing change 8.2 Belt change 8.3 Shaft repairing 8.4 Switch change 8.5 Gasket change 8.6 Motor rewinding 8.7 Pully repairing/change 8.8 Adjust presser foot 8.9 adjust Feed dog 8.10 threading sequentially 8.11 adjust Tension post 8.12 Timing Needle and rotery hook 8.13 Timing Needle bar 8.14 Fix the Needle 8.15 wind thread on bobbin

	8.16 Adjust Thread guide
Evidence Guide The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.	
1. Critical aspects of competency	Assessment required evidence that the candidate: 1.1 followed osh at workplace 1.2 interpreted functions of single needle lockstitch machine 1.3 identified parts of single needle lockstitch machine 1.4 maintained preventive schedule of single needle lockstitch machine 1.5 carried out corrective maintenance of single needle lockstitch machine 1.6 maintained workplace cleanliness and stored tools
2. Underpinning knowledge	2.1 OSH and its importance 2.2 Hazard and types of hazard 2.3 Safe handling of tools and equipment 2.4 Machine and needle name, origin, brand and model 2.5 List of machine parts and their functions 2.6 Maintenance schedule and checklist 2.7 Maintenance reporting procedure 2.8 Preventive maintenance 2.9 Corrective maintenance
3. Underpinning skills	3.1 Following OSH 3.2 Handling tools and equipment 3.3 interpreting functions of the machine 3.4 Identifying stitching and machine faults 3.5 Carrying out preventive machine maintenance 3.6 Carrying out corrective maintenance 3.7 Checking single needle lockstitch machine for smooth funtioning
4. Underpinning attitudes	4.1 Commitment to occupational health and safety 4.2 Promptness in carrying out activities 4.3 Sincere & honest to duties 4.4 Environmental concerns 4.5 Eagerness to learn 4.6 Tidiness & timeliness 4.7 Respect for rights of peers and seniors 4.8 Communication with peers and seniors at workplace

5. Resource implications	5.1 Personal Protective Equipment (PPE) 5.2 Tools and equipment 5.3 Single need lock stitch Sewing machine 5.4 Adequate workplaces 5.5 Materials for proposed activities 5.6 Information and documentation 5.7 Manual, drawing, sketched, Standards and reference materials
6. Methods of assessment	Methods of assessment may include but not limited to: 6.1 Written test 6.2 Demonstration 6.3 Oral questioning 6.4 Portfolio
7. Context of assessment	7.1 Competency assessment must be done in a training center or in an actual or simulated workplace after completion of the training module. 7.2 Assessment should be done by a NSDA certified/nominated assessor

Accreditation Requirements

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Unit Code and Title	**OU-RMGT-SMM-05-L2-V1: Perform Preventive and Corrective Maintenance of Double Needle Lock Stitch Machine**
Unit Descriptor	This unit covers the knowledge, skills, and attitudes required to Perform preventive and corrective maintenance of double needle lock stitch machine. It specifically includes preparing for work, identifying parts of double needle lock stitich machine, checking and identifying stitching and machine faults, maintaining preventive schedule, carrying out corrective maintenance, and maintaining workplace cleanliness and storing tools.
Nominal Hours	**30 hours**
Elements of Competency	**Performance Criteria** **Bold and Underlined** terms are elaborated in the Range of Variables.
1. Prepare for work	1.1 **Personal Protective Equipment (PPE)** is collected and worn as per job requirement 1.2 Occupational Health and Safety is followed as required. 1.3 All safety requirements/regulations are adheredbefore, during and after use 1.4 Necessary **materials** are identified and collected as per job requirement 1.5 Required **tools and equipment** are identified and collected as per job requirement.
2. Identify parts of double needle lock stitch machine	2.1 Origin, brand, model and needle of the machine is identified. 2.2 **double needle lock stitch machine parts** are identified 2.3 Functions of different parts of machine are explained. 2.4 Control panel of double needle lock stitch machine is identified.
3. Check and identify stitching and machine faults	3.1 The operational function of each component is inspected and checked as per standard procedure 3.2 Correct operation of each component is assessed against standard operation 3.3 System is visually inspected and listed the identified faults 3.4 Malfunction is identified by inspection/test testing, procedures and safety requirements 3.5 Faulty parts are identified on the basis of checking.

