

# COMPETENCY STANDARDS

## GUNSMITHING SERVICES LEVEL II



### METALS AND ENGINEERING SECTOR

**TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY**  
TESDA Complex East Service Road, South Luzon Expressway (SLEX),  
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# TABLE OF CONTENTS

## METALS AND ENGINEERING SECTOR GUNSMITHING SERVICES LEVEL II

	<b>Page No.</b>
<b>SECTION 1</b> DEFINITION OF QUALIFICATION .....	<b>1</b>
<b>SECTION 2</b> <b>COMPETENCY STANDARDS</b> .....	<b>2 - 85</b>
• Basic Competencies .....	2 - 37
• Common Competencies .....	38 - 63
• Core Competencies .....	64 - 82
<b>GLOSSARY OF TERMS</b> .....	<b>83</b>
<b>ACKNOWLEDGEMENTS</b> .....	<b>85</b>

# COMPETENCY STANDARDS FOR GUNSMITHING SERVICES LEVEL II

## SECTION 1 DEFINITION OF QUALIFICATION

The **GUNSMITHING SERVICES LEVEL II** qualification consists of competencies that a person must achieve to demonstrate gun safety rules and fundamentals of marksmanship, perform preparatory activities, including assembly and disassembly of clamp-shell pistols, M1911s, striker-fired pistols, revolvers, bolt-action rifles, and shotgun; and repair and refurbish common firearms issues.

The units of competency comprising this qualification include the following:

<b>Unit Code</b>	<b>BASIC COMPETENCIES</b>
400311210	Participate in workplace communication
400311211	Work in a team environment
400311212	Solve/address general workplace problems
400311213	Develop career and life decisions
400311214	Contribute to workplace innovation
400311215	Present relevant information
400311216	Practice occupational safety and health policies and procedures
400311217	Evaluate Environmental Work Practices
400311218	Practice entrepreneurial skills in the workplace
<b>Unit Code</b>	<b>COMMON COMPETENCIES</b>
MEE722202	Interpret working drawings and sketches
MEE722203	Select and cut workshop materials
MEE722204	Perform shop computations (Basic)
MEE722205	Measure workpiece (Basic)
MEE722207	Perform shop computations (Intermediate)
MEE722208	Measure workpiece using angular measuring instruments
MEE722211	Perform preventive and corrective maintenance
<b>Unit Code</b>	<b>CORE COMPETENCIES</b>
AB-MEE1374020722301	Demonstrate firearm safety rules and fundamentals of marksmanship
AB-MEE1374020722302	Perform preparatory activities for Gunsmithing
AB-MEE1374020722305	Repair and refurbish common issues

A person who has achieved this qualification is competent to be:

- Firearm Assembler
- Firearm Servicer
- Firearm Handler
- Firearm Armorer
- Armament Servicer
- Armament Specialist

## SECTION 2 COMPETENCY STANDARD

This section gives the details of the contents of the units of competency required in **GUNSMITHING SERVICES LEVEL II**.

### BASIC COMPETENCIES

**UNIT OF COMPETENCY : PARTICIPATE IN WORKPLACE COMMUNICATION**

**UNIT CODE : 400311210**

**UNIT DESCRIPTOR : This unit covers the knowledge, skills and attitudes required to gather, interpret and convey information in response to workplace requirements.**

<b>ELEMENTS</b>	<b>PERFORMANCE CRITERIA</b> <i>Italicized terms</i> are elaborated in the Range of Variables	<b>REQUIRED KNOWLEDGE</b>	<b>REQUIRED SKILLS</b>
1. Obtain and convey workplace information	1.1 Specific and relevant information is accessed from <b>appropriate sources</b> 1.2 Effective questioning, active listening and speaking skills are used to gather and convey information 1.3 Appropriate <b>medium</b> is used to transfer information and ideas 1.4 Appropriate nonverbal communication is used 1.5 Appropriate lines of communication with supervisors and colleagues are identified and followed. 1.6 Defined workplace procedures for the location and <b>storage</b> of information are used 1.7 Personal interaction is carried out clearly and concisely	1.1 Effective verbal and nonverbal communication 1.2 Different modes of communication 1.3 Medium of communication in the workplace 1.4 Organizational policies 1.5 Communication procedures and systems 1.6 Lines of Communication 1.7 Technology relevant to the enterprise and the individual's work responsibilities 1.8 Workplace etiquette	1.1 Following simple spoken language 1.2 Performing routine workplace duties following simple written notices 1.3 Participating in workplace meetings and discussions 1.4 Preparing work-related documents 1.5 Estimating, calculating and recording routine workplace measures 1.6 Relating/ Interacting with people of various levels in the workplace 1.7 Gathering and providing basic

			<p>information in response to workplace requirements</p> <p>1.8 Basic business writing skills</p> <p>1.9 Interpersonal skills in the workplace</p> <p>1.10 Active listening skills</p>
<p>2. Perform duties following workplace instruction</p>	<p>2.1 Written notices and instructions are read and interpreted in accordance with organizational guidelines</p> <p>2.2 Routine written instruction are followed based on established procedures</p> <p>2.3 Feedback is given to workplace supervisor based instructions/ information received</p> <p>2.4 <b>Workplace interactions</b> are conducted in a courteous manner</p> <p>2.5 Where necessary, clarifications about routine workplace procedures and matters concerning conditions of employment are sought and asked from <b>appropriate sources</b>.</p> <p>2.6 Meetings outcomes are interpreted and implemented</p>	<p>2.1 Effective verbal and non-verbal communication</p> <p>2.2 Different modes of communication</p> <p>2.3 Medium of communication in the workplace</p> <p>2.4 Organizational/ Workplace policies</p> <p>2.5 Communication procedures and systems</p> <p>2.6 Lines of communication</p> <p>2.7 Technology relevant to the enterprise and the individual's work responsibilities</p> <p>2.8 Effective questioning techniques (clarifying and probing)</p> <p>2.9 Workplace etiquette</p>	<p>2.2 Following simple spoken instructions</p> <p>2.2 Performing routine workplace duties following simple written notices</p> <p>2.3 Participating in workplace meetings and discussions</p> <p>2.4 Completing work-related documents</p> <p>2.5 Estimating, calculating and recording routine workplace measures</p> <p>2.6 Relating/ Responding to people of various levels in the workplace</p> <p>2.7 Gathering and providing information in response to workplace requirements</p> <p>2.8 Basic questioning/ querying</p> <p>2.9 Skills in reading for information</p>

			2.10 Skills in locating
3. Complete relevant work-related documents	<p>3.1 Range of <b>forms</b> relating to conditions of employment are completed accurately and legibly.</p> <p>3.2 Workplace data is recorded on standard workplace forms and documents.</p> <p>3.3 Errors in recording information on forms/ documents are identified and acted upon.</p> <p>3.4 Reporting requirements to the supervisor are completed according to organizational guidelines.</p>	<p>3.1 Effective verbal and non-verbal communication</p> <p>3.2 Different modes of communication</p> <p>3.3 Workplace forms and documents</p> <p>3.4 Organizational/ Workplace policies</p> <p>3.5 Communication procedures and systems</p> <p>3.6 3.6 Technology relevant to the enterprise and the individual's work responsibilities</p>	<p>3.1 Completing work-related documents</p> <p>3.2 Applying operations of addition, subtraction, division and multiplication</p> <p>3.3 Gathering and providing information in response to workplace requirements</p> <p>3.4 Effective record keeping skills</p>

## RANGE OF VARIABLES

VARIABLE	RANGE
1. Appropriate sources	<p>May include:</p> <p>1.1. Team members</p> <p>1.2. Supervisor/Department Head</p> <p>1.3. Suppliers</p> <p>1.4. Trade personnel</p> <p>1.5. Local government</p> <p>1.6. Industry bodies</p>
2. Medium	<p>May include:</p> <p>2.1. Memorandum</p> <p>2.2. Circular</p> <p>2.3. Notice</p> <p>2.4. Information dissemination</p> <p>2.5. Follow-up or verbal instructions</p> <p>2.6. Face-to-face communication</p> <p>2.7. Electronic media (disk files, cyberspace)</p>

3. Storage	May include: 3.1. Manual filing system 3.2. Computer-based filing system
4. Workplace interactions	May include: 4.1. Face-to-face 4.2. Telephone 4.3. Electronic and two-way radio 4.4. Written including electronic means, memos, instruction and forms 4.5. Non-verbal including gestures, signals, signs and diagrams
5. Forms	May include: 5.1. HR/Personnel forms, telephone message forms, safety reports

## EVIDENCE GUIDE

1. Critical aspects of Competency	<b>Assessment requires evidence that the candidate:</b> 1.1 Prepared written communication following standard format the organization 1.2 Accessed information using workplace communication equipment/systems 1.3 Made use of relevant terms as an aid to transfer information effectively 1.4 Conveyed information effectively adopting formal or informal communication
2. Resource Implications	<b>The following resources should be provided:</b> 2.1 Fax machine 2.2 Telephone 2.3 Notebook 2.4 Writing materials 2.5 Computer with Internet connection
3. Methods of Assessment	<b>Competency in this unit may be assessed through:</b> 3.1. Demonstration with oral questioning 3.2. Interview 3.3. Written test 3.4. Third-party report
4. Context for Assessment	4.1. Competency may be assessed individually in the actual workplace or through an accredited institution

**UNIT OF COMPETENCY : WORK IN A TEAM ENVIRONMENT**

**UNIT CODE : 400311211**

**UNIT DESCRIPTOR :** This unit covers the skills, knowledge and attitudes to identify one’s roles and responsibilities as a member of a team.

<b>ELEMENTS</b>	<b>PERFORMANCE CRITERIA</b> <i>Italicized terms</i> are elaborated in the Range of Variables	<b>REQUIRED KNOWLEDGE</b>	<b>REQUIRED SKILLS</b>
1. Describe team role and scope	1.1 The <b>role and objective of the team</b> is identified from available sources of information  1.2 Team parameters, reporting relationships and responsibilities are identified from team discussions and appropriate external sources.	1.1 Group structure 1.2 Group development 1.3 Sources of information	1.1 Communicating with others, appropriately consistent with the culture of the workplace  1.2 Developing ways in improving work structure and performing respective roles in the group or organization
2. Identify one’s role and responsibility within a team	2.1 Individual roles and responsibilities within the team environment are identified.  2.2 Roles and objectives of the team are identified from available <b>sources of information</b> .  2.3 Team parameters, reporting relationships and responsibilities are identified based on team discussions and appropriate external sources	2.1 Team roles and objectives 2.2 Team structure and parameters 2.3 Team development 2.4 Sources of information	2.1 Communicating with others, appropriately consistent with the culture of the workplace  2.2 Developing ways in improving work structure and performing respective roles in the group or organization

3. Work as a team member	<p>3.1 Effective and appropriate forms of communications are used and interactions undertaken with team members based on company practices.</p> <p>3.2 Effective and appropriate contributions made to complement team activities and objectives, based on <b>workplace context</b>.</p> <p>3.3 Protocols in reporting are observed based on standard company practices.</p> <p>3.4 Contribute to the development of team work plans based on an understanding of team's role and objectives</p>	<p>3.1 Communication Process</p> <p>3.2 Workplace communication protocol</p> <p>3.3 Team planning and decision making</p> <p>3.4 Team thinking</p> <p>3.5 Team roles</p> <p>3.6 Process of team development</p> <p>3.7 Workplace context</p>	<p>3.1 Communicating appropriately, consistent with the culture of the workplace</p> <p>3.2 Interacting effectively with others</p> <p>3.3 Deciding as an individual and as a group using group think strategies and techniques</p> <p>3.4 Contributing to Resolution of issues and concerns</p>
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## RANGE OF VARIABLES

VARIABLE	RANGE
1. Role and objective of team	<p>May include:</p> <p>1.1. Work activities in a team environment with enterprise or specific sector</p> <p>1.2. Limited discretion, initiative and judgement maybe demonstrated on the job, either individually or in a team environment</p>
2. Sources of information	<p>May include:</p> <p>2.1 Standard operating and/or other workplace procedures</p> <p>2.2. Job procedures</p> <p>2.3. Machine/equipment manufacturer's specifications and instructions</p> <p>2.4. Organizational or external personnel</p> <p>2.5. Client/supplier instructions</p> <p>2.6. Quality standards</p>

	2.7. OHS and environmental standards
3. Workplace context	<p>May include:</p> <ul style="list-style-type: none"> <li>3.1 Work procedures and practices</li> <li>3.2 Conditions of work environments</li> <li>3.3 Legislation and industrial agreements</li> <li>3.4 Standard work practice including the storage, safe handling and disposal of chemicals</li> <li>3.5 Safety, environmental, housekeeping and quality guidelines</li> </ul>

## EVIDENCE GUIDE

<p>1. Critical aspects of Competency</p>	<p><b>Assessment requires evidence that the candidate:</b></p> <ul style="list-style-type: none"> <li>1.1 Worked in a team to complete workplace activity</li> <li>1.2 Worked effectively with others</li> <li>1.3 Conveyed information in written or oral form</li> <li>1.4 Selected and used appropriate workplace language</li> <li>1.5 Followed designated work plan for the job</li> </ul>
<p>2. Resource Implications</p>	<p><b>The following resources should be provided:</b></p> <ul style="list-style-type: none"> <li>2.1 Access to relevant workplace or appropriately simulated environment where assessment can take place</li> <li>2.2 Materials relevant to the proposed activity or task</li> </ul>
<p>3. Methods of Assessment</p>	<p><b>Competency in this unit may be assessed through:</b></p> <ul style="list-style-type: none"> <li>3.1 Role play involving the participation of individual member to the attainment of organizational goal</li> <li>3.2 Case studies and scenarios as a basis for discussion of issues and strategies in teamwork</li> <li>3.3 Socio-drama and socio-metric methods</li> <li>3.4 Sensitivity techniques</li> <li>3.5 Written Test</li> </ul>
<p>4. Context for Assessment</p>	<ul style="list-style-type: none"> <li>4.1 Competency may be assessed in the actual workplace or at the designated TESDA Accredited Assessment Center.</li> <li>4.2. Assessment shall be observed while tasks are being undertaken whether individually or in group.</li> </ul>

**UNIT OF COMPETENCY : SOLVE/ADDRESS GENERAL WORKPLACE PROBLEMS**

**UNIT CODE : 400311212**

**UNIT DESCRIPTOR :** This unit covers the knowledge, skills and attitudes required to apply problem-solving techniques to determine the origin of problems and plan for their resolution. It also includes addressing procedural problems through documentation, and referral.

