

BANGLADESH TECHNICAL EDUCATION BOARD



NATIONAL COMPETENCY STANDARDS

For

Motorcycle Servicing: NTVQF 2

Transport Equipment Industry Skills Council

Bangladesh

BANGLADESH TECHNICAL EDUCATION BOARD

June, 2013

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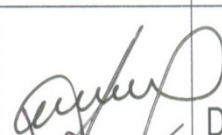
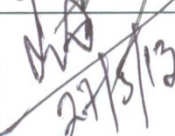

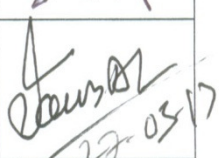

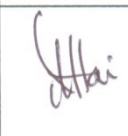
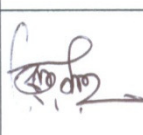
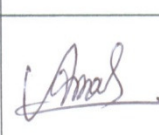
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NATIONAL COMPETENCY STANDARDS

For

Motorcycle Servicing: NTVQF 2

Meeting held on 27.5.2013

Sl. No	Name of members	Address Contact number	Designation	Signature	Remarks
1.	Brig.Gen.Aftabuddin Ahmed Executive Diretor	UCEP, Dhaka-1216 8017104, 8011014-6	Chair Person		CS Documents approved
2.	Mr.Md.Matiur Rahman Sr.Dy.General Manager	Uttara Motors Ltd. 124,Tejgnao Ind.Area.	Member	 27/5/13	
3.	Mr.Md.Humayun Ahmed Senior Technical Advisor	HS Enterprise Ltd. Indira Road,Dhaka 01819223312	Member	 27/5/13	
4.	Mr.Md.Golam Faruque Service Engineer	Walton Service Centre 7213293, 7215313	Member	 27-05/13	
5.	Mr.Salah Uddin Ahmed Chief Instructor(Mech)	Dhaka Polytechnic Institute,0171512014 2	Member		
6.	Mr.Md.Shahadat Hossain Curriculum Specialist	BTEB, Dhaka 01558439769	Member		
7.	Mr.Khanda Abdul Bari Instructor	Bangla German TTC Dhaka, 01711185317	Member		
8.	Mr.Amol Kumar Bashu Chief Instructor	MAWTS, Pallabi, Dhaka. 01715834657	Member		

NATIONAL COMPETENCY STANDARDS

For

**Motorcycle Servicing: NTVQF 2
Structure of Competency**

Sl. No.	Unit Code and Title		UoC Level	Hours
GENERIC – Compulsory (3 UoCs required)				130
1.	GN2001A1	Use English in workplace	NTVQF 2	70
2.	GN2002A1	Operate in a self-directed team	NTVQF 2	30
3.	GN2003A1	Present and apply workplace information	NTVQF 2	30
OCCUPATION Specific – Compulsory (5 UoCs required)				140
4.	TRSMS2004A1	Service motorcycle engine cooling system	NTVQF 2	25
5.	TRSMS2005A1	Service electrical and electronics system of motorcycle.	NTVQF 2	25
6.	TRSMS2006A1	Perform servicing of transmission system of motorcycle.	NTVQF 2	25
7.	TRSMS2007A1	Service motorcycle steering system.	NTVQF 2	25
8.	TRSMS2008A1	Service motorcycle	NTVQF 2	40
			Grand Total	270

**GENERIC UNITS
NTVQF 2**

**National Technical and Vocational Qualification Framework(NTVQF) for Bangladesh
Motorcycle Servicing: NTVQF 2
Unit of Competency**

Unit Code and Title	GN2001A1: Use English in workplace
Nominal Hours	70 hours
Unit Descriptor	This unit of competency requires the knowledge, skills and attitude to be able to read, write, understand and communicate in English in the workplace.
Elements of Competency	Performance Criteria <i>Italicized terms are elaborated in the range of variables</i>
1. Read and understand workplace documents in English	1.1. Document of daily workplace information is collected. 1.2. <i>Workplace documents</i> are read and understood. 1.3. Information in the document is communicated.
2. Write simple routine workplace documents in English	2.1. <i>Routine</i> on <i>work schedule</i> at workplace are prepared. 2.2. <i>Visual information</i> is written in the appropriate places in standard forms.
3. Listen to conversation in English	3.1. Pronunciation used in conversation is listened. 3.2. Pronunciation using similar conversation is demonstrated.
4. Perform conversation in English	4.1 Conversation is performed in English with peers, sub-ordinates and seniors at workplace.
Range of Variables	
Variable	Range
1. Routine and workplace documents.	<i>Document may include but not limited to:</i> 1.1. Schedules and itineraries 1.2. Agenda 1.3. Reports such as progress and incident reports 1.4. Job sheets 1.5. Operational manuals 1.6. Brochures and promotional material 1.7. Visual and graphic materials 1.8. Standards 1.9. OSH information
2. Visual information.	<i>Visual information may include but not limited to:</i> 2.1. Signs 2.2. Maps 2.3. Diagrams 2.4. Forms 2.5. Labels 2.6. Graphs 2.7. Charts

