



# Maintenance Mechanic-Machines

QP Code: AMH/Q1901

Version: 2.0

NSQF Level: 4

Apparel, Madeups & Home Furnishing Sector Skill Council || Flat No. A-312 to A-323, 3rd Floor,  
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## AMH/Q1901: Maintenance Mechanic-Machines

### Brief Job Description

A machine maintenance mechanic is responsible for conducting regular preventive maintenance procedures to ensure the machines are in good condition & function smoothly, as well as trouble shoot machine associated problems and change machine parts as and when required. They also check system functionality by running diagnostic tests

### Personal Attributes

A machine maintenance mechanic should be organized and have good analytical skills. He/she also needs to have good hand-eye coordination and dexterity. He/she should have great understanding of hydraulics, and mechanics and should be able to use various power and hand tools

### Applicable National Occupational Standards (NOS)

#### Compulsory NOS:

1. [AMH/N0102: Maintain workarea, tools and machines and Greening of Job Roles](#)
2. [AMH/N0103: Maintain health, safety and secure work place with Gender and PwD Sensitization](#)
3. [AMH/N1901: Carryout preventive machine maintenance procedures](#)
4. [AMH/N1902: Troubleshoot machine related problems](#)

### Qualification Pack (QP) Parameters

<b>Sector</b>	Apparel
<b>Sub-Sector</b>	Apparel
<b>Occupation</b>	Boutique Operations
<b>Country</b>	India
<b>NSQF Level</b>	4
<b>Aligned to NCO/ISCO/ISIC Code</b>	NCO-2015/7233.1800

<b>Minimum Educational Qualification &amp; Experience</b>	8th Class with 4 Years of experience in relevant field OR 10th Class/I.T.I with 1 Year of experience in relevant field OR 10th Class with 2 Years of experience in relevant field OR Certificate-NSQF ((Level 3) as Sewing Machine Operator) with 2 Years of experience in relevant field
<b>Minimum Level of Education for Training in School</b>	
<b>Pre-Requisite License or Training</b>	Training in Apparel Production/Apparel Manufacturing Technology/Machine Maintenance Procedures preferably
<b>Minimum Job Entry Age</b>	18 Years
<b>Last Reviewed On</b>	30/12/2021
<b>Next Review Date</b>	30/12/2024
<b>Deactivation Date</b>	30/12/2024
<b>NSQC Approval Date</b>	28/03/2022
<b>Version</b>	2.0

## AMH/N0102: .Maintain workarea, tools and machines and Greening of Job Roles

### Description

This unit provides Performance Criteria, Knowledge & Understanding and Skills & Abilities required to organize/ maintain work areas and activities to ensure tools and machines are maintained as per norms

### Scope

The scope covers the following :

- Maintenance of the work area, tools and machines and observe green processes in job roles

### Elements and Performance Criteria

#### *Maintain the workarea, tools and machines and Greening of Job Roles*

To be competent, the user/individual on the job must be able to:

- PC1.** Handle materials, machinery, equipment and tools safely and correctly to maintain a clean and hazard free working area and support adaptation to more environmentally friendly processes
- PC2.** Use correct lifting and handling procedures; and inculcate sustainable consumption practices and offer relevant greening solutions
- PC3.** Use materials efficiently to minimize wastage and dispose off waste safely at the designated location.
- PC4.** Carryout running maintenance and/or cleaning within one's responsibility and agreed schedules
- PC5.** Report any unsafe or damaged equipment and other dangerous occurrences to the authorized personnel
- PC6.** Ensure that the correct machine guards are in place
- PC7.** Work in a comfortable position and maintain correct posture
- PC8.** Use cleaning equipment and methods appropriate for the work to be carried out

### Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** Importance of good health, personal hygiene and duty of care
- KU2.** Importance of safe working practices and code of conduct (COC) and Social Accountability standards followed by the organization/ industry
- KU3.** Limits of your own responsibility
- KU4.** The production process and the specific work activities that relate to the whole process
- KU5.** The line and importance of effective communication with superiors and colleagues
- KU6.** Knowledge about the organization's rules, codes, quality standards, reporting procedures and guidelines (including timekeeping)
- KU7.** The importance of complying with written instructions

- KU8.** Knowledge about equipment operating procedures / manufacturer's instructions
- KU9.** Work instructions and specifications and interpret them accurately
- KU10.** Method to make use of the information detailed in specifications and instructions
- KU11.** Relation between work role and the overall manufacturing process
- KU12.** The importance of taking action when problems are identified
- KU13.** Different ways of minimizing waste
- KU14.** The importance of running maintenance and regular cleaning
- KU15.** Effects of contamination on products i.e., machine oil, dirt
- KU16.** Common faults with equipment and the method to rectify
- KU17.** Maintenance procedures
- KU18.** Hazards likely to be encountered when conducting routine maintenance
- KU19.** Types of cleaning equipment and substances and their use
- KU20.** Safe working practices for cleaning and the method of carrying them out
- KU21.** Making conscious and sustainable decisions for achieving effective and green workplace.

## Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** Write and document appropriate technical forms, job cards, inspection sheets as per the required format of the company
- GS2.** Read and comprehend basic English to interpret indicators in the operating manuals, job cards, visual cards
- GS3.** Read and understand manuals, health and safety instructions, memos, reports, job cards etc.
- GS4.** Speak and communicate effectively with peers and supervisors
- GS5.** Give clear detailed instructions to co-workers, subordinates and others
- GS6.** Use correct technical terms while interacting with supervisor
- GS7.** Take appropriate decisions regarding your responsibilities
- GS8.** Assess for any damaged /faulty component in the concerned machinery and take action accordingly
- GS9.** Evaluate the decision and conduct basic trouble shooting
- GS10.** Plan and manage work routine based on company procedure
- GS11.** Work with supervisors/ team mates to carry out work related tasks
- GS12.** Plan for cleaning and lubricating the concerned machinery, tools, and workplace daily before and after operations
- GS13.** Ensure and follow organizational procedures pertaining to health and safety are followed
- GS14.** Solve operational role related issues
- GS15.** Diagnose common problems in the machine based on visual inspection, sound, temperature etc.
- GS16.** Analyse, evaluate and apply the information gathered from observation, experience, reasoning, or communication to act efficiently
- GS17.** Make conscious and sustainable decisions that help reduce, rescue, and recycle the company resources

**GS18.** Identify and replace processes that create unnecessary waste

## Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Maintain the workarea, tools and machines and Greening of Job Roles</i>	<b>14</b>	<b>49</b>	-	<b>7</b>
<b>PC1.</b> Handle materials, machinery, equipment and tools safely and correctly to maintain a clean and hazard free working area and support adaptation to more environmentally friendly processes	2	5	-	1
<b>PC2.</b> Use correct lifting and handling procedures; and inculcate sustainable consumption practices and offer relevant greening solutions	2	5	-	1
<b>PC3.</b> Use materials efficiently to minimize wastage and dispose off waste safely at the designated location.	2	3	-	1
<b>PC4.</b> Carryout running maintenance and/or cleaning within one's responsibility and agreed schedules	2	10	-	1
<b>PC5.</b> Report any unsafe or damaged equipment and other dangerous occurrences to the authorized personnel	2	3	-	0.5
<b>PC6.</b> Ensure that the correct machine guards are in place	2	3	-	1
<b>PC7.</b> Work in a comfortable position and maintain correct posture	1	10	-	0.5
<b>PC8.</b> Use cleaning equipment and methods appropriate for the work to be carried out	1	10	-	1
<b>NOS Total</b>	<b>14</b>	<b>49</b>	-	<b>7</b>



## National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	AMH/N0102
<b>NOS Name</b>	.Maintain workarea, tools and machines and Greening of Job Roles
<b>Sector</b>	Apparel
<b>Sub-Sector</b>	Apparel, Made-Ups & Home Furnishing
<b>Occupation</b>	Sewing
<b>NSQF Level</b>	4
<b>Credits</b>	TBD
<b>Version</b>	11.0
<b>Last Reviewed Date</b>	30/12/2021
<b>Next Review Date</b>	30/12/2024
<b>NSQC Clearance Date</b>	30/12/2021

## AMH/N0103: Maintain health, safety and secure work place with Gender and PwD Sensitization

### Description

This unit provides performance criteria, knowledge & understanding, and skills & abilities required to comply with health, safety, and security requirements at the workplace and covers procedures to prevent, control and minimize risk to self and others

### Scope

The scope covers the following :

- Potential risks associated with hazardous processes and guidelines for medical emergencies.