4. Maintain preventive schedule	4.1 **Maintenance schedule** is interpreted as required 4.2 Lubricants are selected and used as required 4.3 **Preventive machine maintenance checklist** is collected as per job requirement 4.4 preventive maintenance is carried out as per schedule 4.5 Machine is checked for smooth functioning 4.6 Maintenance records are updated as required.
5. Carry out corrective maintenance	5.1 Faulty parts are dismantled as per manufacturer's manual 5.2 Spare parts are collected for replacement of damage parts as per specification 5.3 **Corrective maintenance** is performed as per standard procedure 5.4 Machine is checked for smooth functioning 5.5 Damage parts are returned to store as per job requirement 5.6 Maintenance report is prepared as per requirement.
6. Maintain workplace cleanliness and store tools	6.1 Work area is cleaned in accordance with workplace procedure 6.2 Waste materials are disposed as per workplace procedure 6.3 Tools are cleaned and stored safely in appropriate location.
Range of Variables	
Variables	**Range** (may include but not limited to):
1. Personal Protective Equipment (PPE)	1.1 Apron 1.2 Mask 1.3 Gloves 1.4 Cap 1.5 Safety shoes
2. Materials	2.1 Thread 2.2 Cotton waste 2.3 Oil 2.4 Needle 2.5 WD 40 Spray/Contact cleaner
3. Tools and Equipment	3.1 Double needle lockstitch machine 3.2 Hand blower 3.3 Tweezer 3.4 Thread cutter 3.5 Different types of screwdrivers 3.6 Allen key set 3.7 Pliers 3.8 Open ended wrench 3.9 Socket wrench 3.10 Measuring tape 3.11 Scissor

4. Double needle lock stitch machineries	4.1 Manual Double needle lock stitch machine 4.2 PLC Double needle lock stitch machine
5. Double needle lock stitch machine parts	5.1 Presser Foot 5.2 Pressure foot drive bar 5.3 Pressure spring 5.4 Pressure foot adjusting screw 5.5 Pressure foot rod 5.6 Pressure foot holder 5.7 Feed Dog 5.8 Needle Bar 5.9 Bobbin 5.10 Bobbin Winder 5.11 Tension post Assembly 5.12 Take-up Lever 5.13 Stitch Selector/Control/Stitch length regulator 5.14 Throat Plate /Needle Plate 5.15 Reverse Lever/Back stitch level 5.16 Rotary Hook 5.17 Positioning Finger 5.18 Oil Pump 5.19 Slide Plate 5.20 Hand lifter 5.21 Knee lifter 5.22 Gauge set/Attachment set (Needle clamp, Presser foot, Needle plate, Feed dog)
6. Machine faults	6.1 Thread bunching or birdnesting 6.2 Needle breakage 6.3 Skipped stitches 6.4 Machine not sewing 6.5 Tension problems (too tight or too loose) 6.6 Thread tangling or knots in bobbin area 6.7 Thread breaking 6.8 Machine jamming 6.9 Uneven stitching or wavy seams 6.10 Sewing machine makes noise 6.11 Fabric jamming or pulling 6.12 Machine sticking or stopping mid-stitch 6.13 Bobbin case problems (unraveling or misalignment) 6.14 Needle not moving up and down 6.15 Presser foot not lifting properly 6.16 Machine skipping stitches when sewing thick fabric 6.17 Sewing machine overheating

	6.18 Incorrect threading of the machine 6.19 Foot pedal not responding 6.20 Stitch length or width not adjusting 6.21 Sewing machine not moving the fabric (feed dogs not engaging) 6.22 Thread looping under fabric 6.23 Machine is not feeding fabric properly 6.24 Sewing machine not turning on 6.25 Broken stitch 6.26 Gathering stitch 6.27 Pukering stitch 6.28 Improper rotary hook timing
7. Stitching defects	7.1 Uneven Stitching or Wavy Seams 7.2 Gathering stitch 7.3 Puckering stitch 7.4 Gap/skip stitch/drop stitch 7.5 Down stitch 7.6 Loose stitch 7.7 Jam stitch 7.8 Broken stitch
8. Maintenance schedule	8.1 Daily 8.2 Weekly 8.3 Monthly 8.4 Quarterly
9. Preventive machine maintenance checklists	9.1 Cleaning points 9.2 Oil points 9.3 Gauge check Belt alignment check 9.4 Bearing check 9.5 Pulley check 9.6 Tension check 9.7 Tightness check 9.8 Sound and vibration check 9.9 Oil check 9.10 Gauge set/Attachment set
10. Corrective maintenance	10.1 Bearing change 10.2 Belt change 10.3 Shaft repairing 10.4 Switch change 10.5 Gasket change 10.6 Motor rewinding 10.7 Pully repairing/change 10.8 Adjust presser foot 10.9 Adjust Feed dog