<p>Evidence Guide The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.</p>	
1. Critical aspects of competency	<p>1.1. Use of appropriate delivery methods. 1.2. Use of learning aids and equipment. 1.3. Selection and practice appropriate English to the task. 1.4. Perform routine practice in English learning.</p>
2. Required underpinning knowledge	<p>2.1. Read workplace documents in English. 2.2. Understanding workplace instruction. 2.3. Writing workplace documents in English 2.4. Listen to conversation in English 2.5. Perform conversation in English 2.6. Interaction skills i.e. teamwork, interpersonal skills. 2.7. Job roles responsibilities and compliances.</p>
3. Required underpinning skills.	<p>3.1. Writing workplace documents in English using appropriate vocabulary and spelling. 3.2. Writing workplace documents in English such as schedules, agenda and job sheets. 3.3. Listening and speaking in English language. 3.4. Performing conversation in English with peers, subordinates and seniors. 3.5. Performing duties as per verbal and written instruction in English.</p>
4. Required underpinning attitude.	<p>4.1. Commitment to occupational safety and health. 4.2. Communication with peers, subordinates and seniors in workplace. 4.3. Promptness in carrying out activities. 4.4. Tidiness and timeliness. 4.5. Respect for rights of peers, subordinates and seniors in workplace. 4.6. Environmental concern. 4.7. Sincere and honest to duties.</p>
5. Resource implication.	The learning aids and other required materials must be provided to learn English.
6. Methods of assessment.	<p>Methods of assessment may include but not limited to: 6.1. Continuous assessment. 6.2. Oral questions. 6.3. Written test. 6.4. Reading test 6.5. Speaking test. 6.6. Listening test. 6.7. Observation.</p>

7. Context of assessment.	Competency may be assessed in the workplace or in a simulated workplace.
<p>Accreditation Requirements</p> <p>Training Providers must be accredited by Bangladesh Technical Education Board (BTEB), the national quality assurance body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of any national qualification.</p> <p>Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by BTEB.</p>	

**National Technical and Vocational Qualification Framework(NTVQF) for Bangladesh
Motorcycle Servicing: NTVQF 2
Unit of Competency**

Unit Code and Title	GN2002A1: Operate in a self-directed team
Nominal Hours	30 hours
Unit Descriptor	This unit of competency requires the knowledge, skills and attitude to cooperate and work within a team in an interactive environment as per the workplace standard.
Elements of Competency	Performance Criteria <i>Italicized</i> terms are elaborated in the range of variables
1. Identify team goals and processes.	1.1. Team goals and processes are identified. 1.2. Roles and responsibilities of team members are identified 1.3. Relationships within team and with other work areas are identified
2. Communicate and cooperate with team members.	2.1. Interacting with team members to contribute by the team interpersonal skills are used 2.2. Formal and informal forms of communication are used to support team achievement. 2.3. Diversity is respected and valued in team functioning. 2.4. Views and opinions of other team members are understood and reflected. 2.5. Workplace terminology is used to assist communication. 2.6 Awareness build up in the team.
3. Work as a team member.	3.1. Duties, responsibilities, authorities, objectives and task requirements are identified and clarified within team. 3.2. Tasks are performed in accordance with Organizational procedures and team requirements. 3.3. To ensure team's achievements other members are supported by the team members. 3.4. Agreed reporting lines are followed using standard operating procedures.
4. Solve problems as a Team member.	4.1. Current and potential problems faced by team are identified. 4.2. Procedures for solving problems are identified. 4.3. Problems are solved by the effort of the team.

Range of Variables	
Variable	Range
1. Problem.	<i>Problems may includes but not limited to:</i> 1.1. Administrative problems. 1.2. Financial problems. 1.3. Problems between individual. 1.4. Problems out of illness. 1.5. Problems from outside.
2. Solution.	<i>Solution may includes but not limited to:</i> 2.1. Counseling. 2.2. Conciliation. 2.3. Negotiation. 2.4. Principles of equity and fairness. 2.5. Compensation.
3. Awareness.	<i>Awareness may includes but not limited to:</i> 3.1. Self-awareness of the team members. 3.2. Organizational code of conduct. 3.3. Handling of complaint grievances. 3.4. Monitory benefit.
Evidence Guide The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.	
1. Critical Aspects of competency	1.1. Development of devoted self-directed team. 1.2. Implementing routine strategies for team development. 1.3. Dealing with workplace issues promptly. 1.4. Presenting information clearly and precisely. 1.5. Confidence in making decision.
2. Required underpinning Knowledge.	2.1. Written and electronic communication methods. 2.2. Effective verbal communication methods. 2.3. Public code of conduct. 2.4. Dealing with management problems.
3. Required underpinning Skills.	3.1. Organize and circulate information. 3.2. Understand and convey intended meaning. 3.3. Participate in a variety of workplace discussions. 3.4. Comply with Organization's requirements in the use of written and electronic communication methods.

4. Required underpinning attitude	4.1. Commitment to occupational health and safety. 4.2. Environmental concerns. 4.3. Eagerness to learn. 4.4. Tidiness and timeliness. 4.5. Respect for rights of peers, sub-ordinates and seniors in workplace. 4.6. Promptness in carrying out activities. 4.7. Communication with peers, sub-ordinates and seniors in workplace.
5. Resource Implications.	The following resources must be provided: 5.1. Variety of Information 5.2. Communication tools 5.3. Simulated workplace 5.4. Logistic support.
6. Methods of assessment.	<i>Methods of assessment may includes but not limited to:</i> 6.1. Continuous assessment. 6.2. Oral questions. 6.3. Observation. 6.4. Written test. 6.5 Assignment.
7. Context of assessment.	Competency may be assessed in the workplace or in a simulated workplace.