### Elements and Performance Criteria

*Hazards and potential risks associated with the process, guidelines for medical emergencies and evacuation process; gender & PwD sensitization*

To be competent, the user/individual on the job must be able to:

- PC1.** Comply with health, safety gender and PwD (People with disability) related instructions applicable to the workplace.
- PC2.** Actively participate in mock drills/evacuation procedures and group discussions related to a safe and secure work place.
- PC3.** Training sensitization programs for gender and PwD awareness organized at the workplace.
- PC4.** Use and maintain materials and equipment as per protocol.
- PC5.** Capable to perform first-aid, firefighting or any other emergency response procedures and follow organization procedures for shutdown and evacuation when required
- PC6.** Monitor the work place and processes for potential risks/ threats to supervisors or other authorized personnel and ensure gender equality and PwD (People with disability) security.

### Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** The importance of gender equality being followed in the organization and policies for reporting any harassment or inappropriate behavior
- KU2.** How to accommodate employees with disabilities; etiquette to adhere to and proper language and terminology
- KU3.** How to communicate, offer help, respecting space, parking etc. for people with disabilities or special needs.
- KU4.** Promote a safe, accessible and healthy workplace for disabled employees.
- KU5.** Health and safety related practices applicable at the workplace.
- KU6.** Potential hazards, risks and threats based on nature of operations; the ways to minimize these and response to these scenarios.

- KU7.** The code of conduct (COC) and Social Accountability standards followed by the organization/ industry
- KU8.** Layout of the plant and details of emergency exits, escape routes, emergency equipment and assembly points.
- KU9.** Reporting protocol and documentation required.
- KU10.** The occupational health and safety risks and methods; importance of personal protective equipment and method of use.
- KU11.** Identification, handling and storage of hazardous substances.
- KU12.** Proper disposal system for waste and by-products.
- KU13.** Signage related to health and safety and their meaning.
- KU14.** The importance of personal health and hygiene and the ill effects of usage of intoxicants such as alcohol, tobacco and drugs.

## Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** Create a positive and inclusive workplace atmosphere without any kind of bias/discrimination towards any employee.
- GS2.** Actively take part in any discussion/workshop organized for gender sensitization training
- GS3.** Read and comprehend written instructions related to gender equality and Pwd awareness/issues in the organization
- GS4.** Identify and report any harassment or inappropriate behavior towards any employee
- GS5.** Identify and report any distinction, exclusion, harassment or inappropriate behavior towards any employee
- GS6.** Document and report any health and safety related incidents/ accidents to the authorized personnel.
- GS7.** Read all organizational and equipment related health and safety manuals and documents
- GS8.** Read instructions, guidelines/procedures/rules related to the worksite and machine operations
- GS9.** Keep abreast with the latest developments for innovative safety services and tools by reading brochures, pamphlets, magazines etc
- GS10.** Discuss the latest approach for safety and security with the team
- GS11.** Evaluate and use correct PPE kit and other safety gear while at the workplace
- GS12.** Work with supervisors/ team mates to carry out work related tasks as per schedule
- GS13.** Keep work area free from potential hazards
- GS14.** Follow organizational procedures pertaining to health and safety.
- GS15.** Take appropriate actions during emergencies, accidents or fire at the workplace
- GS16.** Resolve issues pertaining to malfunctions in machineries and report if required
- GS17.** Identify emergency situations; their cause & effect relationship and suggest probable solutions
- GS18.** Analyze, evaluate and apply the information gathered from observation, experience, reasoning, or communication to act efficiently
- GS19.** Create a positive and inclusive workplace atmosphere without any kind of bias/discrimination towards any employee

- GS20.** Actively take part in any discussion/workshop organized for gender sensitization training
- GS21.** Read and comprehend written instructions related to gender equality issues in the organization

## Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Hazards and potential risks associated with the process, guidelines for medical emergencies and evacuation process; gender &amp; PwD sensitization</i>	<b>22</b>	<b>12</b>	-	<b>6</b>
<b>PC1.</b> Comply with health, safety gender and PwD (People with disability) related instructions applicable to the workplace.	4	2	-	1
<b>PC2.</b> Actively participate in mock drills/evacuation procedures and group discussions related to a safe and secure work place.	4	2	-	1
<b>PC3.</b> Training sensitization programs for gender and PwD awareness organized at the workplace.	4	2	-	1
<b>PC4.</b> Use and maintain materials and equipment as per protocol.	3	2	-	1
<b>PC5.</b> Capable to perform first-aid, firefighting or any other emergency response procedures and follow organization procedures for shutdown and evacuation when required	4	2	-	1
<b>PC6.</b> Monitor the work place and processes for potential risks/ threats to supervisors or other authorized personnel and ensure gender equality and PwD (People with disability) security.	3	2	-	1
<b>NOS Total</b>	<b>22</b>	<b>12</b>	-	<b>6</b>