<b>ELEMENTS</b>	<b>PERFORMANCE CRITERIA</b> <i>Italicized terms</i> are elaborated in the Range of Variables	<b>REQUIRED KNOWLEDGE</b>	<b>REQUIRED SKILLS</b>
1. Identify routine problems	1.1 Routine <b><i>problems or procedural problem</i></b> areas are identified 1.2 Problems to be investigated are defined and determined 1.3 Current conditions of the problem are identified and documented.	1.1 Current industry hardware and software products and services 1.2 Industry maintenance, service and helpdesk practices, processes and procedures 1.3 Industry standard diagnostic tools 1.4 Malfunctions and resolutions	1.1 Identifying current industry hardware and software products and services 1.2 Identifying current industry maintenance, services and helpdesk practices, processes and procedures. 1.3 Identifying current industry standard diagnostic tools 1.4 Describing common malfunctions and resolutions 1.5 Determining the root cause of a routine malfunction.

<p>2. Look for solutions to routine problems</p>	<p>2.1 Potential solutions to problem are identified</p> <p>2.2 Recommendations about possible solutions are developed, <b>documented</b>, ranked and presented to <b>appropriate person</b> for decision</p>	<p>2.1 Current industry hardware and software products and services</p> <p>2.2 Industry service and helpdesk practices, processes and procedures</p> <p>2.3 Operating systems</p> <p>2.4 Industry standard diagnostic tools</p> <p>2.5 Malfunctions and resolutions.</p> <p>2.6 Root cause analysis.</p>	<p>2.1 Identifying current industry hardware and software products and services</p> <p>2.2 Identifying services and helpdesk practices, processes and procedures.</p> <p>2.3 Identifying operating system</p> <p>2.4 Identifying current industry standard diagnostic tools</p> <p>2.5 Describing common malfunctions and resolutions.</p> <p>2.6 Determining the root cause of a routine malfunction.</p>
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<p>3. Recommend solutions to problems</p>	<p>3.1 Implementation of solutions are <b><i>planned</i></b></p> <p>3.2 Evaluation of implemented solutions are planned</p> <p>3.3 Recommended solutions are documented and submitted to the appropriate person for confirmation.</p>	<p>3.1 Standard procedures</p> <p>3.2 Documentation produce</p>	<p>3.1 Producing documentation that recommends solutions to problems</p> <p>3.2 Following established procedures.</p>
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## RANGE OF VARIABLES

VARIABLES	RANGE
1. Problems/Procedural Problem	May include: 1.1 Routine/non – routine processes and quality problems 1.2 Equipment selection, availability and failure 1.3 Teamwork and work allocation problem 1.4 Safety and emergency situations and incidents 1.5 Work-related problems outside of own work area
2. Appropriate person	May include: 2.1 Supervisor or manager 2.2 Peers/work colleagues 2.3 Other members of the organization
3. Document	May include: 1.1 Electronic mail 3.2 Briefing notes 3.3 Written report 3.4 Evaluation report
4. Plan	May include: 4.1. Priority requirements 4.2 Co-ordination and feedback requirements 4.3 Safety requirements 4.4 Risk assessment 4.5. Environmental requirements

## EVIDENCE GUIDE

<p>1. Critical aspects of Competency</p>	<p><b>Assessment requires evidence that the candidate:</b></p> <p>1.1. Determined the root cause of a routine problem            1.2 Identified solutions to procedural problems.            1.3 Produced documentation that recommends solutions to problems.            1.4 Followed established procedures.            1.5. Referred unresolved problems to support persons.</p>
<p>2. Resource Implications</p>	<p>2.1. Assessment will require access to a workplace over an extended period, or a suitable method of gathering evidence of operating ability over a range of situations.</p>
<p>3. Methods of Assessment</p>	<p>Competency in this unit may be assessed through:</p> <p>3.1 Case Formulation            3.2 Life Narrative Inquiry            3.3 Standardized test</p> <p>The unit will be assessed in a holistic manner as is practical and may be integrated with the assessment of other relevant units of competency. Assessment will occur over a range of situations, which will include disruptions to normal, smooth operation. Simulation may be required to allow for timely assessment of parts of this unit of competency. Simulation should be based on the actual workplace and will include walk through of the relevant competency components.</p>
<p>4. Context for Assessment</p>	<p>4.1 Competency may be assessed individually in the actual workplace or simulation environment in TESDA accredited institutions.</p>

**UNIT OF COMPETENCY : DEVELOP CAREER AND LIFE DECISIONS**

**UNIT CODE : 400311213**

**UNIT DESCRIPTOR :** This unit covers the knowledge, skills, and attitudes in managing one’s emotions, developing reflective practice, and boosting self-confidence and developing self-regulation.

<b>ELEMENTS</b>	<b>PERFORMANCE CRITERIA</b> <i>Italicized terms</i> are elaborated in the Range of Variables	<b>REQUIRED KNOWLEDGE</b>	<b>REQUIRED SKILLS</b>
1. Manage one’s emotion	1.1 <b><i>Self-management strategies</i></b> are identified 1.2 Skills to work independently and to show initiative, to be conscientious, and persevering in the face of setbacks and frustrations are developed. 1.3 Techniques for effectively handling negative emotions and <b><i>unpleasant situations</i></b> in the workplace are examined.	1.1 Self-management strategies that assist in regulating behavior and achieving personal and learning goals (e.g. Nine self-management strategies according to Robert Kelley) 1.2 Enablers and barriers in achieving personal and career goals 1.3 Techniques in handling negative emotions and unpleasant situations in the workplace such as frustration, anger, worry, anxiety, etc.	1.1 Managing properly, one’s emotions and recognizing situations that cannot be changed and accept them and remain professional 1.2 Developing self-discipline, working independently and showing initiative to achieve personal and career goals 1.3 Showing confidence, and resilience in the face of setbacks and frustrations and other negative emotions and unpleasant situations in the workplace

<p>2. Develop reflective practice</p>	<p>2.1 Personal strengths and achievements, based on self-assessment strategies and teacher feedback are contemplated.</p> <p>2.2 Progress when seeking and responding to feedback from teachers to assist them in consolidating strengths, addressing weaknesses and fulfilling their potential are monitored.</p> <p>2.3 Outcomes of personal and academic challenges by reflecting on previous problem solving and decision making strategies and feedback from peers and teachers are predicted.</p>	<p>2.1 Basic SWOT analysis</p> <p>2.2 Strategies to improve one's attitude in the workplace</p> <p>2.3 Gibbs' Reflective Cycle/Model (Description, Feelings, Evaluation, Analysis, Conclusion, and Action plan)</p>	<p>2.1 Using the basic SWOT analysis as self-assessment strategy</p> <p>2.2 Developing reflective practice through realization of limitations, likes/dislikes; through showing of self-confidence</p> <p>2.3 Demonstrating self-acceptance and being able to accept challenges</p>
<p>3. Boost self-confidence and develop self-regulation</p>	<p>3.1 Efforts for continuous self-improvement are demonstrated</p> <p>3.2 Counter-productive tendencies at work are eliminated</p> <p>3.3 Positive outlook in life is maintained.</p>	<p>3.1 Four components of self-regulation based on Self-Regulation Theory (SRT)</p> <p>3.2 Personality development concepts</p> <p>3.3 Self-help concepts (e. g., 7 Habits by Stephen Covey, transactional analysis, psycho-spiritual concepts)</p>	<p>3.1 Performing effective communication skills – reading, writing, conversing skills</p> <p>3.2 Showing effective skills – flexibility, adaptability, etc.</p> <p>3.3 Self-assessment for determining one's strengths and weaknesses</p>

## RANGE OF VARIABLES

VARIABLE	RANGE
1. Self-management strategies	May include: <ul style="list-style-type: none"> <li>1.1 Seeking assistance in the form of job coaching or mentoring</li> <li>1.2 Continuing dialogue to tackle workplace grievances</li> <li>1.3 Collective negotiation/bargaining for better working conditions</li> <li>1.4 Share your goals to improve with a trusted co-worker or supervisor</li> <li>1.5 Make a negativity log of every instance when you catch yourself complaining to others</li> <li>1.6 Make lists and schedules for necessary activities</li> </ul>
2. Unpleasant situation	May include conflicts that result from: <ul style="list-style-type: none"> <li>2.1 Job burn-out</li> <li>2.2 Drug dependence</li> <li>2.3 Sulking</li> </ul>

## EVIDENCE GUIDE

1. Critical aspects of Competency	<b>Assessment requires evidence that the candidate:</b> <ul style="list-style-type: none"> <li>1.1 Express emotions appropriately</li> <li>1.2 Work independently and show initiative</li> <li>1.3 Consistently demonstrate self-confidence and self-discipline</li> </ul>
2. Resource Implications	<b>The following resources should be provided:</b> <ul style="list-style-type: none"> <li>2.1 Access to workplace and resources</li> <li>2.2 Case studies</li> </ul>
3. Methods of Assessment	<b>Competency in this unit may be assessed through:</b> <ul style="list-style-type: none"> <li>3.1 Demonstration or simulation with oral questioning</li> <li>3.2 Case problems involving work improvement and sustainability issues</li> <li>3.3 Third-party report</li> </ul>
4. Context for Assessment	<ul style="list-style-type: none"> <li>4.1 Competency assessment may occur in workplace or any appropriately simulated environment</li> </ul>

**UNIT OF COMPETENCY : CONTRIBUTE TO WORKPLACE INNOVATION**

**UNIT CODE : 400311214**

**UNIT DESCRIPTOR : This unit covers the knowledge, skills and attitudes required to make a pro-active and positive contribution to workplace innovation.**

<b>ELEMENTS</b>	<b>PERFORMANCE CRITERIA</b> <i>Italicized terms</i> are elaborated in the Range of Variables	<b>REQUIRED KNOWLEDGE</b>	<b>REQUIRED SKILLS</b>
1. Identify opportunities to do things better	1.1 <b>Opportunities for improvement</b> are identified proactively in their own area of work. 1.2 <b>Information</b> is gathered and reviewed which may be relevant to ideas and which might assist in gaining support for ideas.	1.1 Roles of individuals in suggesting and making improvements 1.2 Positive impacts and challenges in innovation. 1.3 Types of changes and responsibility. 1.4 Seven habits of highly effective people.	1.1 Identifying opportunities to improve and to do things better. Involvement. 1.2 Identifying the positive impacts and the challenges of change and innovation. 1.3 Identifying examples of the types of changes that are within and outside their own scope of responsibility.