Accreditation Requirements

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Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by BTEB.

**National Technical and Vocational Qualification Framework(NTVQF) for Bangladesh
Motorcycle Servicing: NTVQF 2
Unit of Competency**

Unit Code and Title	GN2003A1: Present and apply workplace information.
Nominal Hours	30 hours
Unit Descriptor	This unit of competency requires the knowledge, skills and attitude to communicate and deliver up-to-date information in an interactive work environment as per workplace standard.
Elements of Competency	Performance Criteria <i>Italicized</i> terms are elaborated in the range of variables
1.Notify required information.	1.1. Required information in the workplace are notified. 1.2 Selected <i>source of information</i> .
2. Collect data.	2.1 Data is collected and correlated as per prescribed method. 2.2 Relevant data is used as references in accordance with the objectives. 2.3 Information is applied according to workplace requirements.
3. Interpret organizational information.	3.1 Collected information is analyzed, interpreted and organized as required for workplace.
4. Apply and present workplace information	4.1. Findings and recommendations are summarized and presented. 4.2. Draft report/forms are prepared based on standard format. 4.3. Graphs and other visual presentations are prepared to highlight the analysis/interpretation of information. 4.4. Reports/ <i>forms</i> are submitted and distributed to relevant departments/persons.
Range of Variables	
Variable	Range
1. Sources of information.	<i>Sources of information may includes but not limited to:</i> 1.1. Daily job instructions. 1.2. Specifications. 1.3. Standard operating procedures. 1.4. Charts. 1.5. Lists 1.6. Documents 1.7. Computer data

	<ul style="list-style-type: none"> 1.8. Drawings. 1.9. Sketches. 1.10. Tables. 1.11. Technical manuals and charts. 1.12. Surveys. 1.13. Interviews.
2. Forms.	<p>Forms may includes but not limited to:</p> <ul style="list-style-type: none"> 2.1. Questionnaires. 2.2. Profile. 2.3. Accident/incident report form. 2.4. Work order. 2.5. Purchase order. 2.6. Job cards.
3. Methodologies.	<p>Methodology may includes but not limited to:</p> <ul style="list-style-type: none"> 3.1. Qualitative. 3.2. Quantitative.
<p>Evidence Guide The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.</p>	
1. Critical aspects of competency.	<ul style="list-style-type: none"> 1.1. Select appropriate information system to the task. 1.2. Circulate routine of up-to-date information to the Team.
2. Required underpinning knowledge.	<ul style="list-style-type: none"> 2.1. Identify information. 2.2. Identify data. 2.3. Workplace standard.
3. Required underpinning skills.	<ul style="list-style-type: none"> 3.1. Collecting information. 3.2. Collecting data. 3.3. Interpreting instruction of data sheet. 3.4. Performing task as per data sheet. 3.5. Keeping records and reports.
4. Required underpinning attitude.	<ul style="list-style-type: none"> 4.1. Commitment to occupational health and safety. 4.2. Environmental concerns. 4.3. Eagerness to learn. 4.4. Tidiness and timeliness. 4.5. Respect for rights of peers, sub-ordinates and seniors in workplace. 4.6. Communication with peers, sub-ordinates and seniors in workplace. 4.7. Promptness in carrying out activities.

5. Resource Implications.	The following resources must be provided: 5.1. Variety of Information 5.2. Communication tools 5.3. Simulated workplace 5.4. Logistic support.
6. Methods of assessment.	<i>Methods of assessment may includes but not limited to:</i> 6.1. Continuous assessment. 6.2. Oral questions. 6.3. Observation. 6.4. Assignment. 6.5 Written test.
7. Context of assessment.	Competency may be assessed in the workplace or in a simulated workplace.

Accreditation Requirements

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OCCUPATION SPECIFIC UNITS
NTVQF Level-2

**National Technical and Vocational Qualification Framework(NTVQF) for Bangladesh
Motorcycle Servicing: NTVQF 2
Unit of Competency**

Unit Code and Title	TRSMS2004A1 Service motorcycle engine cooling system.
Nominal Hours	25hours
Unit Descriptor	This unit of competency requires the knowledge, skills and attitude to service the cooling system of air cooled motor cycles.
Elements of Competency	Performance Criteria <i>Italicized terms are elaborated in the range of variables</i>
1. Follow OSH practices	1.1. Personal protective equipment used during work as per job requirements. 1.2. OSH standards observed as set out by the workplace practices and legislation. 1.3. Equipment is used safely according to specifications and standard operating procedures.
2. Prepare for work	2.1. Job card prepared as per workplace practice and customer requirements. 2.2. Work instructions are followed to determine the job requirements including method, process and equipment. 2.3. OSH requirements, including personal safety needs, are observed throughout the work. 2.4. Materials, tools, equipment and replacement parts required to perform work are identified and prepared as per workplace procedures.
3. Inspect and service cooling system	3.1. Service of cooling system of motorcycle is provided as per service manuals . 3.2. Engine cooling fins inspected for dirt and damage. 3.3. Cooling ducts, cowls and fairings inspected for correct fitment and possible airflow obstruction. 3.4. Possible external causes of overheating identified. 3.5. Work area, tools and equipment cleaned and stored as per workplace practices
4. Prepare motorcycle for use or storage	4.1. Equipment and work area are cleaned and inspected for serviceable condition in accordance with workplace procedures. 4.2. Motorcycle cleaned and prepared for use or storage as per workplace procedures. 4.3. Workplace documents are completed in accordance with workplace procedures.
Range of Variables	