## National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	AMH/N0103
<b>NOS Name</b>	Maintain health, safety and secure work place with Gender and PwD Sensitization
<b>Sector</b>	Apparel
<b>Sub-Sector</b>	Apparel, Made-Ups & Home Furnishing
<b>Occupation</b>	Sewing, Sewing, Specialized Sewing, Sampling, Ironing, Hand Embroidery, Production Supervision, Computerized Embroidery, Laying, Quality Control
<b>NSQF Level</b>	4
<b>Credits</b>	TBD
<b>Version</b>	5.0
<b>Last Reviewed Date</b>	30/12/2021
<b>Next Review Date</b>	30/12/2024
<b>NSQF Clearance Date</b>	30/12/2021

## AMH/N1901: Carryout preventive machine maintenance procedures

### Description

This unit is about carrying out the preventive machine maintenance procedures on a regular basis and detect malfunctions through observation and running diagnostic tests

### Scope

The scope covers the following :

- Checking the machine is setup correctly and is ready for use
- Regular cleaning of the machine, Machine Lubrication

### Elements and Performance Criteria

#### *Checking that the machine is setup correctly & is ready for use*

To be competent, the user/individual on the job must be able to:

- PC1.** Check the correct position of thread post stand and thread guides
- PC2.** Check if all the screws are fitted correctly.
- PC3.** Check the entire bobbin unit. ensure all parts are functioning properly.
- PC4.** Check and ensure that all thread guides are in good condition no rust/damage
- PC5.** Check if the needle is fitted correctly and the needle screw is tightly fixed
- PC6.** Check the needle in case of damage replace the needle and the needle screw.
- PC7.** Check the needle system and size :- 1. right needle for the machine type. 2. size of the needle is right for the thread 3. needle point is correct for the sewing material
- PC8.** Check if presser foot is in the right position :- 1. loosen the screw of presser roller/foot bar to adjust & then tighten it
- PC9.** Check that the needle plate is not damaged. in case of damage, replace the needle plate or polish.
- PC10.** Check the timing between the needle and hook, and make adjustments to correct the same if required.
- PC11.** Check that the thread take-up spring is not broken, and replace the same if required
- PC12.** Check the tension of the spring. adjust if required.
- PC13.** Check the stitch tension, length and adjust SPI (as per specifications) if required.
- PC14.** Check the correct position of knee lifter. adjust the knee lever so that it can be conveniently operated with the right knee
- PC15.** Check if foot pedal is in the right position. adjust/replace/re-align if required.
- PC16.** Check the tension after the technical/maintenance work on the machine is completed and check the test stitches. Make further adjustments if required.
- PC17.** Minimise and dispose the waste materials in the approved manner
- PC18.** Leave work area safe and secure when work is complete

#### *Cleaning of the machine*

To be competent, the user/individual on the job must be able to:

- PC19.** Clean the machine using the right solution

- PC20.** Check that the machine should not have rust.
- PC21.** Open the tension unit and clean each part.
- PC22.** Re-assemble the tension unit again.
- PC23.** Loosen the screw, take out the thread plate and clean. put it back again after cleaning.
- PC24.** Clean the bobbin case and hook from the inside
- PC25.** Clean the machine bed. Lift the machine and clean all the parts under the machine.
- PC26.** Use the correct tools for cleaning & maintenance work.
- PC27.** Carry out cleaning & maintenance of machines as per the work schedule on a regular basis.

#### *Machine Lubrication*

To be competent, the user/individual on the job must be able to:

- PC28.** Check that the lubrication points are clean.
- PC29.** Put few drops in the lubrication points (in case of manual machines)
- PC30.** Open the hook set and oil (in case of manual machines)
- PC31.** Check the level of oil and regulate the quantity of oil in the hook
- PC32.** Put oil if required or change the oil (depending on the type of machine).