<p>2. Discuss and develop ideas with others</p>	<p>2.1 <b>People who could provide input</b> to ideas for improvements are identified.</p> <p>2.2 Ways of approaching people to begin sharing ideas are selected.</p> <p>2.3 Meeting is set with relevant people.</p> <p>2.4 Ideas for follow up are reviewed and selected based on feedback</p> <p>2.5 <b>Critical inquiry method</b> is used to discuss and develop ideas with others.</p>	<p>2.1 Roles of individuals in suggesting and making improvements</p> <p>2.2 Positive impacts and challenges in innovation.</p> <p>2.3 Types of changes and responsibility.</p> <p>2.4 Seven habits of highly effective people.</p>	<p>2.1 Identifying opportunities to improve and to do things better. Involvement.</p> <p>2.2 Identifying the positive impacts and the challenges of change and innovation.</p> <p>2.3 Providing examples of the types of changes that are within and outside own scope of responsibility</p> <p>2.4 Communicating ideas for change through small group discussions and meetings.</p>
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<p>3 Integrate ideas for change in the workplace</p>	<p>3.1 Critical inquiry method is used to integrate different ideas for change of key people.</p> <p>3.2 Summarizing, analyzing and generalizing skills are used to extract salient points in the pool of ideas.</p> <p>3.3 <b>Reporting skills</b> are likewise used to communicate results.</p> <p>3.4 <b>Current Issues and concerns</b> on the systems, processes and procedures, as well as the need for simple innovative practices are identified.</p>	<p>3.1 Roles of individuals in suggesting and making improvements.</p> <p>3.2 Positive impacts and challenges in innovation.</p> <p>3.3 Types of changes and responsibility.</p> <p>3.4 Seven habits of highly effective people.</p> <p>3.5 Basic research skills.</p>	<p>3.1 Identifying opportunities to improve and to do things better. Involvement.</p> <p>3.2 Identifying the positive impacts and the challenges of change and innovation.</p> <p>3.3 Providing examples of the types of changes that are within and outside their own scope of responsibility.</p> <p>3.4 Communicating ideas for change through small group discussions and meetings.</p> <p>3.5 Demonstrating skills in analysis and interpretation of data.</p>
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## RANGE OF VARIABLES

VARIABLE	RANGE
1. Opportunities for improvement	May include: 1.1 Systems. 1.2 Processes. 1.3 Procedures. 1.4 Protocols. 1.5 Codes. 1.6 Practices.
2. Information	May include: 2.1 Workplace communication problems. 2.2 Performance evaluation results. 2.3 Team dynamics issues and concerns. 2.4 Challenges on return of investment 2.5 New tools, processes and procedures. 2.6 New people in the organization.
3. People who could provide input	May include: 3.1 Leaders. 3.2 Managers. 3.3 Specialists. 3.4 Associates. 3.5 Researchers. 3.6 Supervisors. 3.7 Staff. 3.8 Consultants (external) 3.9 People outside the organization in the same field or similar expertise/industry. 3.10 Clients
4. Critical inquiry method	May include: 4.1 Preparation. 4.2 Discussion. 4.3 Clarification of goals. 4.4 Negotiate towards a Win-Win outcome. 4.5 Agreement. 4.6 Implementation of a course of action. 4.7 Effective verbal communication. See our pages: Verbal Communication and Effective Speaking. 4.8 Listening. 4.9 Reducing misunderstandings is a key part of effective negotiation. 4.10 Rapport Building. 4.11 Problem Solving. 4.12 Decision Making. 4.13 Assertiveness.

	4.14 Dealing with Difficult Situations
5. Reporting skills	May include: 5.1 Data management. 5.2 Coding. 5.3 Data analysis and interpretation. 5.4 Coherent writing. 5.5 Speaking

## EVIDENCE GUIDE

1. Critical aspects of Competency	<p><b>Assessment requires evidence that the candidate:</b></p> <ul style="list-style-type: none"> <li>1.1 Identified opportunities to do things better.</li> <li>1.2 Discussed and developed ideas with others on how to contribute to workplace innovation.</li> <li>1.3 Integrated ideas for change in the workplace.</li> <li>1.4 Analyzed and reported rooms for innovation</li> <li>1.4 and learning in the workplace.</li> </ul>
2. Resource Implications	<p><b>The following resources should be provided:</b></p> <ul style="list-style-type: none"> <li>2.1 Pens, papers and writing implements.</li> <li>2.2 Cartolina.</li> <li>2.1 Manila papers.</li> </ul>
3. Methods of Assessment	<p><b>Competency in this unit may be assessed through:</b></p> <ul style="list-style-type: none"> <li>3.1 Psychological and behavioral Interviews.</li> <li>3.2 Performance Evaluation.</li> <li>3.3 Life Narrative Inquiry.</li> <li>3.4 Review of portfolios of evidence and third-party workplace reports of on-the-job performance.</li> <li>3.5 Sensitivity analysis.</li> <li>3.6 Organizational analysis.</li> <li>3.7 Standardized assessment of character strengths and virtues applied.</li> </ul>
4. Context for Assessment	<ul style="list-style-type: none"> <li>4.1 Competency may be assessed individually in the actual workplace or simulation environment in TESDA accredited institutions.</li> </ul>

**UNIT OF COMPETENCY** : **PRESENT RELEVANT INFORMATION**

**UNIT CODE** : **400311215**

**UNIT DESCRIPTOR** : This unit covers the knowledge, skills and attitudes required to present data/information appropriately.

<b>ELEMENTS</b>	<b>PERFORMANCE CRITERIA</b> <i>Italicized terms</i> are elaborated in the Range of Variables	<b>REQUIRED KNOWLEDGE</b>	<b>REQUIRED SKILLS</b>
1. Gather data/information	1.1 Evidence, facts and information are collected  1.2 Evaluation, terms of reference and conditions are reviewed to determine whether data/information falls within project scope.	1.1 Organizational protocols 1.2 Confidentiality 1.3 Accuracy 1.4 Business mathematics and statistics 1.5 Data analysis techniques/procedures 1.6 Reporting requirements to a range of audiences 1.7 Legislation, policy and procedures relating to the conduct of evaluations 1.8 Organizational values, ethics and codes of conduct	1.1 Describing organizational protocols relating to client liaison  1.2 Protecting confidentiality 1.3 Describing accuracy 1.4 Computing business mathematics and statistics 1.5 Describing data analysis techniques/procedures 1.6 Reporting requirements to a range of audiences 1.7 Stating legislation, policy and procedures relating to the conduct of evaluations 1.8 Stating organizational values, ethics and codes of conduct

<p>2. Assess gathered data/ information</p>	<p>2.1 Validity of data/ information is assessed</p> <p>2.2 Analysis techniques are applied to assess data/ information.</p> <p>2.3 Trends and anomalies are identified</p> <p>2.4 <b>Data analysis techniques</b> and procedures are documented</p> <p>2.5 Recommendations are made on areas of possible improvement.</p>	<p>2.1 Business mathematics and statistics</p> <p>2.2 Data analysis techniques/ procedures</p> <p>2.3 Reporting requirements to a range of audiences</p> <p>2.4 Legislation, policy and procedures relating to the conduct of evaluations</p> <p>2.5 Organizational values, ethics and codes of conduct</p>	<p>2.1 Computing business mathematics and statistics</p> <p>2.2 Describing data analysis techniques/ procedures</p> <p>2.3 Reporting requirements to a range of audiences</p> <p>2.4 Stating legislation, policy and procedures relating to the conduct of evaluations</p> <p>2.5 Stating organizational values, ethics and codes of conduct</p>
<p>3. Record and present information</p>	<p>3.1 Studied data/information are recorded.</p> <p>3.2 Recommendations are analyzed for action to ensure they are compatible with the project's scope and terms of reference.</p> <p>3.3 Interim and final reports are analyzed and outcomes are compared to the criteria established at the outset.</p> <p>3.4 Findings are presented to stakeholders.</p>	<p>3.1 Data analysis techniques/ procedures</p> <p>3.2 Reporting requirements to a range of audiences</p> <p>3.3 Legislation, policy and procedures relating to the conduct of evaluations</p> <p>3.4 Organizational values, ethics and codes of conduct</p>	<p>3.1 Describing data analysis techniques/ procedures</p> <p>3.2 Reporting requirements to a range of audiences</p> <p>3.3 Stating legislation, policy and procedures relating to the conduct of evaluations</p> <p>3.4 Stating organizational values, ethics and codes of conduct practices</p>

## RANGE OF VARIABLES

VARIABLE	RANGE
1. Data analysis techniques	May include: 1.1. Domain analysis 1.2. Content analysis 1.3. Comparison technique

## EVIDENCE GUIDE

<p>1. Critical aspects of Competency</p>	<p><b>Assessment requires evidence that the candidate:</b></p> <ul style="list-style-type: none"> <li>1.1. Determine data / information</li> <li>1.2. Studied and applied gathered data/information</li> <li>1.3. Recorded and studied studies data/information</li> </ul> <p>These aspects may be best assessed using a range of scenarios as a stimulus with a walk through forming part of the response. These assessment activities should include a range of problems, including new, unusual and improbable situations that may have happened.</p>
<p>2. Resource Implications</p>	<p><b>Specific resources for assessment</b></p> <ul style="list-style-type: none"> <li>2.1. Evidence of competent performance should be obtained by observing an individual in an information management role within the workplace or operational or simulated environment.</li> </ul>
<p>3. Methods of Assessment</p>	<p><b>Competency in this unit should be assessed through:</b></p> <ul style="list-style-type: none"> <li>3.1. Written Test</li> <li>3.2. Interview</li> <li>3.3. Portfolio</li> </ul> <p>The unit will be assessed in a holistic manner as is practical and may be integrated with the assessment of other relevant units of competency. Assessment will occur over a range of situations, which will include disruptions to normal, smooth operation. Simulation may be required to allow for timely assessment of parts of this unit of competency. Simulation should be based on the actual workplace and will include walk through of the relevant competency components</p>
<p>4. Context for Assessment</p>	<ul style="list-style-type: none"> <li>4.1. In all workplace, it may be appropriate to assess this unit concurrently with relevant teamwork or operation units</li> </ul>

**UNIT OF COMPETENCY : PRACTICE OCCUPATIONAL SAFETY AND HEALTH POLICIES AND PROCEDURES**

**UNIT CODE : 400311216**

**UNIT DESCRIPTOR :** This unit covers the knowledge, skills and attitudes required to identify OSH compliance requirements, prepare OSH requirements for compliance, perform tasks in accordance with relevant OSH policies and procedures.

<b>ELEMENTS</b>	<b>PERFORMANCE CRITERIA</b> <i>Italicized terms</i> are elaborated in the Range of Variables	<b>REQUIRED KNOWLEDGE</b>	<b>REQUIRED SKILLS</b>
1. Identify OSH compliance requirements	1.1 Relevant <b>OSH requirements, regulations, policies and procedures</b> are identified in accordance with workplace policies and procedures. 1.2 OSH activity nonconformities are conveyed to <b>appropriate personnel</b> . 1.3 <b>OSH preventive and control requirements</b> are identified in accordance with OSH work policies and procedures.	1.1 OSH preventive and control requirements 1.2 Hierarchy of Controls 1.3 Hazard Prevention and Control 1.4 General OSH principles 1.5 Work standards and procedures 1.6 Safe handling procedures of tools, equipment and materials 1.7 Standard emergency plan and procedures in the workplace	1.1 Communication skills 1.2 Interpersonal skills 1.3 Critical thinking skills 1.4 Observation skills
2. Prepare OSH requirements for compliance	2.1 OSH work activity material, tools and equipment requirements are identified in accordance with workplace policies and procedures. 2.2 Required OSH materials, tools and equipment are acquired in accordance with workplace policies and	2.1 Resources necessary to execute hierarchy of controls 2.2 General OSH principles 2.3 Work standards and procedures 2.4 Safe handling procedures of tools, equipment	2.1 Communication skills 2.2 Estimation skills 2.3 Interpersonal skills 2.4 Critical thinking skills 2.5 Observation skills 2.6 Material, tool

	<p>procedures.</p> <p>2.3 Required OSH materials, tools and equipment are arranged/ placed in accordance with OSH work standards.</p>	<p>and materials</p> <p>2.5 Different OSH control measures</p>	<p>and equipment identification skills</p>
<p>3. Perform tasks in accordance with relevant OSH policies and procedures</p>	<p>3.1 Relevant OSH work procedures are identified in accordance with workplace policies and procedures.</p> <p>3.2 Work Activities are executed in accordance with OSH work standards.</p> <p>3.3 <b>Non-compliance work activities</b> are reported to appropriate personnel.</p>	<p>3.1 OSH work standards</p> <p>3.2 Industry related work activities</p> <p>3.3 General OSH principles 3.4 OSH Violations Non-compliance work activities</p>	<p>3.1 Communication skills</p> <p>3.2 Interpersonal skills</p> <p>3.3 Troubleshooting skills</p> <p>3.4 Critical thinking skills</p> <p>3.5 Observation skills</p>