Variable	Range
1. Occupational Safety and Health.	<p>OSH may includes but not limited to:</p> <ul style="list-style-type: none"> 1.1. Clean work area 1.2. Oil spill control 1.3. Personal Protective Equipment 1.4. Risk assessment 1.5. Hazard identification 1.6. Manual handling techniques 1.7. Housekeeping 1.8. Material safety data sheets (MSDS) 1.9. Reporting accidents and incidents 1.10. Environmental practices
2. Cooling systems.	<p>Cooling systems may includes but not limited to:</p> <ul style="list-style-type: none"> 1.1. 2 and 4 stroke petrol fuelled air cooled engines are used in motor cycles.
3. Service manuals.	<p>Service manuals may includes but not limited to:</p> <ul style="list-style-type: none"> 3.1. Manufacturers service manuals. 3.2. Owners handbook. 3.3. Non manufacturer manuals and service data Information.
4. Tools and equipment.	<p>Tools and equipment may includes but not limited to:</p> <ul style="list-style-type: none"> 4.1. Combination spanners (assortment ring/open end). 4.2. Socket set (6-19 mm). 4.3. Screwdrivers (Flat and Phillips). 4.4. Special tools as suggested by manufacturer.
<p>Evidence Guide The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.</p>	
1. Critical aspects of competency.	<ul style="list-style-type: none"> 1.1. Demonstrate knowledge and skills. 1.2. Service cooling systems as used on air cooled engines to trade standards.
2. Required underpinning knowledge.	<ul style="list-style-type: none"> 2.1. Practice OSH. 2.2. Identify of trade tools and equipment. 2.3. Measure liquid volumes. 2.4. Identify motor cycle main systems and components.
3. Required underpinning skills.	<ul style="list-style-type: none"> 3.1. Apply relevant OSH practices. 3.2. Handle motor cycles in confined spaces. 3.3. Use hand tools. 3.4. Follow written or verbal instructions.
4. Required underpinning attitude.	<ul style="list-style-type: none"> 4.1. Commitment to occupational health and safety. 4.2. Environmental concerns. 4.3. Eagerness to learn. 4.4. Tidiness and timeliness. 4.5. Respect for rights of peers, sub-ordinates and

	seniors in workplace. 4.6. Communication with peers, sub-ordinates and seniors in workplace. 4.7. Promptness in carrying out activities
5. Resource Implications.	The following resources must be provided: 5.1. Hand tools. 5.2. Motorcycle. 5.3. Air compressor. 5.4. Cleaning brush. 5.5. Waste cotton.
6. Methods of assessment.	<i>Methods of assessment may includes but not limited to:</i> 6.1. Continuous assessment. 6.2. Oral questions. 6.3. Observation. 6.4. Demonstrations. 6.5. Assignment.
7. Context of assessment.	Competency may be assessed in the workplace or in a simulated workplace.

Accreditation Requirements

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**National Technical and Vocational Qualification Framework(NTVQF)for Bangladesh
Motorcycle Servicing: NTVQF 2
Unit of Competency**

Unit Code and Title	TRSMS2005A1 Service electrical and electronics system of motorcycle.
Nominal Hours	25 hours
Unit Descriptor	This unit of competency requires the knowledge,skills and attitude to perform servicing of electrical and electronics system during motor cycle servicing.
Elements of Competency	Performance Criteria <i>Italicized terms are elaborated in the range of variables</i>
1. Follow OSH practices.	1.1. Personal protective equipment used during work as per job requirements. 1.2. OSH standards observed as set out by the workplace practices and legislation. 1.3. Equipment is used safely according to specifications and standard operating procedures.
2. Prepare for motorcycle servicing of electrical and electronic system.	2.1. Job card prepared as per workplace practice and customer desire. 2.2. Instructions for works are used to determine the job requirements. 2.3. OSH requirements including personal safety are observed throughout the work. 2.4. Materials, tools, equipment and replacement parts required to perform work are identified and prepared as per service manuals .
3. Test the circuits to identify fault.	3.1. Testing of electrical and electronics circuits (Head light, parking light, brake light, indicating light, dash board, horn and electronics sensor) of motorcycle is performed. 3.2. Tests are carried out to determine faults using appropriate tools and equipment. 3.3. Faults are identified and repaired. 3.4. OSH requirements observed at the time of testing.
4. Repair electrical and electronic system of motorcycle.	4.1. Faulty electrical and electronics circuits and components are detected. 4.2. Faulty components are repaired / replaced. 4.3. Faulty circuits are repaired. 4.4. Tools and equipment are collected.