	10.10 Threading sequentially 10.11 Adjust Tension post 10.12 Timing Needle and rotary hook 10.13 Timing Needle bar 10.14 Fix the Needle 10.15 Wind thread on bobbin 10.16 Adjust Thread guide 10.17 Gauge set/Attachment set
Evidence Guide The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.	
1. Critical aspects of competency	Assessment required evidence that the candidate: 1.1 followed OSH at workplace 1.2 interpreted functions double needle lockstitch machine 1.3 identified parts of double needle lockstitch machine 1.4 identified machine faults 1.5 identified stitching defects 1.6 maintained preventive schedule of double needle lockstitch machine 1.7 carried out corrective maintenance of double needle lockstitch machine 1.8 maintained workplace cleanliness and stored tools.
2. Underpinning knowledge	2.1 Safe handling of tools and equipment 2.2 Machine and needle name, origin, brand and model 2.3 List of machine parts and their functions 2.4 Types of gauge sets 2.5 Finctions of gauge sets 2.6 Maintenance schedule and checklist 2.7 Maintenance reporting procedure 2.8 Preventive maintenance 2.9 Corrective maintenance.
3. Underpinning skills	3.1 Following OSH 3.2 Handling tools and equipment 3.3 Interpreting functions of the machine 3.4 Identifying stitching and machine faults 3.5 Carrying out preventive machine maintenance 3.6 Carrying out corrective machine maintenance 3.7 Checking double needle lockstitch machine for smooth operation.
4. Underpinning attitudes	4.1 Commitment to occupational health and safety 4.2 Promptness in carrying out activities 4.3 Sincere & honest to duties 4.4 Environmental concerns

	4.5 Eagerness to learn 4.6 Tidiness & timeliness 4.7 Respect for rights of peers and seniors 4.8 Communication with peers and seniors at workplace
5. Resource implications	5.1 Personal Protective Equipment (PPE) 5.2 Tools and equipment 5.3 Double needle lock stitch Sewing machine 5.4 Adequate workplaces 5.5 Materials for proposed activities 5.6 Information and documentation 5.7 Manual, drawing, sketched, Standards and reference materials.
6. Methods of assessment	Methods of assessment may include but not limited to: 6.1. Written test 6.2. Demonstration 6.3. Oral questioning 6.4. Portfolio
7. Context of assessment	7.1 Competency assessment must be done in a training center or in an actual or simulated workplace after completion of the training module. 7.2 Assessment should be done by a NSDA certified/nominated assessor

Accreditation Requirements

Training Providers must be accredited by National Skills Development Authority (NSDA), the National Quality Assurance Body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of qualification under BNQF. Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by NSDA.