## RANGE OF VARIABLES

VARIABLE	RANGE
1. OSH Requirements, Regulations, Policies and Procedures	May include: 1.1 Clean Air Act 1.2 Building code 1.3 National Electrical and Fire Safety Codes 1.4 Waste management statutes and rules 1.5 Permit to Operate 1.6 Philippine Occupational Safety and Health Standards 1.7 Department Order No. 13 (Construction Safety and Health) 1.8 ECC regulations
2. Appropriate Personnel	May include: 2.1 Manager 2.2 Safety Officer 2.3 EHS Offices 2.4 Supervisors 2.5 Team Leaders 2.6 Administrators 2.7 Stakeholders 2.8 Government Official 2.9 Key Personnel 2.10 Specialists 2.11 Himself
3. OSH Preventive and Control Requirements	May include: 3.1 Resources needed for removing hazard effectively 3.2 Resources needed for substitution or replacement 3.3 Resources needed to establish engineering controls 3.4 Resources needed for enforcing administrative controls 3.5 Personal Protective equipment
4. Non OSH Compliance Work Activities	May include non-compliance or observance of the following safety measures: 4.1 Violations that may lead to serious physical harm or death 4.2 Fall Protection 4.3 Hazard Communication 4.4 Respiratory Protection 4.5 Power Industrial Trucks 4.6 Lockout/Tag-out 4.7 Working at heights (use of ladder, scaffolding) 4.8 Electrical Wiring Methods 4.9 Machine Guarding

	<p>4.10 Electrical General Requirements</p> <p>4.11 Asbestos work requirements</p> <p>4.12 Excavations work requirements</p>
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**EVIDENCE GUIDE**

1. Critical aspects of Competency	<p><b>Assessment requires evidence that the candidate:</b></p> <p>1.1. Convey OSH work non-conformities to appropriate personnel</p> <p>1.2. Identify OSH preventive and control requirements in accordance with OSH work policies and procedures</p> <p>1.3. Identify OSH work activity material, tools and equipment requirements in accordance with workplace policies and procedures</p> <p>1.4. Arrange/Place required OSH materials, tools and equipment in accordance with OSH work standards</p> <p>1.5. Execute work activities in accordance with OSH work standards</p> <p>1.6. Report OSH activity non-compliance work activities to appropriate personnel</p>
2. Resource Implications	<p><b>The following resources should be provided:</b></p> <p>2.1 Facilities, materials, tools and equipment necessary for the activity</p>
3. Methods of Assessment	<p><b>Competency in this unit may be assessed through:</b></p> <p>3.1 Observation/Demonstration with oral questioning</p> <p>3.2 Third party report</p>
4. Context for Assessment	<p>4.1 Competency may be assessed in the work place or in a simulated work place setting</p>

**UNIT OF COMPETENCY** : **EVALUATE ENVIRONMENTAL WORK PRACTICES**

**UNIT CODE** : **400311217**

**UNIT DESCRIPTOR** : This unit covers knowledge, skills and attitude to identify the efficiency and effectiveness of resource utilization, determine causes of inefficiency and/or ineffectiveness of resource utilization and convey inefficient and ineffective environmental practices.

<b>ELEMENTS</b>	<b>PERFORMANCE CRITERIA</b> <i>Italicized terms</i> are elaborated in the Range of Variables	<b>REQUIRED KNOWLEDGE</b>	<b>REQUIRED SKILLS</b>
1. Identify the efficiency and effectiveness of resource utilization	1.1 Required resource utilization in the workplace is measured using appropriate techniques 1.2 Data are recorded in accordance with workplace protocol 1.3 Recorded data are compared to determine the efficiency and effectiveness of resource utilization according to established <b><i>environmental work procedures.</i></b>	1.1 Importance of Environmental Literacy 1.2 Environmental Work Procedures 1.3 Waste Minimization 1.4 Efficient Energy Consumptions	1.1 Recording Skills 1.2 Writing Skills 1.3 Innovation Skills
2. Determine causes of inefficiency and/or ineffectiveness of resource utilization	2.1 Potential causes of inefficiency and/or ineffectiveness are listed 2.2 Causes of inefficiency and/or ineffectiveness are identified through deductive reasoning 2.3 Identified causes of inefficiency and/or ineffectiveness are validated through established environmental procedures.	2.1 Causes of environmental inefficiencies and ineffectiveness	2.1 Deductive Reasoning Skills 2.2 Critical thinking 2.3 Problem Solving 2.4 Observation Skills

<p>3. Convey inefficient and ineffective environmental practices</p>	<p>3.1 Efficiency and effectiveness of resource utilization are reported to appropriate personnel</p> <p>3.2 Concerns related resource utilization are discussed with appropriate personnel</p> <p>3.3 Feedback on information/ concerns raised are clarified with appropriate personnel.</p>	<p>3.1 Appropriate Personnel to address the environmental hazards</p> <p>3.2 Environmental corrective actions</p>	<p>3.1 Written and Oral Communication Skills</p> <p>3.2 Critical thinking</p> <p>3.3 Problem Solving</p> <p>3.4 Observation Skills</p> <p>3.5 Practice Environmental Awareness</p>
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## RANGE OF VARIABLES

VARIABLE	RANGE
1. Environmental Work Procedures	May include: 1.1 Utilization of Energy, Water, Fuel Procedures 1.2 Waste Segregation Procedures 1.3 Waste Disposal and Reuse Procedures 1.4 Waste Collection Procedures 1.5 Usage of Hazardous Materials Procedures 1.6 Chemical Application Procedures 1.7 Labeling Procedures
2. Appropriate Personnel	May include: 2.1 Manager 2.2 Safety Officer 2.3 EHS Offices 2.4 Supervisors 2.5 Team Leaders 2.6 Administrators 2.7 Stakeholders 2.8 Government Official 2.9 Key Personnel 2.10 Specialists 2.11 Himself

## EVIDENCE GUIDE

<p>1. Critical Aspects of Competency</p>	<p><b>Assessment requires evidence that the candidate:</b></p> <ol style="list-style-type: none"> <li>1.1. Measured required resource utilization in the workplace using appropriate techniques</li> <li>1.2. Recorded data in accordance with workplace protocol</li> <li>1.3. Identified causes of inefficiency and/or ineffectiveness through deductive reasoning</li> <li>1.4. Validate the identified causes of inefficiency and/or ineffectiveness thru established environmental procedures</li> <li>1.5. Report efficiency and effectiveness of resource utilization to appropriate personnel</li> <li>1.6. Clarify feedback on information/concerns raised with appropriate personnel</li> </ol>
<p>2. Resource Implications</p>	<p><b>The following resources should be provided:</b></p> <ol style="list-style-type: none"> <li>2.1. Workplace</li> <li>2.2. Tools, materials and equipment relevant to the tasks</li> <li>2.3. PPE</li> <li>2.4. Manuals and references</li> </ol>
<p>3. Methods of Assessment</p>	<p><b>Competency in this unit may be assessed through:</b></p> <ol style="list-style-type: none"> <li>3.1. Demonstration</li> <li>3.2. Oral questioning</li> <li>3.3. Written examination</li> </ol>
<p>4. Context for Assessment</p>	<ol style="list-style-type: none"> <li>4.1 Competency assessment may occur in workplace or any appropriately simulated environment</li> <li>4.2 Assessment shall be observed while tasks are being undertaken whether individually or in-group.</li> </ol>

**UNIT OF COMPETENCY : PRACTICE ENTREPRENEURIAL SKILLS IN THE WORKPLACE**

**UNIT CODE : 400311218**

**UNIT DESCRIPTOR** : This unit covers the outcomes required to apply entrepreneurial workplace best practices and implement cost-effective operations.

<b>ELEMENTS</b>	<b>PERFORMANCE CRITERIA</b> <i>Italicized terms</i> are elaborated in the Range of Variables	<b>REQUIRED KNOWLEDGE</b>	<b>REQUIRED SKILLS</b>
1. Apply entrepreneurial workplace best practices	1.1 <b>Good practices</b> relating to workplace operations are observed and selected following workplace policy. 1.2 Quality procedures and practices are complied with according to workplace requirements. 1.3 Cost-conscious habits in <b>resource utilization</b> are applied based on industry standards	1.1 Workplace best practices, policies and criteria 1.2 Resource utilization 1.3 Ways in fostering entrepreneurial attitudes: <ul style="list-style-type: none"> <li>• Patience</li> <li>• Honesty</li> <li>• Quality consciousness</li> <li>• Safety consciousness</li> <li>• Resourcefulness</li> </ul>	1.1 Communication skills 1.2 Complying with quality procedures

<p>2. Communicate entrepreneurial workplace best practices</p>	<p>2.1 Observed Good practices relating to workplace operations are communicated to <b>appropriate person</b>.</p> <p>2.2 Observed quality procedures and practices are communicated to appropriate person.</p> <p>2.3 Cost-conscious habits in resource utilization are communicated based on industry standards.</p>	<p>2.1 Workplace best practices, policies and criteria</p> <p>2.2 Resource utilization</p> <p>2.3 Ways in fostering Entrepreneurial attitudes:</p> <ul style="list-style-type: none"> <li>• Patience</li> <li>• Honesty</li> <li>• Quality consciousness</li> <li>• Safety consciousness</li> <li>• Resourcefulness</li> </ul>	<p>2.1 Communication skills</p> <p>2.2 Complying with quality procedures</p> <p>2.3 Following workplace communication protocol</p>
<p>3. Implement cost-effective operations</p>	<p>3.1 Preservation and optimization of workplace resources is implemented in accordance with enterprise policy.</p> <p>3.2 Judicious use of workplace tools, equipment and materials are observed according to manual and work requirements.</p> <p>3.3 Constructive contributions to office operations are made according to enterprise requirements.</p> <p>3.4 Ability to work within one's allotted time and finances is sustained.</p>	<p>3.1 Optimization of workplace resources</p> <p>3.2 5S procedures and concepts</p> <p>3.3 Criteria for cost effectiveness</p> <p>3.4 Workplace productivity</p> <p>3.5 Impact of entrepreneurial mindset to workplace productivity</p> <p>3.6 Ways in fostering entrepreneurial attitudes:</p> <ul style="list-style-type: none"> <li>• Quality consciousness</li> <li>• Safety consciousness</li> </ul>	<p>3.1 Implementing preservation and optimizing workplace resources</p> <p>3.2 Observing judicious use of workplace tools, equipment and materials</p> <p>3.3 Making constructive contributions to office operations</p> <p>3.4 Sustaining ability to work within allotted time and finances</p>

## RANGE OF VARIABLES

VARIABLE	RANGE
1. Good practices	May include: 1.1. Economy in use of resources 1.2. Documentation of quality practices
2. Resources utilization	May include: 2.1 Consumption/ use of consumables 2.2 Use/Maintenance of assigned equipment and furniture 2.3 Optimum use of allotted /available time

## EVIDENCE GUIDE

1. Critical aspects of competency	<p><b>Assessment requires evidence that the candidate:</b></p> <p>1.1 Demonstrated ability to identify and sustain cost-effective activities in the workplace</p> <p>1.2 Demonstrated ability to practice entrepreneurial knowledge, skills and attitudes in the workplace.</p>
2. Resource Implications	<p><b>The following resources should be provided:</b></p> <p>2.1 Simulated or actual workplace</p> <p>2.2 Tools, materials and supplies needed to demonstrate the required tasks</p> <p>2.3 References and manuals</p> <p>2.3.1 Enterprise procedures manuals</p> <p>2.3.2 Company quality policy</p>
3. Methods of Assessment	<p><b>Competency in this unit may be assessed through:</b></p> <p>3.1 Interview</p> <p>3.2 Third-party report</p>
4. Context of Assessment	<p>4.1 Competency may be assessed in workplace or in a simulated workplace setting</p> <p>4.2 Assessment shall be observed while tasks are being undertaken whether individually or in-group</p>

## COMMON COMPETENCIES

**UNIT OF COMPETENCY : INTERPRET WORKING DRAWINGS AND SKETCHES**

**UNIT CODE : MEE722202**

**UNIT DESCRIPTOR : This unit covers the competencies required to read, prepare and interpret drawings and sketches.**

ELEMENTS	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Interpret technical drawing	1.1 Components, assemblies or objects recognized as required. 1.2 Dimensions identified as appropriate. 1.3 Instructions identified and followed as required. 1.4 Material requirements identified as required. 1.5 Symbols recognized as appropriate in the drawing. 1.6 <b>Tolerance</b> , limits and fits identified in the drawing.	1.1 Alphabet of lines 1.2 Projections 1.3 Drawing symbols 1.4 Dimensioning techniques 1.5 Tolerance, limits and fits 1.6 Engineering materials 1.7 Drawing tools and supplies	1.1 Handling tools and drawing instruments 1.2 Using measuring instruments