5. Clean the workplace and the motorcycle for storage.	<p>5.1. Tools and equipment and workplace are cleaned and inspected to ensure serviceable condition in accordance with workplace procedures.</p> <p>5.2 Motorcycle cleaned and prepared for use or storage as per workplace procedures.</p> <p>5.3 Workplace documents are completed in accordance with workplace procedures.</p> <p>5.4 Replacement parts and materials are identified.</p>
Range of Variables	
Variable	Range
1. Occupational Safety and Health.	<p>OSH may includes but not limited to:</p> <p>1.1. Clean work area. 1.2. Oil spill control. 1.3. Personal Protective Equipment. 1.4. Risk assessment. 1.5. Hazard identification. 1.6. Manual handling techniques. 1.7. Housekeeping. 1.8. Material safety data sheets (MSDS). 1.9. Reporting accidents and incidents. 1.10. Environmental practices.</p>
2. Electrical and electronics circuits.	<p>Electrical and electronics circuits may includes but not limited to:</p> <p>2.1. Series and parallel circuits. 2.2. Electrical circuits of head light, parking light, indicators, brake light, horn, dash board, electrical motor starting, battery charging and electronics sensor.</p>
3. Electrical and electronics repairs.	<p>Electrical and electronics repairs may includes but not limited to::</p> <p>3.1. Checking and replacing bulbs. 3.2. Checking and replacing fuses. 3.3. Checking of voltage by test lamp and voltmeter. 3.4. Replacing damaged or missing terminals</p>
4. Service manuals.	<p>Service manuals may includes but not limited to:</p> <p>4.1. Manufacturers service manuals. 4.2. Owners handbook. 4.3. Non manufacturer manuals and service data information.</p>
5. Tools and equipment.	<p>Tools and equipment may includes but not limited to:</p> <p>5.1. Combination spanners (assortment ring/open end).. 5.2. Box spanners (6-19). 5.3. Screwdrivers (Flat and Phillips). 5.4. Test lamp and digital volt/multi meter. 5.5. Electrical crimping tools. 5.6. Wire cutters.</p>

	<p>5.7. Soldering equipment.</p> <p>5.8. Special tools as suggested by manufacturer.</p>
6. Replacement parts and materials	<p><i>Replacement parts and materials may includes but not limited to:</i></p> <p>6.1. Bulbs, fuses, terminals, battery, wires and cables.</p>
<p>Evidence Guide</p> <p>The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.</p>	
1. Critical aspects of competency.	<p>1.1. Demonstrate knowledge and skills.</p> <p>1.2. Service cooling systems as used on air cooled engines to trade standards.</p>
2. Required underpinning knowledge.	<p>2.1. Practice OSH.</p> <p>2.2. Identify of trade tools and equipment.</p> <p>2.3. Measure liquid volumes.</p> <p>2.4. Identify motor cycle main systems and components.</p>
3. Required underpinning skills.	<p>3.1. Apply relevant OSH practices.</p> <p>3.2. Handle motor cycles in confined spaces.</p> <p>3.3. Use hand tools.</p> <p>3.4. Follow written or verbal instructions.</p>
4. Required underpinning attitude.	<p>4.1. Commitment to occupational health and safety.</p> <p>4.2. Environmental concerns.</p> <p>4.3. Eagerness to learn.</p> <p>4.4. Tidiness and timeliness.</p> <p>4.5. Respect for rights of peers, sub-ordinates and seniors in workplace.</p> <p>4.6. Communication with peers, sub-ordinates and seniors in workplace.</p> <p>4.7. Promptness in carrying out activities</p>
5. Resource Implications.	<p>The following resources must be provided:</p> <p>5.1. Hand tools.</p> <p>5.2. Motorcycle.</p> <p>5.3. Cleaning brush.</p> <p>5.4. Battery charger.</p> <p>5.5. Waste cotton.</p>
6. Methods of assessment.	<p><i>Methods of assessment may includes but not limited to:</i></p> <p>6.1. Continuous assessment.</p> <p>6.2. Oral questions.</p> <p>6.3. Observation.</p> <p>6.4. Demonstrations.</p> <p>6.5. Assignment.</p>
7. Context of assessment.	<p>Competency may be assessed in the workplace or in a simulated workplace.</p>

Accreditation Requirements

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**National Technical and Vocational Qualification Framework(NTVQF) for Bangladesh
Motorcycle Servicing: NTVQF 2
Unit of Competency**

Unit Code and Title	TRSMS2006A1 Perform servicing of motorcycle transmission system.
Nominal Hours	25hours
Unit Descriptor	This unit of competency requires the knowledge, skills and attitude to perform servicing of motor cycle steering and suspension systems
Elements of Competency	Performance Criteria <i>Italicized</i> terms are elaborated in the range of variables
1. Follow OSH Practices.	1.1. Personal protective equipment used during work as per job requirements. 1.2. OSH standards observed as set out by the workplace practices and legislation. 1.3 Equipment is used safely according to specifications and standard operating procedures.
2. Prepare the motorcycle for servicing transmission system.	2.1 Job card prepared as per workplace practice and customer requirements. 2.2. Work instructions are used to determine the job requirements including method, process and equipment. 2.3 OSH requirements, including personal safety needs, are observed throughout the work. 2.4 Materials, tools, equipment and replacement parts required to perform work are identified and prepared as per workplace procedures.
3. Inspect transmission system of motorcycle.	3.1 Procedures of steering service system are identified from manufacturer's manuals. 3.2 Faults are identified and reported to supervisor for servicing. 3.3. Inspection performed to check for wear and steering head bearing adjustment as per manufacturer's procedures. 3.4. Servicing of wheel bearings and swing arm bearings are performed. 3.5. Performance of steering system is inspected.
4. Inspect steering and suspension system of motorcycle.	4.1 Procedures of steering and suspension system service are identified from manufacturer's manuals. 4.2. Faults are identified and reported to supervisor for servicing. 4.3. Inspection performed to check wheel bearing and swing arm bush bearing as per manufacturer manual. 4.4. Rear shock absorbers are checked for servicing and adjusted as per service manuals . 4.5. Front forks and oil leakage are checked. 4.6. Forks oil checked and refilled. 4.7. Performance of suspension system is inspected..

