

TRAINING OCCUPATION: INDUSTRIAL MAINTENANCE OPERATIONS	
Competency Unit (CU) 5: WELDING MACHINE MAINTENANCE	Code: ME-010-3:2012-C05
Work Activity 1: Select welding machine to be maintained	Duration : 12 Hour
<p><u>Learning Objectives</u></p> <p>At the end of learning session the apprentice will be able to:</p> <ol style="list-style-type: none"> 1. Explain types and functions of welding machine such as <ol style="list-style-type: none"> 1.1. Shielded metal arc welding (SMAW) 1.2. Gas tungsten arc welding (GTAW) 1.3. Gas metal arc welding (GMAW) 1.4. Flux Core arc welding (FCAW) 1.5. Etc. 2. Interpret list of welding machine specification <ol style="list-style-type: none"> 2.1. Coding 2.2. Serial number 2.3. Rating 2.4. Etc. 3. Describe job order <ol style="list-style-type: none"> 3.1. List of jobs 3.2. Person in charge 3.3. Type of job order 3.4. Type of maintenance list 3.5. Status of work 3.6. Department 3.7. Date and time start 3.8. Date and time completed 3.9. Etc. 4. Interpret company's policy, rules and regulation <ol style="list-style-type: none"> 4.1. Type of policy 4.2. Manual Operation 4.3. Manual Installation 4.4. Standard Operating Procedure (SOP) 4.5. Etc. 	

Work Activity 2 : Select maintenance requirement	Duration : 4 Hours
<p><u>Learning Objectives</u></p> <p>At the end of learning session the apprentice will be able to:</p> <ol style="list-style-type: none"> 1. Describe types of maintenance requirement <ol style="list-style-type: none"> 1.1. Preventive 1.2. Corrective 1.3. Predictive 2. Determine type of welding machine spare parts <ol style="list-style-type: none"> 2.1. Welding gun 2.2. Welding torch / nozzle 2.3. Cable/ tube / gas hose 2.4. Gas regulator 2.5. Current regulator / transformer 2.6. Ventilation system 2.7. Control panel 2.8. Electrode wire feed drive 2.9. Tungsten rod 2.10. Etc. 	

Work Activity 3 : Perform Welding machine maintenance	Duration : 24 Hours
<p><u>Learning Objectives</u></p> <p>At the end of learning session the apprentice will be able to:</p> <ol style="list-style-type: none"> 1. Interpret safety procedures in accordance to standard operation procedure <ol style="list-style-type: none"> 1.1. Occupation safety and health act (osha) 1.2. Manual operation 1.3. Installation procedure 1.4. Etc. 2. Interpret welding machine instruction manual <ol style="list-style-type: none"> 2.1. Operation manual 2.2. Maintenance manual 3. Determine types of maintenance tools <ol style="list-style-type: none"> 3.1. Hand tools 3.2. Power tools 3.3. Viscosity meter 3.4. Multimeter 3.5. Etc. 4. Determine types of spare parts welding machine components <ol style="list-style-type: none"> 4.1. Welding gun 4.2. Welding torch / nozzle 4.3. Cable/ tube / gas hose 4.4. Gas regulator 4.5. Current regulator / transformer 4.6. Ventilation system 4.7. Control panel 4.8. Electrode wire feed drive 4.9. Tungsten rod 4.10. Etc. 5. Explain troubleshoot welding machine components problems such as: <ol style="list-style-type: none"> 5.1. Electrode feeder stuck 5.2. Drive roll jammed 5.3. Electrode wire stuck 5.4. Pulley jammed 5.5. Current insufficient 5.6. Ac /dc control tripped 5.7. Circuit board burned 5.8. Ventilation part malfunction 5.9. Etc. 	

Work Activity 4 : Perform welding machine functionality test	Duration : 12 Hours
<p><u>Learning Objectives</u></p> <p>At the end of learning session the apprentice will be able to:</p> <ol style="list-style-type: none"> 1. Interpret safe practices of welding machine testing procedure <ol style="list-style-type: none"> 1.1. Operation manual 1.2. Installation manual 1.3. Standard operating procedure (SOP) 1.4. Etc. 2. Describe type of testing equipments <ol style="list-style-type: none"> 2.1. Insulation tester 2.2. Volt meter 2.3. Amp meter 2.4. Etc. 3. Explain method of testing equipment <ol style="list-style-type: none"> 3.1. Strike test 3.2. Weld test 3.3. Power supply 3.4. Power source cable 3.5. Earth cable 3.6. Work cable 3.7. Etc. 4. Describe function of welding machine <ol style="list-style-type: none"> 4.1. Leakage 4.2. Stability 4.3. Smooth 4.4. Noise 4.5. Accuracy 4.6. Etc. 	

Work Activity 5 : Produce welding machine maintenance report	Duration : 4 Hours
<p><u>Learning Objectives</u></p> <p>At the end of learning session the apprentice will be able to:</p> <ol style="list-style-type: none"> 1. Determine types of (welding) maintenance data <ol style="list-style-type: none"> 1.1. Technical data 1.2. Component data 2. Determine types of report format <ol style="list-style-type: none"> 2.1. Manual 2.2. Computerize 3. Determine types of checklist <ol style="list-style-type: none"> 3.1. Maintenance checklist 3.2. Performance checklist 	
TOTAL	56 Hours