Unit Code and Title	**OU-RMGT-SMM-06-L2-V1: Perform Preventive and Corrective Maintenance of Over lock Machine**
Unit Descriptor	This unit covers the knowledge, skills, and attitudes required to Perform preventive and corrective maintenance of over lock machine. It specifically includes preparing for work, identifying parts of over lock machine, checking and identifying stitching and machine faults, maintaining preventive schedule, carrying out corrective maintenance, and maintaining workplace cleanliness and storing tools.
Nominal Hours	**45 hours**
Elements of Competency	**Performance Criteria** **Bold and Underlined** terms are elaborated in the Range of Variables.
1. Prepare for work	1.1 **Personal Protective Equipment (PPE)** is collected and worn as per job requirement. 1.2 Occupational Health and Safety is followed as required. 1.3 All safety requirements/regulations are adheredbefore, during and after use. 1.4 Necessary **materials** are identified and collected as per job requirement. 1.5 Required **tools and equipment** are identified and collected as per job requirement
2. Identify parts of overlock machine	2.1 Origin, brand, model and needle of the machine is identified. 2.2 **Over lock machine parts** are identified. 2.3 Functions of different parts of machine are interpreted.
3. Check and identify stitching and machine faults	3.1 The operational function of each component is inspected and checked as per standard procedure 3.2 Correct operation of each component is assessed against standard operation 3.3 System is visually inspected and listed the identified faults. 3.4 Malfunction is identified by inspection/test testing, procedures and safety requirements. 3.5 Faulty parts are identified on the basis of checking
4. Maintain preventive schedule	4.1 **Maintenance schedule** is interpreted as required 4.2 Lubricants are selected and used as required. 4.3 **Preventive machine maintenance checklist** is collected as per job requirement. 4.4 preventive maintenance is carried out as per schedule 4.5 Machine is checked for smooth functioning 4.6 Maintenance records are updated as required.

5. Carry out corrective maintenance	5.1 Faulty parts are dismantled as per manufacturer's manual 5.2 Spare parts are collected for replacement of damage parts as per specification 5.3 **Corrective maintenance** is performed as per standard procedure. 5.4 Machine is checked for smooth functioning 5.5 Damage parts are returned to store as per workplace procedure 5.6 Maintenance report is prepared as per requirement.
6. Maintain workplace cleanliness and store tools	6.1 Work area is cleaned in accordance with workplace procedure. 6.2 Waste materials are disposed as per workplace procedure 6.3 Tools are cleaned and stored safely in appropriate location.
Range of Variables	
Variables	**Range** (may include but not limited to):
1. Personal Protective Equipment (PPE)	1.1 Apron 1.2 Mask 1.3 Gloves 1.4 Cap 1.5 Safety shoes
2. Materials	2.1 Thread 2.2 Cotton waste 2.3 Oil 2.4 Needle 2.5 WD 40 Spray/Contact cleaner
3. Tools and Equipment	3.1 Four Thread over lock machine 3.2 Five Fhread over lock machine 3.3 Hand blower 3.4 Tweezer 3.5 Thread cutter 3.6 Different types of screwdrivers 3.7 Allen key set 3.8 Pliers 3.9 Open ended wrench 3.10 Socket wrench 3.11 Measuring tape 3.12 Scissor
4. Over lock machineries	4.1 Four Thread over lock machine 4.2 Five Thread over lock machine

5. Over lock machine parts	5.1 Needle 5.2 Presser Foot 5.3 Pressure foot drive bar 5.4 Pressure spring 5.5 Pressure foot adjusting screw 5.6 Feed Dog ▪ Main feed dog ▪ Auxiliary feed dog ▪ Diferential feed dog 5.7 Needle Bar 5.8 Tension post Assembly 5.9 Take-up Lever 5.10 Stitch counter 5.11 Throat Plate /Needle Plate 5.12 Lopper ▪ Upper lopper ▪ Lower lopper ▪ Chain stitch lopper 5.13 Looper holder 5.14 Knife ▪ Uper knife ▪ Lower knife 5.15 Knife holder 5.16 Oil Pump 5.17 Slide cover 5.18 Hand lifter 5.19 Gauge set/Attachment set (Needle clamp, Presser foot, Needle plate, Feed dog)
6. Machine faults	6.1 Thread bunching or birdnesting 6.2 Needle breakage 6.3 Skipped stitches 6.4 Machine not sewing 6.5 Tension problems (too tight or too loose) 6.6 Thread tangling or knots in bobbin area 6.7 Thread breaking 6.8 Machine jamming 6.9 Uneven stitching or wavy seams 6.10 Sewing machine makes noise 6.11 Fabric jamming or pulling 6.12 Machine sticking or stopping mid-stitch 6.13 Bobbin case problems (unraveling or misalignment) 6.14 Needle not moving up and down 6.15 Presser foot not lifting properly 6.16 Machine skipping stitches when sewing thick fabric 6.17 Sewing machine overheating 6.18 Incorrect threading of the machine