5. Clean work area and prepare motorcycle for use or storage	<p>5.1. Tools and equipment and workplace are cleaned and inspected to ensure serviceable condition in accordance with workplace procedures.</p> <p>5.2. Motorcycle cleaned and prepared for use.</p> <p>5.3 Workplace documents are completed in accordance with workplace procedures.</p> <p>5.4. Final inspection is made to ensure expected performance.</p> <p>5.5. Replacement parts and materials are identified.</p>
Range of Variables	
Variable	Range
1. Occupational Safety and Health.	<p>OSH may includes but not limited to:</p> <ul style="list-style-type: none"> 1.1. Clean work area 1.2. Oil spill control 1.3. Personal Protective Equipment 1.4. Risk assessment 1.5. Hazard identification 1.6. Manual handling techniques 1.7. Housekeeping 1.8. Material safety data sheets (MSDS) 1.9. Reporting accidents and incidents 1.10. Environmental practices
2. Steering and suspension systems	<p>Steering and suspension systems may includes but not limited to:</p> <ul style="list-style-type: none"> 2.1. Twin shock absorber type rear suspension systems. 2.2. Mono shock absorber type rear suspension systems. 2.3. Standard fork type front suspension systems. 2.4. Common front and rear type suspensions as found on motorcycle. 2.5. Steering systems as found on common motor cycles.
3. Service manuals	<p>Service manuals may includes but not limited to:</p> <ul style="list-style-type: none"> 3.1. Manufacturers service manuals 3.2. Owners handbook 3.3. Non manufacturer manuals and service data information
4. Tools and equipment.	<p>Tools and equipment may includes but not limited to:</p> <ul style="list-style-type: none"> 4.1. Combination spanners (Assortment ring/open end). 4.2. Socket spanner (6-19mm). 4.3. Feeler gauges. 4.4. Screwdrivers (Flat and Phillips). 4.5. Oil funnel. 4.6. Oil measuring container. 4.7. Oil pan (Container to hold waste oil). 4.8. Waste Oil storage facilities.

	<p>4.9. Oil spill equipment (Mop, bucket, saw dust or similar)</p> <p>4.10. Motor cycle lifting and support equipment.</p> <p>4.11. Special tools as suggested by manufacturer</p>
5. Replacement parts and materials	<p>Replacement parts may includes but not limited to:</p> <p>5.1. Suitable range of fork springs shims and oil seal</p> <p>5.2. Suitable range of fork oils/lubricants</p> <p>5.3. A range of replacement bearings and bushes for steering heads, wheels and swing arms for common motor cycles</p>
<p>Evidence Guide</p> <p>The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.</p>	
1. Critical aspects of competency.	<p>1.1. Demonstrate knowledge and skills.</p> <p>1.2. Servicing of steering and suspension system.</p>
2. Required underpinning knowledge.	<p>2.1. Practice OSH.</p> <p>2.2. Identify of trade tools and equipment.</p> <p>2.3. Measure liquid volumes.</p> <p>2.4. Identify motor cycle systems and components.</p>
3. Required underpinning skills.	<p>3.1. Apply relevant OSH practices.</p> <p>3.2. Handle motor cycles in confined spaces.</p> <p>3.3. Use hand tools.</p> <p>3.4. Follow written or verbal instructions.</p>
4. Required underpinning attitude.	<p>4.1. Commitment to occupational health and safety.</p> <p>4.2. Environmental concerns.</p> <p>4.3. Eagerness to learn.</p> <p>4.4. Tidiness and timeliness.</p> <p>4.5. Respect for rights of peers, sub-ordinates and seniors in workplace.</p> <p>4.6. Communication with peers, sub-ordinates and seniors in workplace.</p> <p>4.7. Promptness in carrying out activities</p>
5. Resource Implications.	<p>The following resources must be provided:</p> <p>5.1. Hand tools.</p> <p>5.2. Motorcycle.</p> <p>5.3. Cleaning brush.</p> <p>5.4. Battery charger.</p> <p>5.5. Waste cotton.</p>
6. Methods of assessment.	<p>Methods of assessment may includes but not limited to:</p> <p>6.1. Continuous assessment.</p> <p>6.2. Oral questions.</p> <p>6.3. Observation.</p> <p>6.4. Demonstrations.</p>

	6.5. Assignment.
7. Context of assessment.	Competency may be assessed in the workplace or in a simulated workplace.
<p>Accreditation Requirements</p> <p>Training Providers must be accredited by Bangladesh Technical Education Board (BTEB), the national quality assurance body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of any national qualification.</p> <p>Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by BTEB.</p>	

**National Technical and Vocational Qualification Framework(NTVQF) for Bangladesh
Motorcycle Servicing: NTVQF 2
Unit of Competency**