### **Knowledge and Understanding (KU)**

The individual on the job needs to know and understand:

- KU1.** Your organizations policies, procedures, guidelines and standards
- KU2.** Safe working practices and organisational procedures
- KU3.** Quality systems and other processes practiced in the organization
- KU4.** Types of problems with quality and how to report them to appropriate people
- KU5.** Methods to present any ideas for improvement to line manager
- KU6.** The importance of complying with written instructions
- KU7.** Reporting procedure in case of faults in own/ other processes
- KU8.** Who to refer problems to when they are outside the limit of your authority
- KU9.** Your organizations tools, templates and processes for machine maintenance
- KU10.** Types of industrial sewing machines; their parts and functions
- KU11.** Identification of right tools for machine maintenance
- KU12.** Purpose of lubrication, oil used for machines, oil used for thread lubrication
- KU13.** Lubrication systems
- KU14.** Oil consumption
- KU15.** Stitch formation and types
- KU16.** Different types of feed mechanism in sewing machines
- KU17.** Types of needles, their suitability & needle systems
- KU18.** Understanding the specs sheet and techpack
- KU19.** Thread thickness, shade and sizes

### **Generic Skills (GS)**



User/individual on the job needs to know how to:

- GS1.** Write in local language (wherever required)
- GS2.** Mark garment specifications
- GS3.** Write the required measurements where applicable
- GS4.** Read a techpack/specifications sheet/specs chart
- GS5.** Read and understand the buyer/clients requirements
- GS6.** Listen effectively and orally communicate information accurately
- GS7.** Ask for clarification and advice from others
- GS8.** Follow rule-based decision-making processes
- GS9.** Make decisions on a suitable course of action or response
- GS10.** Plan and organize your work to achieve targets and deadlines
- GS11.** Apply problem-solving approaches in different situations
- GS12.** Refer anomalies to the supervisor
- GS13.** Seek clarification on problems from others
- GS14.** Analyze data and activities
- GS15.** Pass on relevant information to others
- GS16.** Provide opinions on work in a detailed and constructive way
- GS17.** Apply balance judgments to different situations

## Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Checking that the machine is setup correctly &amp; is ready for use</i>	<b>12</b>	<b>39</b>	-	<b>9</b>
<b>PC1.</b> Check the correct position of thread post stand and thread guides	1	4	-	1
<b>PC2.</b> Check if all the screws are fitted correctly.	0.5	2	-	-
<b>PC3.</b> Check the entire bobbin unit. ensure all parts are functioning properly.	0.5	2	-	-
<b>PC4.</b> Check and ensure that all thread guides are in good condition no rust/damage	0.5	2	-	0.5
<b>PC5.</b> Check if the needle is fitted correctly and the needle screw is tightly fixed	0.5	2	-	0.5
<b>PC6.</b> Check the needle in case of damage replace the needle and the needle screw.	0.5	2	-	0.5
<b>PC7.</b> Check the needle system and size :- 1. right needle for the machine type. 2. size of the needle is right for the thread 3. needle point is correct for the sewing material	0.5	2	-	0.5
<b>PC8.</b> Check if presser foot is in the right position :- 1. loosen the screw of presser roller/foot bar to adjust & then tighten it	1	2	-	0.5
<b>PC9.</b> Check that the needle plate is not damaged. in case of damage, replace the needle plate or polish.	0.5	2	-	0.5
<b>PC10.</b> Check the timing between the needle and hook, and make adjustments to correct the same if required.	0.5	2	-	0.5
<b>PC11.</b> Check that the thread take-up spring is not broken, and replace the same if required	1	2	-	0.5
<b>PC12.</b> Check the tension of the spring. adjust if required.	1	2	-	0.5
<b>PC13.</b> Check the stitch tension, length and adjust SPI (as per specifications) if required.	1	4	-	1

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC14.</b> Check the correct position of knee lifter. adjust the knee lever so that it can be conveniently operated with the right knee	1	2	-	0.5
<b>PC15.</b> Check if foot pedal is in the right position. adjust/replace/re-align if required.	0.5	2	-	0.5
<b>PC16.</b> Check the tension after the technical/maintenance work on the machine is completed and check the test stitches. Make further adjustments if required.	0.5	2	-	0.5
<b>PC17.</b> Minimise and dispose the waste materials in the approved manner	0.5	1	-	0.5
<b>PC18.</b> Leave work area safe and secure when work is complete	0.5	2	-	0.5
<i>Cleaning of the machine</i>	<b>5</b>	<b>20</b>	-	<b>0.5</b>
<b>PC19.</b> Clean the machine using the right solution	0.5	2	-	-
<b>PC20.</b> Check that the machine should not have rust.	0.5	2	-	-
<b>PC21.</b> Open the tension unit and clean each part.	0.5	2	-	-
<b>PC22.</b> Re-assemble the tension unit again.	0.5	2	-	-
<b>PC23.</b> Loosen the screw, take out the thread plate and clean. put it back again after cleaning.	0.5	2	-	-
<b>PC24.</b> Clean the bobbin case and hook from the inside	1	4	-	-
<b>PC25.</b> Clean the machine bed. Lift the machine and clean all the parts under the machine.	0.5	2	-	-
<b>PC26.</b> Use the correct tools for cleaning & maintenance work.	0.5	2	-	0.5
<b>PC27.</b> Carry out cleaning & maintenance of machines as per the work schedule on a regular basis.	0.5	2	-	-
<i>Machine Lubrication</i>	<b>3</b>	<b>11</b>	-	<b>0.5</b>
<b>PC28.</b> Check that the lubrication points are clean.	0.5	2	-	0.5