<p>2. Prepare freehand sketch of parts</p>	<p>2.1 Sketch drawn correctly and appropriately.</p> <p>2.2 Sketch depicted objects or part appropriately.</p> <p>2.3 Dimensions indicated in the sketch are clear and correct.</p> <p>2.4 Instructions included in the sketch are clear and correct.</p> <p>2.5 Base line or datum points indicated as required.</p>	<p>2.1 Alphabet of lines</p> <p>2.2 Projections</p> <p>2.3 Drawing symbols</p> <p>2.4 Dimensioning techniques</p> <p>2.5 Tolerance, limits and fits</p> <p>2.6 Engineering materials</p> <p>2.7 Drawing tools and supplies</p>	<p>2.1 Handling tools and drawing instruments</p> <p>2.2 Using measuring instruments</p>
<p>3. Interpret details from freehand sketch</p>	<p>3.1 Components, assemblies or objects recognized as required.</p> <p>3.2 Dimensions identified as appropriate.</p> <p>3.3 Instructions identified and followed as required.</p> <p>3.4 Material requirements identified as required.</p> <p>3.5 Symbols recognized as appropriate in the drawing.</p>	<p>3.1 Alphabet of lines</p> <p>3.2 Projections</p> <p>3.3 Drawing symbols</p> <p>3.4 Dimensioning techniques</p> <p>3.5 Tolerance, limits and fits</p> <p>3.6 Engineering materials</p> <p>3.7 Drawing tools and supplies</p>	<p>3.1 Handling tools and drawing instruments</p> <p>3.2 Using measuring instruments</p>

## RANGE OF VARIABLES

VARIABLE	RANGE
1. Drawing	1.1 Drawing technique include 1.1.1 Perspective 1.1.2 Exploded view 1.1.3 Hidden view technique 1.2 Projections 1.2.1 First angle projections 1.2.2 Third angle projections
2. Tolerance	2.1 General tolerance 2.2 Angular tolerance 2.3 Geometric tolerance

## EVIDENCE GUIDE

1. Critical Aspects of Competency	Assessment requires evidence that the candidate: 1.1 Interpreted technical drawing 1.2 Prepared sketches 1.3 Interpreted sketches.
2.Resource Implications	The following resources should be provided: 2.1 Drafting room/facilities and drafting instruments and supplies appropriate to the activity 2.2 Measuring tools 2.3 Drawings, sketches or blueprint 2.4 Specimen parts/components
3. Methods of Assessment	The following assessment methods are suggested: 3.1 direct observation 3.2 written or oral short answer questions 3.3 demonstration 3.4 project/work sample 3.5 portfolio
4. Context of Assessment	4.1 Competency may be assessed in the workplace or in a simulated workplace environment.

**UNIT OF COMPETENCY : SELECT/ CUT WORKSHOP MATERIALS**

**UNIT CODE : MEE722203**

**UNIT DESCRIPTOR : This unit covers the skills and knowledge required to interpret, select and cut workshop materials.**

<b>ELEMENTS</b>	<b>PERFORMANCE CRITERIA</b> <i>Italicized terms</i> are elaborated in the Range of Variables	<b>REQUIRED KNOWLEDGE</b>	<b>REQUIRED SKILLS</b>
1. Determine requirement	1.1 <b>Plans/ drawings</b> are interpreted to produce component to specification 1.2 Sequence of operation is determined to produce components to specification.	1.1 Shop safety practices 1.1.1 Safe working habits 1.1.2 Safe handling of tools, equipment and materials 1.2 Blueprint reading 1.2.1 Standard drawing scales, symbols and abbreviations 1.2.2 Assembly and details of drawing 1.2.3 Dimensions 1.3 Measurement 1.3.1 Linear measuring tools 1.4 Materials and related science 1.4.1 Classification and mechanical properties of engineering materials	1.1 Selecting materials 1.2 Using measuring tools 1.3 Operating power hacksaw

<p>2. Select and measure materials</p>	<p>2.1 <b>Materials</b> are selected according to the requirement of the operation</p> <p>2.2 Materials are measured to required level of accuracy using measuring tools</p> <p>2.3 <b>Measuring tools</b> are used according to the manufacturer's specification.</p>	<p>2.1 Shop safety practices</p> <p>2.1.1 Safe working habits</p> <p>2.1.2 Safe handling of tools, equipment and materials</p> <p>2.2 Blueprint reading</p> <p>2.2.1 Standard drawing scales, symbols and abbreviations</p> <p>2.2.2 Assembly and details of drawing</p> <p>2.2.3 Dimensions</p> <p>2.3 Measurement</p> <p>2.3.1 Linear measuring tools</p> <p>2.4 Materials and related science</p> <p>2.4.1 Classification and mechanical properties of engineering materials</p>	<p>2.1 Selecting materials</p> <p>2.2 Using measuring tools</p> <p>2.3 Operating power hacksaw</p>
<p>3. Cut materials</p>	<p>3.1 Materials are cut according to plans/drawing instruction</p> <p>3.2 <b>Cutting tools/equipment</b> are used based on manufacturers specification, appropriate techniques or the <b>safety procedure</b>.</p>	<p>3.1 Shop safety practices</p> <p>3.1.1 Safe working habits</p> <p>3.1.2 Safe handling of tools, equipment and materials</p> <p>3.2 Blueprint reading</p> <p>3.2.1 Standard drawing scales, symbols and abbreviations</p> <p>3.2.2 Assembly and details of drawing</p> <p>3.2.3</p>	<p>3.1 Selecting materials</p> <p>3.2 Using measuring tools</p> <p>3.3 Operating power hacksaw</p>

		Dimensions 3.3 Measurement 3.3.1 Linear measuring tools 3.4 Materials and related science 3.4.1 Classification and mechanical properties of engineering materials	
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### RANGE OF VARIABLES

VARIABLE	RANGE
1. Plan/drawings	1.1 Dimensions 1.2 Tolerance
2. Materials	2.1 Ferrous 2.2 Non-ferrous
3. Measuring tools	3.1 Steel rule 3.2 Pull-push rule
4. Cutting tools/equipment	4.1 Hacksaw 4.2 Power hacksaw
5. Safety procedure	Safety involves the handling of 5.1 Equipment 5.2 Tools 5.3 Materials

## EVIDENCE GUIDE

1. Critical Aspects of Competency	Assessment requires evidence that the candidate 1.1 Interpreted plans/drawings 1.2 Selected natural according to the requirement 1.3 Performed cutting operation 1.4 Cutting tools/equipment used safely
2. Resource Implications	The following resources <b>MUST</b> be provided 2.1 Tools, equipment and facilities appropriate processes of an activity 2.2 Materials relevant to the proposal activity 2.3 Drawings/plans
3. Methods of Assessment	The following assessment activity are suggested 3.1 Direct observation 3.2 Oral short answer question 3.3 Practical exercises
4. Context of Assessment	4.1 Competency may be assessed in the workplace or in simulated work environment

**UNIT OF COMPETENCY : PERFORM SHOP COMPUTATIONS (BASIC)**

**UNIT CODE** : **MEE722204**

**UNIT DESCRIPTOR** : This unit covers the competencies required to perform basic calculations using the four fundamental operations.

<b>ELEMENTS</b>	<b>PERFORMANCE CRITERIA</b> <i>Italicized terms</i> are elaborated in the Range of Variables	<b>REQUIRED KNOWLEDGE</b>	<b>REQUIRED SKILLS</b>
1. Perform four fundamental operations	1.1 Simple calculations performed using <b>four fundamental operations</b> . 1.2 Simple calculations performed involving fractions and mixed numbers using four fundamental operations.	1.1 English and metric system of measurements	1.1 Performing calculations using pen and paper or on a calculator
2. Perform basic calculations involving fractions and decimals	2.1 Simple calculations are performed involving fractions and decimals using the four fundamental operations. 2.2 Decimals are converted into fractions (and vice versa) accurately.	2.1 English and metric system of measurements	2.1 Performing calculations using pen and paper or on a calculator
3. Perform basic calculations involving percentages	3.1 Simple calculations are performed to obtain percentages from information expressed in either fractional or decimal format.	<b>3.1</b> English and metric system of measurements	<b>3.1</b> Performing calculations using pen and paper or on a calculator

4. Perform basic calculation involving ration and proportion	4.1 Simple calculations are performed involving ratios and proportions using whole numbers, fractions and decimal fractions.	4.1 English and metric system of measurements	4.1 Performing calculations using pen and paper or on a calculator
5. Perform calculations on algebraic expressions	5.1 Simple calculations are performed on algebraic expressions using the four fundamental operations.  5.2 Simple transposition of formulae is carried out to isolate the variable required, involving the four fundamental operations.	5.1 English and metric system of measurements	5.1 Performing calculations using pen and paper or on a calculator

**RANGE OF VARIABLES**

<b>VARIABLE</b>	<b>RANGE</b>
1. Four fundamental operations	1.1 Addition 1.2 Subtraction 1.3 Multiplication 1.4 Division
2. Algebraic expressions	Calculation using formula for determining 2.1 tap drill size 2.2 feed 2.3 speed

## EVIDENCE GUIDE

1. Critical Aspects of evidence	Assessment requires evidence that the candidate performed calculations: 1.1 using four fundamental operations 1.2 involving fractions and mixed numbers 1.3 involving fractions and decimals 1.4 involving percentages 1.5 involving ratio and proportion on algebraic expressions of simple formulae
2. Resource Implications	The following resources <b>MUST</b> be provided: 2.1 Tools, equipment and facilities appropriate to processes or activity 2.2 Materials relevant to the proposed activity
3. Methods of Assessment	The following assessment methods are suggested: 3.1 written or oral short answer questions 3.2 practical exercises
4. Context of Assessment	4.1 Competency may be assessed in the workplace or in a simulated workplace environment.

**UNIT OF COMPETENCY : MEASURE WORKPIECE (BASIC)**

**UNIT CODE : MEE722205**

**UNIT DESCRIPTOR :** This unit covers the competencies required to select and use measuring tools according to the level of accuracy for specific firearms and ensuring proper handling and storage.

<b>ELEMENTS</b>	<b>PERFORMANCE CRITERIA</b> <i>Italicized terms</i> are elaborated in the Range of Variables	<b>REQUIRED KNOWLEDGE</b>	<b>REQUIRED SKILLS</b>
1. Select and use measuring tools	1.1 <b>Measuring tools</b> are selected and used according to the level of accuracy required. 1.2 <b>Measurements</b> taken are accurate to the finest graduation of the selected measuring instrument. 1.3 Measuring technique used is correct and appropriate to the device used.	1.1 Types, purposes and accuracy of measuring instruments 1.2 Capability of measuring instruments 1.3 Part dimensions and tolerances 1.4 Techniques for measuring dimensions 1.5 Care and storage procedure of measuring tools	1.1 Safe handling of measuring tools and materials

<p>2. Clean and store measuring tools</p>	<p>2.1 Care and storage of devices undertaken to manufacturer's specifications or standard operating procedures.</p>	<p>2.1 Types, purposes and accuracy of measuring instruments</p> <p>2.2 Capability of measuring instruments</p> <p>2.3 Part dimensions and tolerances</p> <p>2.4 Techniques for measuring dimensions</p> <p>2.5 Care and storage procedure of measuring tools</p>	<p>2.1 Safe handling of measuring tools and materials</p>
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## RANGE OF VARIABLES

VARIABLE	RANGE
1. Measuring tools	Measuring tools include 1.1 Steel tape 1.2 Steel rule 1.3 Straight edge 1.4 Combination square 1.5 Steel square 1.6 Divider or trammel 1.7 Caliper 1.8 Protractor 1.9 Vernier caliper 1.10 Micrometer
2. Measurements	2.1 length 2.2 diameter 2.3 depth 2.4 flatness 2.5 straightness 2.6 squareness

## EVIDENCE GUIDE

1. Critical Aspects of Competency	Assessment requires evidence that the candidate: 1.1 Selected and used measuring instruments 1.2 Cleaned and stored measuring instruments.
2. Resource Implications	The following resources <b>MUST</b> be provided 2.1 Tools, equipment and facilities appropriate to the activity 2.2 Specimen component or part to the proposed activity
3. Methods of Assessment	The following assessment methods are suggested: 3.1 direct observation 3.2 demonstration 3.3 written or oral short answer questions 3.4 portfolio
4. Context of Assessment	4.1 Competency may be assessed in the workplace or in simulated workplace environment

**UNIT OF COMPETENCY : PERFORM SHOP COMPUTATIONS (INTERMEDIATE)**

**UNIT CODE : MEE722207**

**UNIT DESCRIPTOR : This unit covers the competencies required to perform calculations involving triangles and tapers.**

<b>ELEMENTS</b>	<b>PERFORMANCE CRITERIA</b> <i>Italicized terms</i> are elaborated in the Range of Variables	<b>REQUIRED KNOWLEDGE</b>	<b>REQUIRED SKILLS</b>
1. Perform calculations involving triangles	1.1 Problems involving right triangles are performed using the <b><i>trigonometric functions</i></b> . 1.2 Problems involving non-right triangles are performed using sine and cosine rules.	1.1 English and metric system of measurements 1.2 Geometrical shapes	1.1 Performing calculations using pen and paper or on a calculator
2. Calculate taper	2.1 Taper of work calculated correctly using appropriate formula.	2.1 English and metric system of measurements 2.2 Geometrical shapes	2.1 Performing calculations using pen and paper or on a calculator

## RANGE OF VARIABLES

VARIABLE	RANGE
1. trigonometric functions	1.1 Sine 1.2 Cosine 1.3 Tangent 1.4 Cotangent 1.5 Secant 1.6 Cosecant

## EVIDENCE GUIDE

1. Critical Aspects of Competency	Assessment requires evidence that the candidate performed calculations: 1.1 Involving right triangles 1.2 Involving non-right triangles 1.3 involving tapers
2. Resource Implications	The following resources <b>MUST</b> be provided 2.1 Tools, equipment and facilities appropriate to processes or activity 2.2 Specimen component or part to the proposed activity
3. Methods of Assessment	The following assessment methods are suggested: 3.1 written or oral short answer questions 3.2 practical exercises
4. Context of Assessment	4.1 Competency may be assessed in the workplace or in a simulated workplace environment.