Unit Code and Title	TRSMS2007A1 Service motorcycle steering system.
Nominal Hours	25hours
Unit Descriptor	This unit of competency requires the knowledge, skills and attitude to perform servicing of motor cycle steering systems
Elements of Competency	Performance Criteria <i>Italicized terms are elaborated in the range of variables</i>
1. Follow OSH Practices	1.1. Personal protective equipment used during work as per job requirements. 1.2. OSH standards observed as set out by the workplace practices and legislation. 1.3. Equipment is used safely according to specifications and standard operating procedures.
2. Prepare motorcycle for servicing steering system.	3.1. Steering systems inspection procedures are identified from manufacturer's manuals. 2.1. Job card prepared as per workplace practice and customer desire. 2.2. Work instructions are used to determine the job requirements including method, process and equipment. 2.3. OSH requirements, including personal safety needs, are observed throughout the work. 2.4. Materials, tools, equipment and replacement parts required to perform work are identified and prepared as per workplace procedures.
3. Inspect motor cycle drive system	3.1. Functional checks performed to determine chain and sprocket operation as per service manuals . 3.2. Visual inspection performed to check for wear, tear of chain and sprockets, chain tension and lubrication. 3.3. Faults are identified and reported to supervisor
4. Service chain and sprocket.	4.1. Service procedures are identified from manufacturer's manual.. 4.2. Worn drive chain and sprockets are replaced. 4.3 Drive chain lubricated and adjusted as per manufacturer's specification.
5. Clean work area and prepare motorcycle for use or storage	5.1. Tools and equipment and workplace are cleaned and inspected to ensure serviceable condition in accordance with workplace procedures. 5.2. Motorcycle cleaned and prepared for use. 5.3 Workplace documents are completed in accordance with workplace procedures. 5.4. Final inspection is made to ensure expected performance. 5.5. Replacement parts and materials are identified.

Range of Variables	
Variable	Range
1. Occupational Safety and Health.	<p><i>OSH may includes but not limited to:</i></p> <ul style="list-style-type: none"> 1.1. Clean work area 1.2. Oil spill control 1.3. Personal Protective Equipment 1.4. Risk assessment 1.5. Hazard identification 1.6. Manual handling techniques 1.7. Housekeeping 1.8. Material safety data sheets (MSDS) 1.9. Reporting accidents and incidents 1.10. Environmental practices
2. Service manuals.	<p><i>Service manuals may includes but not limited to:</i></p> <ul style="list-style-type: none"> 2.1. Manufacturers service manuals 2.2. Owners handbook 2.3. Non manufacturer manuals and service data information
3. Tools and equipment.	<p><i>Tools and equipment may includes but not limited to:</i></p> <ul style="list-style-type: none"> 3.1. Combination spanners (Assortment ring/open end). 3.2. Socket spanner (6-19mm). 3.3. Feeler gauges. 3.4. Screwdrivers (Flat and Phillips). 3.5. Oil funnel. 3.6. Oil measuring container. 3.7. Oil pan (container to hold waste oil). 3.8. Waste Oil storage facilities. 3.9. Oil spill equipment (mop, bucket, saw dust or similar). 3.10. Motor cycle lifting and support equipment. 3.11. Special tools as required by manufacturer.
4. Replacement parts and materials	<p><i>Replacement parts may includes but not limited to:</i></p> <ul style="list-style-type: none"> 4.1. Suitable range of fork springs and shims 4.2. Suitable range of fork oils/lubricants 4.3. A range of replacement bearings and bushes for steering heads, wheels and swing arms for common motor cycles
<p>Evidence Guide The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.</p>	
1. Critical aspects of competency.	<ul style="list-style-type: none"> 1.1 Demonstrates knowledge and skills. 1.2 Servicing of motorcycle steering and suspension systems.

2. Required underpinning knowledge	<p>2.1 Relevant OSH practices.</p> <p>2.2 Identification of basic trade tools and equipment.</p> <p>2.3 Ability to measure liquid volumes.</p> <p>2.4 Motor cycle systems components.</p>
3. Required underpinning skills	<p>3.1. Ability to apply relevant OSH practices</p> <p>3.2. Ability to handle motor cycles in confined spaces</p> <p>3.3. Use hand tools</p> <p>3.4. Follow written or verbal instructions</p>
4. Required underpinning attitude	<p>4.1. Commitment to occupational safety and health.</p> <p>4.2. Communication with peers, sub-ordinates and seniors in workplace.</p> <p>4.3. Promptness in carrying out activities.</p> <p>4.4. Tidiness and timeliness.</p> <p>4.5. Respect for rights of peers, sub-ordinates and seniors in workplace.</p> <p>4.6. Environmental concern.</p> <p>4.7. Sincere and honest to duties.</p>
5. Resource Implications.	<p>The following resources must be provided:</p> <p>5.1. Hand tools.</p> <p>5.2. Motorcycle.</p> <p>5.3. Cleaning brush.</p> <p>5.4. Battery charger.</p> <p>5.5. Waste cotton.</p>
6. Methods of assessment.	<p>Methods of assessment may includes but not limited to:</p> <p>6.1. Continuous assessment.</p> <p>6.2. Oral questions.</p> <p>6.3. Observation.</p> <p>6.4. Demonstrations.</p> <p>6.5. Assignment.</p>
7. Context of assessment.	<p>Competency may be assessed in the workplace or in a simulated workplace.</p>

Accreditation Requirements

Training Providers must be accredited by Bangladesh Technical Education Board (BTEB), the national quality assurance body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of any national qualification.

Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by BTEB.