	6.19 Foot pedal not responding 6.20 Stitch length or width not adjusting 6.21 Sewing machine not moving the fabric (feed dogs not engaging) 6.22 Thread looping under fabric 6.23 Machine is not feeding fabric properly 6.24 Sewing machine not turning on 6.25 Broken stitch 6.26 Gathering stitch 6.27 Pukering stitch 6.28 Improper Looper timing 6.29 Male adjustment of knife 6.30 Improper looper thread cam timing
7. Stitching defects	7.1 Uneven Stitching or Wavy Seams 7.2 Gathering stitch 7.3 Puckering stitch 7.4 Gap/skip stitch/drop stitch 7.5 Down stitch 7.6 Loose stitch 7.7 Jam stitch 7.8 Broken stitch
8. Maintenance schedule	8.1 Daily 8.2 Weekly 8.3 Monthly 8.4 Quarterly
9. Preventive machine maintenance checklists	9.1 Cleaning points 9.2 Oil points 9.3 Gauge check Belt alignment check 9.4 Bearing check 9.5 Pulley check 9.6 Tension check 9.7 Tightness check 9.8 Sound and vibration check 9.9 Oil check 9.10 Gauge set/Attachment set 9.11 Needle guard 9.12 Eye guard 9.13 Motor pully cover 9.14 Padel mat
10. Corrective maintenance	10.1 Adjust presser foot 10.2 Adjust Feed dog 10.3 Threading sequentially 10.4 Adjust Tension post

	10.5 Timing Needle and lopper 10.6 Timing Needle bar 10.7 Fix the Needle 10.8 Adjust thread guide 10.9 Gauge set/Attachment set 10.10 Changing knife 10.11 Bearing change 10.12 Belt change 10.13 Shaft repairing 10.14 Switch change 10.15 Gasket change 10.16 Motor rewinding 10.17 Pully repairing/change
Evidence Guide The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.	
1. Critical aspects of competency	Assessment required evidence that the candidate: 1.1 followed OSH at workplace 1.2 interpreted functions of over lock machine 1.3 identified parts of over lock machine 1.4 identified machine defect 1.5 identified sewing defects 1.6 maintained preventive schedule of over lock machine 1.7 carried out corrective maintenance of over lock machine 1.8 maintained workplace cleanliness and stored tools
2. Underpinning knowledge	2.1 Safe handling of tools and equipment 2.2 Machine and needle name, origin, brand and model 2.3 List of machine parts and their functions 2.4 Type of gauge setting 2.5 Use of gauge setting 2.6 Maintenance schedule and checklist 2.7 Maintenance reporting procedure 2.8 Preventive maintenance 2.9 Corrective maintenance
3. Underpinning skills	3.1 Following OSH 3.2 Handling tools and equipment 3.3 Explaining functions of the main parts of machine 3.4 Identifying stitching and machine faults 3.5 Perform preventive maintenance 3.6 Carrying out corrective maintenance 3.7 Checking machine for smooth functioning

4. Underpinning attitudes	4.1 Commitment to occupational health and safety 4.2 Promptness in carrying out activities 4.3 Sincere & honest to duties 4.4 Environmental concerns 4.5 Eagerness to learn 4.6 Tidiness & timeliness 4.7 Respect for rights of peers and seniors 4.8 Communication with peers and seniors at workplace
5. Resource implications	5.1 Personal Protective Equipment (PPE) 5.2 Tools and equipment 5.3 over lock Sewing machine 5.4 Adequate workplaces 5.5 Materials for proposed activities 5.6 Information and documentation 5.7 Manual, drawing, sketched, Standards and reference materials
6. Methods of assessment	Methods of assessment may include but not limited to: 6.1 Written test 6.2 Demonstration 6.3 Oral questioning 6.4 Portfolio
7. Context of assessment	7.1 Competency assessment must be done in a training center or in an actual or simulated workplace after completion of the training module. 7.2 Assessment should be done by a NSDA certified/nominated assessor

Accreditation Requirements

Training Providers must be accredited by National Skills Development Authority (NSDA), the National Quality Assurance Body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of qualification under BNQF. Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by NSDA.