**UNIT OF COMPETENCY : MEASURE WORKPIECE USING ANGULAR MEASURING INSTRUMENTS**

**UNIT CODE : MEE722208**

**UNIT DESCRIPTOR : This unit covers the competencies required to measure workpieces using angular measuring instruments.**

<b>ELEMENTS</b>	<b>PERFORMANCE CRITERIA</b> <i>Italicized terms</i> are elaborated in the Range of Variables	<b>REQUIRED KNOWLEDGE</b>	<b>REQUIRED SKILLS</b>
1. Select and use angular measuring tools	1.1 <b>Angular measuring tools</b> are selected and used according to the level of accuracy required. 1.2 <b>Measurements</b> taken are accurate to the finest graduation of the selected measuring instrument. 1.3 Measuring technique used is correct and appropriate to the device used.	1.1 Types, purposes and accuracy of angular measuring instruments 1.2 Capability of measuring tools 1.3 Techniques for measuring angles and tapers 1.4 Care and storage procedure of measuring tools	1.1 Safe handling of measuring tools and materials 1.2 Reading vernier scale 1.3 Reading micrometer

2. Maintain angular measuring tools	2.1 Measuring tools are adjusted and maintained to the required accuracy utilizing manufacturer's or worksite procedures.	2.1 Types, purposes and accuracy of angular measuring instruments 2.2 Capability of measuring tools 2.3 Techniques for measuring angles and tapers 2.4 Care and storage procedure of measuring tools	2.1 Safe handling of measuring tools and materials 2.2 Reading vernier scale 2.3 Reading micrometer
3. Clean and store measuring tools	3.1 Care and storage of devices undertaken to manufacturer's specifications or standard operating procedures.	3.1 Types, purposes and accuracy of angular measuring instruments 3.2 Capability of measuring tools 3.3 Techniques for measuring angles and tapers 3.4 Care and storage procedure of measuring tools	3.1 Safe handling of measuring tools and materials 3.2 Reading vernier scale 3.3 Reading micrometer

**RANGE OF VARIABLES**

VARIABLE	RANGE
1. Angular measuring tools	Measuring tools include 1.1 Bevel protractor 1.2 Gage blocks 1.3 Sine bar
2. Measurements	2.1 angle 2.2 taper

## EVIDENCE GUIDE

1. Critical Aspects of Competency	Assessment requires evidence that the candidate: 1.1 Selected and used angular measuring instruments 1.2 Maintained/adjusted instruments 1.3 Cleaned and stored measuring instruments
2. Resource Implications	The following resources MUST be provided 2.1 Tools, equipment and facilities appropriate to the activity 2.2 Specimen component or part to the proposed activity
3. Methods of Assessment	The following assessment methods are suggested: 3.1 direct observation 3.2 demonstration 3.3 written or oral short answer questions 3.4 portfolio
4. Context of Assessment	4.1 Competency may be assessed in the workplace or in a simulated workplace environment.

**UNIT OF COMPETENCY : PERFORM PREVENTIVE AND CORRECTIVE MAINTENANCE**

**UNIT CODE : MEE722211**

**UNIT DESCRIPTOR :** This unit covers the knowledge and skills required in performing preventive and corrective maintenance such as inspection and repair of hand tools, cleaning and lubrication of machine parts and changing drive pulley and belts..

<b>ELEMENTS</b>	<b>PERFORMANCE CRITERIA</b> <i>Italicized terms</i> are elaborated in the Range of Variables	<b>REQUIRED KNOWLEDGE</b>	<b>REQUIRED SKILLS</b>
1. Perform inspection of machine	1.1 Machine <i>inspected</i> according to worksite procedures. 1.2 Status/Report recorded on pro-forma or reported orally according to worksite procedure.	1.1 Proper cleaning and oiling 1.2 Kinds of oil 1.3 Parts and function of machine tools 1.4 Cutting oil, coolant or compound 1.5 Pulleys and belts 1.6 Location of main switches of the machine 1.7 Handling and storage of tools 1.8 Checklist of safe working conditions 1.9 Procedures in cleaning and disposal of waste materials	1.1 Inspecting and repairing hand tools 1.2 Inspecting and changing drive pulleys and belts 1.3 Replacing and adjusting machine parts 1.4 Distinguishing old and new coolant 1.5 Distinguishing odor of polluted coolant 1.6 Selecting coolant, cutting oil or compounds 1.7 Changing coolant 1.8 Inspecting work area for safe working environment 1.9 Cleaning work area

			1.10 Disposing metal scraps, chips and waste materials
2. Perform cleaning and lubricating of machine	<p>2.1 <b>Machines</b> lubricated as per manufacturer's recommendation using appropriate <b>tools and materials</b></p> <p>2.2 Fluids and lubricants replaced and/or topped up according to the prescribed schedule. .</p>	<p>2.1 Proper cleaning and oiling</p> <p>2.2 Kinds of oil</p> <p>2.3 Parts and function of machine tools</p> <p>2.4 Cutting oil, coolant or compound</p> <p>2.5 Pulleys and belts</p> <p>2.6 Location of main switches of the machine</p> <p>2.7 Handling and storage of tools</p> <p>2.8 Checklist of safe working conditions</p> <p>2.9 Procedures in cleaning and disposal of waste materials</p>	<p>2.1 Inspecting and repairing hand tools</p> <p>2.2 Inspecting and changing drive pulleys and belts</p> <p>2.3 Replacing and adjusting machine parts</p> <p>2.4 Distinguishing old and new coolant</p> <p>2.5 Distinguishing odor of polluted coolant</p> <p>2.6 Selecting coolant, cutting oil or compounds</p> <p>2.7 Changing coolant</p> <p>2.8 Inspecting work area for safe working environment</p> <p>2.9 Cleaning work area</p> <p>2.10 Disposing metal scraps, chips and waste materials.</p>

<p>3. Perform minor machine repair and adjustments</p>	<p>3.1 Minor machine repairs performed according to manufacturer's instructions or worksite procedures.</p> <p>3.2 Machine moving parts adjusted to manufacturer's specifications.</p>	<p>3.1 Proper cleaning and oiling</p> <p>3.2 Kinds of oil</p> <p>3.3 Parts and function of machine tools</p> <p>3.4 Cutting oil, coolant or compound</p> <p>3.5 Pulleys and belts</p> <p>3.6 Location of main switches of the machine</p> <p>3.7 Handling and storage of tools</p> <p>3.8 Checklist of safe working conditions</p> <p>3.9 Procedures in cleaning and disposal of waste materials</p>	<p>3.1 Inspecting and repairing hand tools</p> <p>3.2 Inspecting and changing drive pulleys and belts</p> <p>3.3 Replacing and adjusting machine parts</p> <p>3.4 Distinguishing old and new coolant</p> <p>3.5 Distinguishing odor of polluted coolant</p> <p>3.6 Selecting coolant, cutting oil or compounds</p> <p>3.7 Changing coolant</p> <p>3.8 Inspecting work area for safe working environment</p> <p>3.9 Cleaning work area</p> <p>3.10 Disposing metal scraps, chips and waste materials</p>
<p>4. Maintain hand tools</p>	<p>4.1 Tool cutting ground to recommended specifications</p> <p>4.2 Hand tools lubricated and stored according to prescribed procedure</p>	<p>4.1 Proper cleaning and oiling</p> <p>4.2 Kinds of oil</p> <p>4.3 Parts and function of machine tools</p> <p>4.4 Cutting oil, coolant or compound</p> <p>4.5 Pulleys and belts</p> <p>4.6 Location of main switches of the machine</p> <p>4.7 Handling and storage of tools</p> <p>4.8 Checklist of safe working conditions</p> <p>4.9 Procedures in cleaning and disposal of waste materials</p>	<p>4.1 Inspecting and repairing hand tools</p> <p>4.2 Inspecting and changing drive pulleys and belts</p> <p>4.3 Replacing and adjusting machine parts</p> <p>4.4 Distinguishing old and new coolant</p> <p>4.5 Distinguishing odor of polluted coolant</p> <p>4.6 Selecting coolant, cutting oil or compounds</p>

			<p>4.7 Changing coolant</p> <p>4.8 Inspecting work area for safe working environment</p> <p>4.9 Cleaning work area</p> <p>4.10 Disposing metal scraps, chips and waste materials</p>
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**RANGE OF VARIABLES**

<b>VARIABLE</b>	<b>RANGE</b>
1. Inspected	<p>Inspected machine parts include:</p> <p>1.1 V-belt</p> <p>1.2 Bearing</p> <p>1.3 Gears</p> <p>1.4 Clutch</p> <p>1.5 Drive pulley</p>
2. Machines	<p>Machine included but not limited to:</p> <p>2.1 Lathe machine</p> <p>2.2 Milling machine</p> <p>2.3 Grinding machine</p>
3. Tools and materials	<p>Tools and materials used include:</p> <p>3.1 Lubricants</p> <p>3.2 Oil can</p> <p>3.3 Grease gun</p> <p>3.4 Oil</p> <p>3.5 Coolant or compound</p>

## EVIDENCE GUIDE

1. Critical Aspects of Competency	Assessment requires evidence that that the candidate 1.1 performed inspection of machine 1.2 performed cleaning and lubricating of machine 1.3 performed minor machine repairs and adjustments
2. Resource Implications	The following resources <b>MUST</b> be provided 2.1 Tools, equipment and facilities appropriate to processes or activity 2.2 Materials relevant to the proposed activity
3. Methods of Assessment	The following assessment methods are suggested: 3.1 direct observation of activities 3.2 oral or written questioning
4. Context of Assessment	4.1 Competency may be assessed in the workplace or in simulated workplace environment.

## CORE COMPETENCIES

**UNIT OF COMPETENCY** : **DEMONSTRATE FIREARMS SAFETY RULES AND FUNDAMENTALSs OF MARKSMANSHIP**

**UNIT CODE** : **AB-MEE1374020722301**

**UNIT DESCRIPTOR** : This unit covers the knowledge, skills and attitude required to demonstrate firearms safety rules and fundamentals of marksmanship. It includes practicing firearm safety handling, practicing safety protocols in workplace, establishing test area and establishing safety area.

<b>ELEMENTS</b>	<b>PERFORMANCE CRITERIA</b> <i>Italicized terms</i> are elaborated in the Range of Variables	<b>REQUIRED KNOWLEDGE</b>	<b>REQUIRED SKILLS</b>
1. Practice firearm safety handling	1.1 <b><i>Gun Safety protocols</i></b> is followed based on industry standards 1.2 Firearm basic parts and functions are identified based on industry standards 1.3 Gun handling techniques are applied based on the fundamentals of marksmanship 1.4 Report to the Trainer for any unwanted incidents based on OSH standards	<b>Communication</b> 1.1 Fundamentals of armament 1.2 Fundamentals of marksmanship 1.3 Gun safety rules awareness 1.4 International gun safety rules and protocols	1.1 Handling gun safely 1.2 Enumerating five fundamentals of marksmanship 1.3 Identifying hazards and risks
2. Practice safety protocols in workplace	2.1 <b><i>Safety protocols</i></b> is followed based on OSH standards 2.2 <b><i>PPE</i></b> is worn appropriately based on OSH standards	<b>Science</b> 2.1 Gun safety rules awareness 2.2 Appropriate PPE 2.3 Location of designated	2.1 Handling gun safety 2.2 Enumerating five fundamentals of marksmanship