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC29.</b> Put few drops in the lubrication points (in case of manual machines)	0.5	2	-	-
<b>PC30.</b> Open the hook set and oil (in case of manual machines)	0.5	2	-	-
<b>PC31.</b> Check the level of oil and regulate the quantity of oil in the hook	1	3	-	-
<b>PC32.</b> Put oil if required or change the oil (depending on the type of machine).	0.5	2	-	-
<b>NOS Total</b>	<b>20</b>	<b>70</b>	<b>-</b>	<b>10</b>

## National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	AMH/N1901
<b>NOS Name</b>	Carryout preventive machine maintenance procedures
<b>Sector</b>	Apparel
<b>Sub-Sector</b>	Apparel
<b>Occupation</b>	Boutique Operations
<b>NSQF Level</b>	4
<b>Credits</b>	TBD
<b>Version</b>	2.0
<b>Last Reviewed Date</b>	30/12/2021
<b>Next Review Date</b>	30/12/2024

## AMH/N1902: Troubleshoot machine related problems

### Description

This unit is about dealing with faults in stitching and troubleshooting machine related problems.

### Scope

The scope covers the following :

- Identify stitching defects, their cause & method of troubleshooting
- Resolving machine related issues, Repair broken or faulty machine parts

### Elements and Performance Criteria

#### *Identifying stitching defects, their cause & method of troubleshooting*

To be competent, the user/individual on the job must be able to:

- PC1.** Identify common machine related issues that affect stitching
- PC2.** Identify the cause and method of troubleshooting if machine runs with difficulty
- PC3.** If machine starts with slow running, identify the cause and take appropriate action to rectify the same.
- PC4.** Identify the cause and method of troubleshooting for upper or lower thread tearing
- PC5.** Resolve issue of skipping of stitches
- PC6.** Take appropriate action in case of needle breakage
- PC7.** Resolve the issue of difficult and uneven machine feeding
- PC8.** Take appropriate action in case of incorrect stitch locking- threads locked on the top side or bottom side of sewn material.
- PC9.** Take appropriate action if hook is blocked.
- PC10.** Troubleshoot the issue of little reserve of upper thread for which machine does not start sewing, upper thread leaves needle eye at the beginning of next sewing.
- PC11.** Troubleshoot the issue of little reserve of lower thread, when machine does not start sewing
- PC12.** Resolve the issue of machine starting to sew only after having skipped some stitches
- PC13.** Resolve machine issues such as when starting sewing operation, upper thread end projects above the sewn material

#### *Resolve machine related issues*

To be competent, the user/individual on the job must be able to:

- PC14.** Replace machine part in case of damage or as appropriate.
- PC15.** Make required adjustments in the machine settings to ensure stitching quality is achieved as per given specifications
- PC16.** Analyze the stitching/machine problem, check for solution and take appropriate action

### Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** Details of the job role and responsibilities
- KU2.** Responsibilities and line of reporting within the work area
- KU3.** Protocol to obtain more information on work related tasks
- KU4.** Organizational policies and procedures
- KU5.** Who to refer problems to when they are outside the limit of your authority
- .
- KU6.** Common hazards in the work area and procedures for dealing with them
- KU7.** Procedures with regard to material re-usage and disposal
- KU8.** Quality standards and the reporting procedures
- KU9.** Documentation required as part of the process
- KU10.** Machine specifications
- KU11.** Stitching defects & their cause
- KU12.** Technical terms associated with sewing machines & apparel industry
- KU13.** Quality standards for stitching
- KU14.** Types of machine beds
- KU15.** Types of feed mechanism in sewing machines
- KU16.** Types of motors and power consumption
- KU17.** Types of belts, machine speed
- KU18.** Do's & don'ts of sewing
- KU19.** Types of maintenance preventive, breakdown and routine
- KU20.** The operation of a sewing machine

## Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** Write in local language (wherever applicable)
- GS2.** Write the required measurements wherever applicable
- GS3.** Read and understand a techpack/specification specifications sheet/specs chart
- GS4.** Listen effectively and orally communicate information accurately
- GS5.** Ask for clarification and advice from others
- GS6.** Follow rule-based decision-making processes
- GS7.** Make decisions on a suitable course of action or response
- GS8.** Plan and organize your work to achieve targets and deadlines
- GS9.** Apply problem-solving approaches in different situations
- GS10.** Refer anomalies to the supervisor
- GS11.** Seek clarification on problems from others
- GS12.** Analyze data and activities
- GS13.** Pass on relevant information to others
- GS14.** Provide opinions on work in a detailed and constructive way
- GS15.** Apply balance judgments to different situations

## Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Identifying stitching defects, their cause &amp; method of troubleshooting</i>	<b>15</b>	<b>50</b>	-	<b>7</b>
<b>PC1.</b> Identify common machine related issues that affect stitching	2	2	-	0.5
<b>PC2.</b> Identify the cause and method of troubleshooting if machine runs with difficulty	1	3	-	0.5
<b>PC3.</b> If machine starts with slow running, identify the cause and take appropriate action to rectify the same.	1	3	-	0.5
<b>PC4.</b> Identify the cause and method of troubleshooting for upper or lower thread tearing	2	8	-	1
<b>PC5.</b> Resolve issue of skipping of stitches	1	4	-	0.5
<b>PC6.</b> Take appropriate action in case of needle breakage	1	4	-	0.5
<b>PC7.</b> Resolve the issue of difficult and uneven machine feeding	1	4	-	0.5
<b>PC8.</b> Take appropriate action in case of incorrect stitch locking- threads locked on the top side or bottom side of sewn material.	1	3	-	0.5
<b>PC9.</b> Take appropriate action if hook is blocked.	1	3	-	0.5
<b>PC10.</b> Troubleshoot the issue of little reserve of upper thread for which machine does not start sewing, upper thread leaves needle eye at the beginning of next sewing.	1	4	-	0.5
<b>PC11.</b> Troubleshoot the issue of little reserve of lower thread, when machine does not start sewing	1	4	-	0.5
<b>PC12.</b> Resolve the issue of machine starting to sew only after having skipped some stitches	1	4	-	0.5
<b>PC13.</b> Resolve machine issues such as when starting sewing operation, upper thread end projects above the sewn material	1	4	-	0.5
<i>Resolve machine related issues</i>	<b>3</b>	<b>13</b>	-	<b>2</b>



Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC14.</b> Replace machine part in case of damage or as appropriate.	1	6	-	1
<b>PC15.</b> Make required adjustments in the machine settings to ensure stitching quality is achieved as per given specifications	1	4	-	0.5
<b>PC16.</b> Analyze the stitching/machine problem, check for solution and take appropriate action	1	3	-	0.5
<b>NOS Total</b>	<b>18</b>	<b>63</b>	-	<b>9</b>

## National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	AMH/N1902
<b>NOS Name</b>	Troubleshoot machine related problems
<b>Sector</b>	Apparel
<b>Sub-Sector</b>	Apparel
<b>Occupation</b>	Boutique Operations
<b>NSQF Level</b>	4
<b>Credits</b>	TBD
<b>Version</b>	2.0
<b>Last Reviewed Date</b>	30/12/2021
<b>Next Review Date</b>	30/12/2024

## Assessment Guidelines and Assessment Weightage

### Assessment Guidelines

1. Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Performance Criteria (PC) will be assigned marks proportional to its importance in NOS. SSC will also lay down proportion of marks for Theory and Skills Practical for each PC
2. The assessment for the theory part will be based on knowledge bank of questions created by the SSC
3. Assessment will be conducted for all compulsory NOS, and where applicable, on the selected elective/option NOS/set of NOS. examination/training center (as per assessment criteria below)
4. Individual assessment agencies will create unique question papers for theory part for each candidate at each.
5. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training center based on this criteria.
6. To pass the Qualification Pack, every trainee should score a minimum of 70% aggregate in QP.
7. In case of unsuccessful completion, the trainee may seek reassessment on the Qualification Pack.

### Minimum Aggregate Passing % at QP Level : 70

**(Please note:** Every Trainee should score a minimum aggregate passing percentage as specified above, to

successfully clear the Qualification Pack assessment.)