Unit Code and Title	OU-RMGT-SMMP-07-L2-V1: Perform Preventive and Corrective Maintenance of Flat Lock Machine
Unit Descriptor	This unit covers the knowledge, skills, and attitudes required to Perform preventive and corrective maintenance of flat lock machine. It specifically includes preparing for work, identifying parts of flat lock machine, checking and identifying stitching and machine faults, maintaining preventive schedule, carrying out corrective maintenance, and maintaining workplace cleanliness and storing tools.
Nominal Hours	**30 hours**
Elements of Competency	**Performance Criteria** **Bold and Underlined** terms are elaborated in the Range of Variables.
1. Prepare for work	1.1 **Personal Protective Equipment (PPE)** is collected and worn as per job requirement. 1.2 Occupational Health and Safety is followed as required. 1.3 All safety requirements/regulations are adheredbefore, during and after use. 1.4 Necessary **materials** are identified and collected as per job requirement. 1.5 Required **tools and equipment** are identified and collected as per job requirement
2. Identify parts of flat lock machine	2.1 Origin, brand, model and needle of the machine is identified. 2.2 **Flat lock machine parts** are identified. 2.3 Functions of different parts of machine are explained.
3. Check and identify stitching and machine faults	3.1 The operational function of each component is inspected and checked as per standard procedure 3.2 Correct operation of each component is assessed against standard operation 3.3 Machine is visually inspected and listed the identified faults. 3.4 Malfunction is identified by testing with safety requirements. 3.5 Faulty parts are identified on the basis of checking
4. Maintain preventive schedule	4.1 **Maintenance schedule** is interpreted as required 4.2 Lubricants are selected and used as required. 4.3 **Preventive machine maintenance checklist** is collected as per instruction. 4.4 preventive maintenance is carried out as per schedule 4.5 Machine is checked for smooth functioning 4.6 Maintenance records are updated as required.

5. Carry out corrective maintenance	5.1 Faulty parts are dismantled as per manufacturer's manual 5.2 Spare parts are collected for replacement of damage parts as per specification 5.3 **Corrective maintenance** is performed as per standard procedure. 5.4 Machine is checked for smooth functioning 5.5 Damage parts are returned to store as per workplace procedure 5.6 Maintenance report is prepared as per requirement.
6. Maintain workplace cleanliness and store tools	6.1 Work area is cleaned in accordance with workplace procedure. 6.2 Waste materials are disposed as per workplace procedure 6.3 Tools are cleaned and stored safely in appropriate location.
Range of Variables	
Variables	**Range** (may include but not limited to):
1. Personal Protective Equipment (PPE)	1.1 Apron 1.2 Mask 1.3 Gloves 1.4 Cap 1.5 Safety shoes
2. Materials	2.1 Thread 2.2 Cotton waste 2.3 Oil 2.4 Needle 2.5 WD 40 Spray/Contact cleaner
3. Tools and Equipment	3.1 Flat lock machine 3.2 Hand blower 3.3 Tweezer 3.4 Thread cutter 3.5 Different types of screwdrivers 3.6 Allen key set 3.7 Pliers 3.8 Open ended wrench 3.9 Socket wrench 3.10 Measuring tape 3.11 Scissor

4. Flat lock machine parts	4.1 Presser Foot 4.2 Pressure foot drive bar 4.3 Pressure spring 4.4 Pressure foot adjusting screw 4.5 Feed Dog ▪ Main feed dog ▪ Diferential feed dog 4.6 Needle Bar 4.7 Tension post Assembly 4.8 Take-up Lever 4.9 Stitch counter 4.10 Throat Plate /Needle Plate 4.11 Needle guard 4.12 Thread stand 4.13 Thread guide 4.14 Lopper 4.15 Looper holder 4.16 Looper thread takeup release cam 4.17 Oil Pump 4.18 Slide cover 4.19 Gauge set/Attachment set
5. Machine faults	5.1 Thread bunching or birdnesting 5.2 Needle breakage 5.3 Skipped stitches 5.4 Machine not sewing 5.5 Tension problems (too tight or too loose) 5.6 Thread tangling or knots in bobbin area 5.7 Thread breaking 5.8 Machine jamming 5.9 Uneven stitching or wavy seams 5.10 Sewing machine makes noise 5.11 Fabric jamming or pulling 5.12 Machine sticking or stopping mid-stitch 5.13 Bobbin case problems (unraveling or misalignment) 5.14 Needle not moving up and down 5.15 Presser foot not lifting properly 5.16 Machine skipping stitches when sewing thick fabric 5.17 Sewing machine overheating 5.18 Incorrect threading of the machine 5.19 Foot pedal not responding 5.20 Stitch length or width not adjusting 5.21 Sewing machine not moving the fabric (feed dogs not engaging) 5.22 Thread looping under fabric 5.23 Machine is not feeding fabric properly 5.24 Sewing machine not turning on