National Technical and Vocational Qualification Framework(NTVQF) for Bangladesh

Motorcycle Servicing: NTVQF 2 Unit of Competency

Unit Code and Title	TRSMS2008A1 Service motorcycle.
Nominal Hours	40 hours
Unit Descriptor	This unit of competency requires the knowledge, skills and attitude to perform servicing of motorcycle.
Elements of Competency	Performance Criteria <i>Italicized terms are elaborated in the range of variables</i>
1. Follow OSH Practices	1.1 Personal protective equipment used during work as per job requirements. 1.2 OSH standards observed as set out by the workplace practices and legislation. 1.3 Equipment is used safely according to specifications and standard operating procedures.
2. Prepare maintenance service book for motorcycle.	2.1 Job card prepared as per workplace practice and customer requirements. 2.2 Motor cycle service manual and maintenance schedule sourced. 2.3 Tools and equipment , lubricants and replacement parts prepared as per work to be performed; 2.4 Enter maintenance performed in the service record book.
3. Perform functional test of motorcycle.	3.1 Engine run to operating temperature and checked for oil leaks and abnormal noises. 3.2 Functional tests performed on rider's control, clutch, brakes, lights, indicators and horn and all faults identified and preferred action determined from workplace supervisor. 3.3 Motor cycle serviced in a logical sequence as per manufacturer's schedule and/or customer request to manufacturer and workplace standards. 3.4 Minor service type repairs/additional work completed as per faults identified or customer requirements to manufacturer and service manuals . 3.5 Road tests performed or performed by workplace supervisor to ensure vehicle is operating within manufacturers and workplace specifications
4. Prepare motorcycle for use or delivery.	4.1 Final inspection is made to ensure work is to workplace expectations. 4.2 Motorcycle is cleaned and prepared for use or vehicle storage as per workplace procedures. 4.3 Workplace documents are completed in accordance with workplace procedures. 4.4 Replacement parts and materials are identified.
Range of Variables	

Variable	Range
1. Occupational Safety and Health.	<i>OSH may includes but not limited to:</i> 1.1. Clean work area 1.2. Oil spill control 1.3. Personal Protective Equipment 1.4. Risk assessment 1.5. Hazard identification 1.6. Manual handling techniques 1.7. Housekeeping 1.8. Material safety data sheets (MSDS) 1.9. Reporting accidents and incidents 1.10. Environmental practices
2. Motorcycles.	<i>Motor cycles may includes but not limited to:</i> 2.1. 2 and 4 stroke petrol fuelled motorcycles.
3. Service manuals	<i>Service manuals may includes but not limited to:</i> 3.1. Manufacturers service manuals 3.2. Owners handbook 3.3. Non manufacturer manuals and service data information
4. Tools and equipment.	<i>Tools and equipment may includes but not limited to:</i> 4.1. Combination spanners (Assortment ring/open end) 4.2. Socket box (6-19mm) 4.3. Feeler gauges 4.4. Screwdrivers (Flat and Phillips) 4.5. Oil funnel 4.6. Oil measuring container 4.7. Oil pan (container to hold waste oil) 4.8. Waste Oil storage facilities 4.9. Oil spill equipment (Mop, bucket, saw dust or similar) 4.10. Special tools as required by manufacturer
5. Replacement parts and materials	<i>Replacement parts and materials may includes but not limited to:</i> 5.1. Air filters 5.2. Oil filters 5.3. Fuel filters 5.4. Sump plug gaskets 5.5. Chains and sprockets 5.6. Suitable range of engine oils/lubricants
Evidence Guide The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.	
1. Critical Aspects of Competency	1.1 Demonstrates knowledge and skills to: 1.2 Service common type motor cycles as found in Bangladesh to trade standards

2. Required Underpinning Knowledge	<p>2.1 Relevant OSH practices</p> <p>2.2 Identification of basic trade tools and equipment</p> <p>2.3 Ability to measure liquid volumes</p> <p>2.4 Motor cycle main systems, components and their purpose</p> <p>2.5 Motor cycle controls</p>
3. Required Underpinning Skills	<p>3.1 Ability to apply relevant OSH practices</p> <p>3.1 Ability to maneuver motor cycles in confined spaces</p> <p>3.2 Use hand tools</p> <p>3.3 Follow written or verbal instructions</p>
4. Required underpinning attitude.	<p>4.1. Commitment to occupational health and safety.</p> <p>4.2. Environmental concerns.</p> <p>4.3. Eagerness to learn.</p> <p>4.4. Tidiness and timeliness.</p> <p>4.5. Respect for rights of peers, sub-ordinates and seniors in workplace.</p> <p>4.6. Communication with peers, sub-ordinates and seniors in workplace.</p> <p>4.7. Promptness in carrying out activities</p>
5. Resource Implications.	<p>The following resources must be provided:</p> <p>5.1. Hand tools.</p> <p>5.2. Motorcycle.</p> <p>5.3. Cleaning brush..</p> <p>5.5. Waste cotton.</p>
6. Methods of assessment.	<p>Methods of assessment may includes but not limited to:</p> <p>6.1. Continuous assessment.</p> <p>6.2. Oral questions.</p> <p>6.3. Observation.</p> <p>6.4. Demonstrations.</p> <p>6.5. Assignment.</p>
7. Context of assessment.	<p>Competency may be assessed in the workplace or in a simulated workplace.</p>

Accreditation Requirements

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