	<p>2.3 Workplace safety and emergency <b>signages</b> are observed based on OSH standards</p>	<p>emergency exits</p> <p>2.4 Description of signages</p> <p>2.5 Location of emergency kits</p> <p>2.6 Machine and tools safety</p> <p>2.7 First aid and emergency procedures</p> <p>2.8 Safe firearm storage system</p> <p><b>Communication</b></p> <p>2.9 Five fundamentals of marksmanship</p> <p>2.10 Fundamental s of armaments</p>	<p>2.3 Wearing of appropriate PPE</p> <p>2.4 Identifying location</p> <p>2.5 Interpreting signages</p> <p>2.6 Applying first aid</p> <p>2.7 Handling machine and tools safely</p> <p>2.8 Storing firearms system safely</p>
<p>3. Establish test area</p>	<p>3.1 Standard <b>backstop area</b> is established in the designated area based on OSH Standards</p> <p>3.2 <b>Exhaust system</b> of test range facility is maintained according to OSH standards</p> <p>3.3 Report to the trainer for any damage on the area based on OSH standards</p>	<p><b>Science</b></p> <p>3.1 Hazards and risk</p> <p>3.2 OSH standards</p> <p><b>Communication</b></p> <p>3.3 Understand ballistic behavior</p> <p>3.3 Cycle of operation</p> <p>3.4 PNP FEO regulations</p> <p><b>Technology</b></p> <p>3.5 Ammo classifications</p>	<p>3.1 Following test firing procedures</p> <p>3.2 Identifying hazards and risks</p> <p>3.3 Managing jam issue</p> <p>3.4 Identifying backstop and bullet trap design requirements</p> <p>3.5 Analyzing bullet trajectory</p> <p>3.6 Ensuring firearm and ammo compatibility</p>

<p>4 Establish safety area</p>	<p>4.1 <b>Designated area</b> is installed with appropriate signages based on basic gun safety rules</p> <p>4.2 <b>Safety equipment</b> was verified as readily available <i>based on industry procedures</i></p> <p>4.3 Backstop is maintained regularly based on workplace policy</p> <p>4.4 Report to the trainer for any unavailable or defective equipment based on the industry standards</p>	<p><b>Science</b></p> <p>4.1 OSH standards</p> <p>4.2 Workplace hazards and risks</p> <p><b>Communication</b></p> <p>4.3 International gun safety rules and protocols</p> <p>4.4 Emergency response and first aid protocols</p> <p>4.5 Lessons learned/previous incidents</p> <p>4.6 Maintenance procedures</p>	<p>4.1 Handling gun safely</p> <p>4.2 Practicing safe working habits</p> <p>4.3 Wearing PPEs</p> <p>4.4 Practicing 5S</p> <p>4.5 Practicing emergency drills</p> <p>4.6 Scheduling preventive maintenance</p>
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## RANGE OF VARIABLES

VARIABLE	RANGE
1. Gun Safety protocols	May include but not limited to: 1.1 5S 1.2 Four golden rules on gun safety 1.3 Do's and Don'ts 1.4 Emergency drills
2. PPE	May include but not limited to: 2.1 Eye protection 2.2 Ear protection 2.3 Nose protection or respirator 2.4 Safety shoes 2.5 Ballistic apron 2.6 Gloves 2.7 Face protection
3. Signages	May include but not limited to: 3.1 Manmade Hazards 3.2 Natural Hazards 3.3 Hazardous waste disposals 3.4 Exits 3.5 Safety areas
4. Backstop area	May include but not limited to: 4.1 Steel plate 4.2 Concrete 4.3 Stand filled 4.4 Logs 4.5 Used tiles 4.6 Angle and design 4.7 Baffles
5. Standards	May include but not limited to: 5.1 FEO requirements 5.2 BFP requirements 5.3 OSH

6. Exhaust system	May include but not limited to: 6.1 Air filtration 6.2 HEPA 6.3 Negative pressure system 6.4 Positive pressure system 6.5 Proper ventilation
7. Designated area	May include but not limited to: 7.1 Waste disposal 7.2 Gun handling area 7.3 Storage 7.4 Staging area 7.5 Access control
8. Safety equipment	May include but not limited to: 8.1 Fire extinguisher 8.2 First aid kit 8.3 Eye wash station 8.4 Physical barriers 8.5 Exhaust systems

## EVIDENCE GUIDE

<p>1. Critical aspect of competencies</p>	<p>Assessment required evidence that the candidate:</p> <ul style="list-style-type: none"> <li>1.1 Followed gun safety protocols based on industry standards</li> <li>1.2 Understood firearm basic parts and functions based on industry standards</li> <li>1.3 Understood proper gun handling techniques based on fundamentals of marksmanship</li> <li>1.4 Reported unwanted incidents to the trainer based on OSH standards</li> <li>1.5 Followed safety protocols based on OSH standards</li> <li>1.6 Worn personal protective equipment appropriately based on OSH standards</li> <li>1.7 Observed workplace safety and emergency signages based on OSH standards</li> <li>1.8 Established standard backstop area in designated location based on OSH standards</li> <li>1.9 Maintained exhaust system of test range facility according to OSH standards</li> <li>1.10 Reported damage in the area to the trainer based on OSH standards</li> <li>1.11 Installed designated area with appropriate signages based on basic gun safety rules</li> <li>1.12 Verified safety equipment availability based on industry procedures</li> <li>1.13 Maintained backstop regularly based on workplace policy</li> <li>1.14 Reported unavailable or defective equipment to the trainer based on industry standards</li> </ul>
<p>2. Resource Implications</p>	<p>The following resources should be provided:</p> <ul style="list-style-type: none"> <li>2.1 Machines, equipment, tools, supplies and materials relevant to the activity to be performed</li> <li>2.2 Actual safe work area with complete facilities</li> </ul>
<p>3. Methods of Assessment</p>	<p>Competency may be assessed through:</p> <ul style="list-style-type: none"> <li>3.1 Demonstration with oral questioning</li> <li>3.2 Direct observation</li> <li>3.3 Written test</li> </ul>
<p>4. Context for Assessment</p>	<ul style="list-style-type: none"> <li>4.1 Competency may be assessed in actual safe work area or simulated actual safe work area</li> <li>4.2 Assessment done during students return demonstration</li> </ul>

**UNIT OF COMPETENCY : PERFORM PREPARATORY ACTIVITIES FOR GUNSMITHING**

**UNIT CODE : AB-MEE1374020722302**

**UNIT DESCRIPTOR :** This unit covers the knowledge, skills and attitude required to perform preparatory activities for gunsmithing. It includes determining job order/directives, setting up a clean and safe work area, and preparing tools and equipment.

<b>ELEMENTS</b>	<b>PERFORMANCE CRITERIA</b> <i>Italicized terms</i> are elaborated in the Range of Variables	<b>REQUIRED KNOWLEDGE</b>	<b>REQUIRED SKILLS</b>
1. Determine Job Order/Directives	1.1 <b>Firearm model</b> and serial number are identified based on the job order 1.2 <b>Specific instruction</b> is identified based on the job order 1.3 Specific <b>job requirements</b> are checked based on job order/directives 1.4 <b>Specific tools</b> are prepared based on job requirement	<b>Science</b> 1.1 Types of firearms 1.2 Types of tools 1.3 Parts compatibility 1.4 Proper storage room <b>Communication</b> 1.5 Clearance procedure 1.6 Data Privacy Act 1.7 Gun safety awareness	1.1 Communication skills 1.2 Familiarizing types of firearms 1.3 Identifying types of tools 1.4 Handling gun safety 1.5 Determining appropriate parts 1.6 Complying with procedures 1.7 Storing firearm properly 1.8 Complying Data Privacy Act
2. Set up a clean and safe work area	2.1 Work area is verified to be organized based on industry standards	<b>Communication</b> 2.15S Awareness 2.2OSH Standards	2.15S 2.2OSH Standards 2.3Familiarizing

	<p>2.2 Work area is observed to be adequately ventilated in accordance with industry standards</p> <p>2.3 Work area is confirmed to be cleaned based on industry standards</p> <p>2.4 Work area is assessed to be free from hazards and risks according with industry standards</p>	2.3 Familiarization of Maintenance Checklist	checklist
3. Prepare tools and equipment	<p>3.1 Tools and equipment are checked or replaced based on industry standards</p> <p>3.2 <b>Tools and equipment</b> are prepared based on job requirement</p> <p>3.3 Tools and equipment are used according to its function</p> <p>3.4 Tools and equipment are maintained based on industry standards</p>	<p><b>Communication</b></p> <p>3.1 Familiarization on the use of tools and equipment</p> <p>3.2 Familiarization of tools and equipment</p> <p>3.3 Determine whether tools and equipment are functional</p>	<p>3.1 Familiarizing tools and equipment</p> <p>3.2 Familiarizing use of tools and equipment</p> <p>3.3 Determining tools and equipment functionality</p>

## RANGE OF VARIABLES

VARIABLE	RANGE
1. Firearm model	This may include but not limited to: <ul style="list-style-type: none"> <li>1.1 Single-action, recoil-operated, semi-automatic pistol (1911)</li> <li>1.2 Clamshell and Solid frame Striker-fired pistol</li> <li>1.3 Revolver</li> <li>1.4 Shot gun (Pump-action, and semi-automatic)</li> <li>1.5 Rifle (Bolt action, and semi-automatic)</li> <li>1.6 Semi-automatic carbine (M4)</li> </ul>
2. Specific Instruction	This may include but not limited to: <ul style="list-style-type: none"> <li>2.1 Inspection/diagnose</li> <li>2.2 Cleaning</li> <li>2.3 Repair</li> <li>2.4 Customization</li> <li>2.5 Tuning</li> </ul>
3. Job requirements	This may include but not limited to: <ul style="list-style-type: none"> <li>2.1 Time frame</li> <li>2.2 Scope of work</li> <li>2.3 Tools, parts</li> </ul>
4. Specific tools	This may include but not limited to: <ul style="list-style-type: none"> <li>3.1 Cleaning mat</li> <li>3.2 Cleaning kits</li> <li>3.3 Proper lubricants</li> <li>3.4 Needle file</li> <li>3.5 Screws, wrenches</li> <li>3.6 Punch set</li> <li>3.7 Hammer/Rubber mallet</li> <li>3.8 Pliers</li> </ul>
5. Tools and equipment	This may include but not limited to: <ul style="list-style-type: none"> <li>4.1 Hand tools                             <ul style="list-style-type: none"> <li>4.1.1 Needle file</li> <li>4.1.2 Screws, wrenches</li> <li>4.1.3 Punch set</li> <li>4.1.4 Hammer/rubber mallet</li> <li>4.1.5 Pliers</li> </ul> </li> <li>4.2 Sandblasting machine</li> <li>4.3 Bench vice</li> <li>4.4 Grinder</li> </ul>

## EVIDENCE GUIDE

<p>1. Critical aspect of competencies</p>	<p>Assessment required evidence that the candidate:</p> <ul style="list-style-type: none"> <li>1.1 Identified firearm model and serial number based on job order</li> <li>1.2 Identified specific instructions based on job order</li> <li>1.3 Checked specific job requirements based on job order or directives</li> <li>1.4 Prepared specific tools based on job requirements</li> <li>1.5 Verified work area organization based on industry standards</li> <li>1.6 Observed adequate work area ventilation in accordance with industry standards</li> <li>1.7 Confirmed work area cleanliness based on industry standards</li> <li>1.8 Assessed work area to be free from hazards and risks according to industry standards</li> <li>1.9 Checked or replaced tools and equipment based on industry standards</li> <li>1.10 Prepared tools and equipment based on job requirements</li> <li>1.11 Used tools and equipment according to their functions</li> <li>1.12 Maintained tools and equipment based on industry standards</li> </ul>
<p>2. Resource Implications</p>	<p>The following resources should be provided:</p> <ul style="list-style-type: none"> <li>2.1 Tools, equipment, and materials relevant to the activity to be performed</li> <li>2.2 Actual safety area with complete facilities</li> </ul>
<p>3. Methods of Assessment</p>	<p>Competency may be assessed through:</p> <ul style="list-style-type: none"> <li>3.1 Demonstration with oral questioning</li> <li>3.2 Direct observation</li> <li>3.3 Written test</li> </ul>
<p>4. Context for Assessment</p>	<ul style="list-style-type: none"> <li>4.1 Competency may be assessed in actual safety area or simulated safety area</li> <li>4.2 Assessment done during students return demonstration</li> </ul>

**UNIT OF COMPETENCY : REPAIR AND REFURBISH COMMON ISSUES OF FIREARMS**

**UNIT CODE : AB-MEE1374020722305**

**UNIT DESCRIPTOR :** This unit covers the knowledge, skills and attitude required to repair and refurbish common issues of firearms. It includes determining job order/directives, diagnosing firearm issues, disassembling firearm, repairing and refurbishment of firearm, assembling firearm, conducting function check for firearm and recording and storing repaired firearm.