	5.25 Broken stitch 5.26 Gathering stitch 5.27 Pukering stitch 5.28 Improper Looper timing 5.29 Male adjustment of knife 5.30 Improper looper thread cam timing 5.31 Spreader skiping
6. Stitching defects	6.1 Uneven Stitching or Wavy Seams 6.2 Gathering stitch 6.3 Puckering stitch 6.4 Gap/skip stitch/drop stitch 6.5 Down stitch 6.6 Loose stitch 6.7 Jam stitch 6.8 Broken stitch
7. Maintenance schedule	7.1 Daily 7.2 Weekly 7.3 Monthly 7.4 Quarterly
8. Preventive machine maintenance checklists	8.1 Cleaning points 8.2 Oil points 8.3 Gauge check 8.4 Belt alignment check 8.5 Bearing check 8.6 Pulley check 8.7 Tension check 8.8 Tightness check 8.9 Sound and vibration check 8.10 Oil check 8.11 Gauge set/Attachment set 8.12 Needle guard 8.13 Eye guard 8.14 Motor pully cover 8.15 Padel mat
9. Corrective maintenance	9.1 Belt change 9.2 Switch change 9.3 Gasket change 9.4 Motor rewinding 9.5 Pully repairing/change 9.6 Adjust presser foot 9.7 Adjust Feed dog 9.8 Threading sequentially 9.9 Adjust Tension post 9.10 Timing Needle and lopper

	9.11 Timing Needle bar 9.12 Fix the Needle 9.13 Adjust thread guide 9.14 Gauge set/Attachment set ▪ F-Set ▪ D-Set
Evidence Guide The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.	
1. Critical aspects of competency	Assessment required evidence that the candidate: 1.1 followed OSH at workplace 1.2 interpreted functions of flat lock machine 1.3 identified parts of flat lock machine 1.4 identified machine defects 1.5 identified sewing defects 1.6 maintained preventive schedule of flat lock machine 1.7 carried out corrective maintenance of flat lock machine 1.8 maintained workplace cleanliness and stored tools
2. Underpinning knowledge	2.1 Safe handling of tools and equipment 2.2 Machine and needle name, origin, brand and model 2.3 List of machine parts and their functions 2.4 Use of Gauge set/Attachment set 2.5 Maintenance schedule and checklist 2.6 Maintenance reporting procedure 2.7 Preventive maintenance 2.8 Corrective maintenance
3. Underpinning skills	3.1 Following OSH 3.2 Handling tools and equipment 3.3 Explaining functions of the main parts of machine 3.4 Identifying stitching and machine faults 3.5 Performing preventive maintenance 3.6 Carrying out corrective maintenance 3.7 Checking machine for smooth functioning
4. Underpinning attitudes	4.1 Commitment to occupational health and safety 4.2 Promptness in carrying out activities 4.3 Sincere & honest to duties 4.4 Environmental concerns 4.5 Eagerness to learn 4.6 Tidiness & timeliness 4.7 Respect for rights of peers and seniors 4.8 Communication with peers and seniors at workplace

5. Resource implications	5.1 Personal Protective Equipment (PPE) 5.2 Tools and equipment 5.3 Flat lock machine 5.4 Adequate workplaces 5.5 Materials for proposed activities 5.6 Information and documentation 5.7 Manual, drawing, sketched, Standards and reference materials
6. Methods of assessment	Methods of assessment may include but not limited to: 6.1. Written test 6.2. Demonstration 6.3. Oral questioning 6.4. Portfolio
7. Context of assessment	7.1 Competency assessment must be done in a training center or in an actual or simulated workplace after completion of the training module. 7.2 Assessment should be done by a NSDA certified/nominated assessor

Accreditation Requirements

Training Providers must be accredited by National Skills Development Authority (NSDA), the National Quality Assurance Body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of qualification under BNQF. Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by NSDA.