## Assessment Weightage

Compulsory NOS

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
AMH/N0102..Maintain workarea, tools and machines and Greening of Job Roles	14	49	-	7	70	23
AMH/N0103.Maintain health, safety and secure work place with Gender and PwD Sensitization	22	12	-	6	40	13
AMH/N1901.Carryout preventive machine maintenance procedures	20	70	-	10	100	34
AMH/N1902.Troubleshoot machine related problems	18	63	-	9	90	30
<b>Total</b>	<b>74</b>	<b>194</b>	<b>-</b>	<b>32</b>	<b>300</b>	<b>100</b>

## Acronyms

<b>NOS</b>	National Occupational Standard(s)
<b>NSQF</b>	National Skills Qualifications Framework
<b>QP</b>	Qualifications Pack
<b>TVET</b>	Technical and Vocational Education and Training
<b>NOS</b>	National Occupational Standard(s)
<b>NSQF</b>	National Skills Qualifications Framework
<b>QP</b>	Qualifications Pack
<b>TVET</b>	Technical and Vocational Education and Training

## Glossary

<b>Sector</b>	Sector is a conglomeration of different business operations having similar business and interests. It may also be defined as a distinct subset of the economy whose components share similar characteristics and interests.
<b>Sub-sector</b>	Sub-sector is derived from a further breakdown based on the characteristics and interests of its components.
<b>Occupation</b>	Occupation is a set of job roles, which perform similar/ related set of functions in an industry.
<b>Job role</b>	Job role defines a unique set of functions that together form a unique employment opportunity in an organisation.
<b>Occupational Standards (OS)</b>	OS specify the standards of performance an individual must achieve when carrying out a function in the workplace, together with the Knowledge and Understanding (KU) they need to meet that standard consistently. Occupational Standards are applicable both in the Indian and global contexts.
<b>Performance Criteria (PC)</b>	Performance Criteria (PC) are statements that together specify the standard of performance required when carrying out a task.
<b>National Occupational Standards (NOS)</b>	NOS are occupational standards which apply uniquely in the Indian context.
<b>Qualifications Pack (QP)</b>	QP comprises the set of OS, together with the educational, training and other criteria required to perform a job role. A QP is assigned a unique qualifications pack code.
<b>Unit Code</b>	Unit code is a unique identifier for an Occupational Standard, which is denoted by an 'N'
<b>Unit Title</b>	Unit title gives a clear overall statement about what the incumbent should be able to do.
<b>Description</b>	Description gives a short summary of the unit content. This would be helpful to anyone searching on a database to verify that this is the appropriate OS they are looking for.
<b>Scope</b>	Scope is a set of statements specifying the range of variables that an individual may have to deal with in carrying out the function which have a critical impact on quality of performance required.
<b>Knowledge and Understanding (KU)</b>	Knowledge and Understanding (KU) are statements which together specify the technical, generic, professional and organisational specific knowledge that an individual needs in order to perform to the required standard.

<b>Organisational Context</b>	Organisational context includes the way the organisation is structured and how it operates, including the extent of operative knowledge managers have of their relevant areas of responsibility.
<b>Technical Knowledge</b>	Technical knowledge is the specific knowledge needed to accomplish specific designated responsibilities.
<b>Core Skills/ Generic Skills (GS)</b>	Core skills or Generic Skills (GS) are a group of skills that are the key to learning and working in today's world. These skills are typically needed in any work environment in today's world. These skills are typically needed in any work environment. In the context of the OS, these include communication related skills that are applicable to most job roles.
<b>Electives</b>	Electives are NOS/set of NOS that are identified by the sector as contributive to specialization in a job role. There may be multiple electives within a QP for each specialized job role. Trainees must select at least one elective for the successful completion of a QP with Electives.
<b>Options</b>	Options are NOS/set of NOS that are identified by the sector as additional skills. There may be multiple options within a QP. It is not mandatory to select any of the options to complete a QP with Options.
<b>Sector</b>	Sector is a conglomeration of different business operations having similar business and interests. It may also be defined as a distinct subset of the economy whose components share similar characteristics and interests.
<b>Sub-sector</b>	Sub-sector is derived from a further breakdown based on the characteristics and interests of its components.
<b>Occupation</b>	Occupation is a set of job roles, which perform similar/related set of functions in an industry.
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<b>Performance Criteria (PC)</b>	Performance Criteria (PC) are statements that together specify the standard of performance required when carrying out a task.
<b>National Occupational Standard</b>	NOS are occupational standards which apply uniquely in the Indian context.

<b>Qualifications Pack (QP)</b>	QP comprises the set of OS, together with the educational, training and other criteria required to perform a job role. A QP is assigned a unique qualifications pack code.
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