<b>ELEMENTS</b>	<b>PERFORMANCE CRITERIA</b> <i>Italicized terms</i> are elaborated in the Range of Variables	<b>REQUIRED KNOWLEDGE</b>	<b>REQUIRED SKILLS</b>
1. Determine job order/directives	1.1 <b>Firearm category</b> is determined based on actual model 1.2 Task is analyzed based on the work order/directives 1.3 Actual condition of Firearm is recorded and documented based on physical condition of firearms 1.4 Job order/directives creation and approval based on procedure	<b>Technology</b> 1.1 Types of firearm platform 1.2 Types of firearm model <b>Communication</b> 1.3 Work order/directives 1.4 Procedure in serialization 1.5 Familiarization of firearm parts and functions	1.1 Identifying firearm 1.2 Technical communication skills 1.3 Conduct technical inspection 1.4 Serialization of firearm 1.5 Identifying parts of firearms and functions
2. Diagnose firearm issues	2.1 <b>PPE</b> is worn appropriately based on OSH standards 2.2 Functional testing of firearm is conducted based on actual firing and <b>cycle of operation</b> 2.3 <b>Defect and Malfunction</b> is	<b>Science</b> 2.1 Types of defects and malfunction 2.1 4 Cardinals of gun safety <b>Communication</b> 2.2 Test and evaluation	2.1 Proper wearing of PPE 2.2 Applying 4 Cardinals of gun safety 2.3 Disassembling the firearm 2.4 Applying provisions of

	<p>determined based on workplace procedures</p> <p>2.4 Parts for repair/replacement are identified based on the workplace procedure</p> <p>2.5 Diagnostic findings are communicated to the <b>concerned personnel</b> based on workplace procedure</p>	<p>procedure</p> <p>2.3 Cycle of operation</p> <p>2.4 Steps in disassembling</p> <p>2.5 Firearms manual</p> <p>2.6 Actions to address malfunction</p> <p>2.7 Communication protocol</p> <p><b>Technology</b></p> <p>2.8 Essential tools and supplies</p> <p>2.9 Disassembling firearm</p> <p><b>Mathematics</b></p> <p>2.10 Cost of repair</p> <p>2.11 Time of repair</p>	<p>firearm manual</p> <p>2.5 Troubleshooting</p> <p>2.6 Identifying parts and functions</p> <p>2.7 Communication skills</p> <p>2.8 Estimating skills</p> <p>2.9 Applying immediate and remedial actions</p> <p>2.10 Critical thinking skills</p> <p>2.11 Analytical skills</p>
3. Disassemble firearm	<p>3.1 <b>Steps</b> in disassemble are followed based on procedure manual</p> <p>3.2 Tools are utilized based on its purpose</p> <p>3.3 Disassembled parts are arranged based on work instruction</p> <p>3.4 Gun <b>safety protocol</b> is observed based on OSH Standards</p>	<p><b>Communication</b></p> <p>3.1 Steps in disassembly</p> <p>3.2 Gun safety awareness</p> <p>3.3 Appropriate PPEs</p> <p><b>Technology</b></p> <p>3.4 Types of tools</p>	<p>2.1 Following steps in disassembly</p> <p>2.2 Handling gun safely</p> <p>2.3 Using proper tools</p> <p>2.12 Wearing of PPEs</p>

<p>4. Repair and refurbishment of firearm</p>	<p>4.1 <b>Tools for cleaning</b> are identified based on procedure manual</p> <p>4.2 <b>Tools for repair</b> are identified and prepared based on procedure manual</p> <p>4.3 <b>Defective parts</b> are replaced based on the diagnosis</p> <p>4.4 Protective and aesthetic appearance is restored using recommended <b>chemical solutions</b></p> <p>4.5 Correction actions are applied based on the diagnosis</p>	<p><b>Science</b></p> <p>4.1 Chemical application procedure</p> <p>4.2.4 Cardinal rules of gun safety</p> <p><b>Communication</b></p> <p>4.3 Gun cleaning procedures</p> <p>4.4 Familiarization of firearm parts and functions</p> <p>4.5 Firearms manual</p> <p><b>Technology</b></p> <p>4.6 Assembly and disassembly of firearm</p> <p><b>Environmental and Related Laws</b></p> <p>4.7 RA10591 Comprehensive Firearms and Ammunition Regulation Act</p>	<p>4.1 Gun cleaning</p> <p>4.2 Chemical application skills</p> <p>4.3 Troubleshooting</p> <p>4.4 Identifying parts and functions</p> <p>4.5 Identifying and applying chemical solutions</p> <p>4.6 Assembling/disassembling firearm</p>
<p>5. Assemble firearm</p>	<p>5.1 Firearm is lubricated based on work instruction</p> <p>5.2 Steps in assembly are followed based on work instruction</p> <p>5.3 <b>Gun safety protocol</b> is observed based on OSH Standards</p>	<p><b>Communication</b></p> <p>5.1 Steps in assembly</p> <p>5.2 Gun safety awareness</p> <p>5.3 Appropriate PPEs</p> <p><b>Technology</b></p> <p>5.4 Types of tools</p>	<p>5.1 Following steps in assembly</p> <p>5.2 Using proper tools</p> <p>5.3 Handling gun safely</p> <p>4.1 Wearing PPEs</p>
<p>6. Conduct function check for firearm</p>	<p>6.1 Firearm function is checked based on cycle of operation</p> <p>6.2 <b>Cycle of operation</b> is established based on firearm mechanical process</p>	<p><b>Science</b></p> <p>6.1 Familiarization of cycle of operation</p> <p>6.2 Basic functions of firearm</p>	<p>6.1 Performing basic functions</p> <p>6.2 Wearing appropriate PPE</p> <p>6.3 Handling</p>

	<p>6.3 Firearm safety protocol is observed based on OSH Standards</p> <p>6.4 Appropriate PPE is worn based on OSH standards</p>	<p><b>Communication</b></p> <p>6.3 Gun safety awareness</p> <p>6.4 Appropriate PPE</p>	<p>gun safely</p>
<p>7. Record and store repaired firearm</p>	<p>7.1 <b>Technical inspection report (TIR)</b> is prepared according to workplace procedure</p> <p>7.2 Firearms are stored according to firearm classification</p> <p>7.3 Firearms are inspected periodically based on workplace procedure</p> <p>7.4 Model and serial number are checked upon release of firearm based company procedure</p>	<p><b>Communication</b></p> <p>7.1 TIR Forms</p> <p>7.2 Firearms Segregation</p> <p>7.3 Inspection Checklist</p>	<p>7.1 Conducting functional test</p> <p>7.2 Accomplishing TIR forms</p> <p>7.3 Piling and storing</p>

## RANGE OF VARIABLES

VARIABLE	RANGE
1. Firearm category	This may include but not limited to: 1.1 Handguns 1.1.1 Revolvers 1.1.2 Semi-auto pistols 1.2 Rifles 1.2.1 Bolt action 1.2.2 Lever action 1.2.3 Automatic 1.2.4 Semi-automatic 1.3 Shotguns 1.3.1 Break action 1.3.2 Pump action 1.3.3 Semi-automatic 1.3.4 Over-and-under and side-by-side shotgun
2. Personal Protective Equipment (PPE)	This may include but not limited to: 2.1 Eye protection 2.2 Ear protection 2.3 Nose protection or respirator 2.4 Safety shoes 2.5 Ballistic apron 2.6 Work Gloves 2.7 Face protection
3. Gun safety protocol	This may include but not limited to: 3.1 Four cardinal rules 3.1.1 Always treat the gun was loaded 3.1.2 Be sure of your target and behind it. 3.1.3 Always keep your finger off the trigger 3.1.4 Never point the gun at anything you don't intend to destroy or shoot.
4. Cycle of operation	This may include but not limited to: 4.1 Unlocking 4.2 Extracting 4.3 Ejecting 4.4 Cocking 4.5 Feeding 4.6 Chambering 4.7 Locking 4.8 Firing

5. Tools for Cleaning	This may include but not limited to: 5.1 Brush 5.2 Rod 5.3 Patches 5.4 Bore Snake 5.5 Gun Oil 5.6 Cotton Swab 5.7 Cleaning matt 5.8 Cotton Rugs
6. defect	May include but not limited to: 6.1 Worn front and rear sight 6.2 Visible cracks 6.3 Corrosion 6.4 Discoloration 6.5 Dents 6.6 Damage barrel 6.7 Loose or missing screws 6.8 Excessive wear on firing pin 6.9 Worn extractor or ejector 6.10 Damaged trigger assembly
7. Malfunction	May include but not limited to: 7.1 Run-away 7.2 Cook off 7.3 Hangfire 7.4 Sluggish 7.5 Failure to fire 7.6 Failure to extract 7.7 Failure to operations 7.8 Failure to eject 7.9 Failure to cock or runaway gun 7.10 Failure to feed
8. Concerned personnel	This may include but not limited to: 8.1 Customer 8.2 Supervisor 8.3 Manager
9. Tools for repair	This may include but not limited to: 9.1 Plastic hammer 9.2 Flat screw driver 9.3 Pin punches 9.4 Pliers 9.5 Bench vise

10. Defective Parts	<p>This may include but not limited to:</p> <ul style="list-style-type: none"> <li>10.1 Screws</li> <li>10.2 Pins</li> <li>10.3 Springs</li> <li>10.4 Trigger</li> <li>10.5 Sights</li> <li>10.6 Grips</li> </ul>
11. Chemical Solution	<p>This may include but not limited to:</p> <ul style="list-style-type: none"> <li>11.1 Gun blue</li> <li>11.2 Aluminum black</li> <li>11.3 CLP (Cleaning, Lubricating, and Preservation)</li> </ul>
12. Technical Inspection report (TIR)	<p>This may include but not limited to:</p> <ul style="list-style-type: none"> <li>12.1 M1911/2011 (Hammer fire pistol)</li> <li>12.2 Striker fire</li> <li>12.3 Revolver <ul style="list-style-type: none"> <li>12.3.1 Single action</li> <li>12.3.2 Double action</li> </ul> </li> </ul>

## EVIDENCE GUIDE

<p>1. Critical aspect of competencies</p>	<p>Assessment required evidence that the candidate:</p> <ul style="list-style-type: none"> <li>1.1 Identified firearm platform based on category</li> <li>1.2 Distinguished firearm types and variants based on classification</li> <li>1.3 Applied appropriate firearm procedures specific to platform and job description</li> <li>1.4 Identified firearm parts based on form and placement</li> <li>1.5 Classified basic functions of firearm parts based on cycle of operation</li> <li>1.6 Established interconnection and interrelation of firearm parts based on cycle of operation</li> <li>1.7 Worn personal protective equipment based on OSH standards</li> <li>1.8 Followed firearm disassembly steps according to procedure</li> <li>1.9 Used disassembly tools based on function</li> <li>1.10 Stored disassembled parts according to procedure</li> <li>1.11 Demonstrated gun safety protocols based on industry standards</li> <li>1.12 Followed firearm assembly steps according to procedure</li> <li>1.13 Used appropriate tools based on function</li> <li>1.14 Verified completeness of firearm parts based on function and placement</li> <li>1.15 Worn personal protective equipment based on OSH standards</li> <li>1.16 Checked firearm functionality based on cycle of operation</li> <li>1.17 Established cycle of operation based on firearm mechanical process</li> <li>1.18 Demonstrated gun safety protocols based on industry standards</li> </ul>
<p>2. Resource Implications</p>	<p>The following resources should be provided:</p> <ul style="list-style-type: none"> <li>2.1 Tools, equipment, and materials relevant to the activity to be performed</li> <li>2.2 Actual safety area with complete facilities</li> </ul>
<p>3. Methods of Assessment</p>	<p>Competency may be assessed through:</p> <ul style="list-style-type: none"> <li>4.7 Demonstration with oral questioning</li> <li>4.8 Direct observation</li> <li>4.9 Written test</li> </ul>

4. Context for Assessment	4.1 Competency may be assessed in actual safety area or simulated safety area 4.2 Assessment done during students return demonstration
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## GLOSSARY OF TERMS

<b>CYCLE OF OPERATION</b>	a sequence of actions that a firearm performs when firing a round from loading to ejection
<b>FIREARMS SEGREGATION</b>	the practice of separating firearms based on type, condition, or other factors for storage or safety purposes
<b>FUNCTIONAL TESTING</b>	is a crucial process involving inspection of firearms before and after actual live firing
<b>FUNDAMENTALS OF MARKSMANSHIP</b>	refers to the principles and techniques used for effective shooting
<b>FIREARMS CLEANING PROCEDURES</b>	a process of removing dirt, debris, and residue ensuring smooth operation
<b>INSPECTION CHECKLIST</b>	a list of checking points or criteria used to inspect a firearm during quality process
<b>JOB ORDER/DIRECTIVES</b>	a formal document outlining the specific task or repair requested by the customer
<b>MALFUNCTION</b>	a firearm defect that prevents it from functioning properly
<b>PREPARATORY ACTIVITIES</b>	steps that need to be completed before performing a specific gunsmithing task
<b>REPAIR AND REFURBISH (IN FIREARMS)</b>	refers two (2) interrelated concepts where repair pertains to replacement of parts while refurbish refers to restoration
<b>SERIALIZATION OF FIREARMS</b>	the process of assigning a unique identification number to each firearm
<b>TECHNICAL INSPECTION REPORT</b>	a document that summarizes the findings of a technical inspection of a firearm
<b>TIME OF REPAIR</b>	an estimate of the amount of time required to repair a firearm

## ACKNOWLEDGEMENTS

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