Reference: National Occupational Standard on Sewing Machine Maintenance, NSDC, India

Development of Competency Standard

The Competency Standards for National Skills Certificate Level-2 in **Sewing Machine Maintenance** is Developed by NSDA on 19, 20, 21 and 24 November, 2024.

List of Members of Development Workshop:

Sl. No.	Name and Designation	Institution Address	Mobile and E-mail	Signature
1.	Md. Abdur Rakib Director	Inspire Fashion, Joydebpur, Gazipur Dhaka	Mobile: 01717043249 Email: rakib.tvet@gmail.com	
2.	Md. Abu Saleh TVET Specialist (Public Partnership Management)	UCEP Bangladesh Dhaka.	Mobile: 01814485003 Email: abu.saleh1@ucepbd.org	
3.	Md. Monir Hossain, Flour In charge	Louietex manufacturing limited, Shorifpur road,maleker bari, Gazipur,Dhaka	Mobile: 01940667505 Email: mdalaminhossion@gmail.com	
4.	Md. Asifur Rahman Mechanical In charge	Starling Digain Ltd, Sofipur, Gazipur. Dhaka.	Mobile: 01792032711 Email: asif771349@gmail.com	
5.	Md. Monirul Islam Trainer Sewing Machine Maintenance	UCEP Mirpur TVET Institute, Mirpur-2, Dhaka-1216.	Mobile: 01783 489744 Email: monirul.islam1@gmail.com	
6.	Mr. Narayon Chandra Kha Principal in Charge	TTC, Khagrachari	Mobile: 01716135626 Email: khanarayon@gmail.com	
7.	Md. Nazrul Islam Competency Standard Expert	National Skills Development Authority (NSDA)	Mobile: +880 1711 273708 Email: ndewli@yahoo.com	

Validation of Competency Standard

The Competency Standards for National Skills Certificate Level-2 in Sewing Machine Maintenance is Validated by NSDA on 28 November, 2024.

List of members of the validation workshop:

Sl. No.	Name and Address	Position in the committee	Signature
1	**Md. Nasir** Chairman, RMG & Textiles ISC House 39 (6th Floor), Road 15 (Rabindra Sharoni) Sector 3, Uttara, Dhaka-1230 Mobile: 01711527018; e-mail: nasirever@gmail.com	Chairman	
2	**Eng. Abul Hashem** Manager - Maintenance East West Industrial Park. (Garments) Chaydana, National University, Gazipur-1704 Mobile: 01844165092 Email: sabujdas@eastwestindpark.com	Member	
3	**Md. Mohsin** Asst.Manager Technical, Hammem group, Jamgora, Savar, Dhaka Mobile: 01826443350, Email: mohasin3350@gmail.com	Member	
4	**Md. Abu Saleh** TVET Specialist (Public Partnership Management) UCEP, Bangladesh Mobile: 01814485003 Email: abu.saleh1@ucepbd.org	Member	
5	**Md. Monir Hossain,** Flour Incharge Louietex manufacturing limited, Shorifpur road, Gazipur. Mobile: 01940667505 Email: mdalaminhossion@gmail.com	Member	
6	**Md. Zahangir Alam** Mechanical Incharge, Shams Styling Wears Ltd, Hemayetpur, Saver Mobile: 01740191549 Email: zahangir.za97@gmail.com	Member	
7	**Md. Asifur Rahman,** Mechanical Incharge, Starling Digain Ltd, Sofipur, Gazipur. Mobile: 01792032711 Email: asif771349@gmail.com	Member	

8	**Md.Noyon Hussain,** Workshop Owner Masun Enterprise, MiscuSuper Market, Mirpur-1, Dhaka Mobile: 01686181689, Email: shaikhnoyon016@gmail.com	Member	
9	**Md. Nazrul Islam** Competency Standard Expert National Skills Development Authority (NSDA) Mobile: 0 1711 273708 Email: ndewli@yahoo.com	Member	