

TRAINING OCCUPATION: INDUSTRIAL MAINTENANCE OPERATIONS	
Competency Unit (CU) 6: STATIC AND ROTATING EQUIPMENT MAINTENANCE	Code: ME-010-3:2012-C06
Work Activity 1: Select static and rotating equipment	Duration : 20 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. Identify types of static and rotating equipment maintenance schedule <ol style="list-style-type: none"> 1.1. Type of maintenance (Corrective, Preventive and Predictive) 1.2. Type of machines 1.3. Time interval (Daily, Weekly, Monthly, Quarterly, Yearly) 1.4. Duration 1.5. Verification (Prepare, Check and Approve) 1.6. Location 1.7. Etc. 2. List types and functions of static equipment such as: <ol style="list-style-type: none"> 2.1. Valves (gate or steam) 2.2. Expansion joint 2.3. Piping system 2.4. Injection 2.5. Etc. 3. Describe types and functions of rotating equipment such as: <ol style="list-style-type: none"> 3.1. Various Pumps (Positive, centrifugal, etc.) 3.2. Blower 3.3. Air Compressor 3.4. Etc. 4. Explain job order instructions/ Maintenance checklist <ol style="list-style-type: none"> 4.1. List of jobs 4.2. Person in charge 4.3. Type of job order 4.4. Type of maintenance list 4.5. Status of work 4.6. Department 4.7. Date and time start 4.8. Date and time completed 4.9. Etc. 5. Describe static and rotating equipment maintenance safety rules and regulation <ol style="list-style-type: none"> 5.1. Occupational Safety & Health Act (OSHA) 5.2. Manual operation 5.3. Manual installation 5.4. Standard Operating Procedure (SOP) 5.5. Etc. 	

Work Activity 2 : Select types of static and rotating equipment 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. Explain types of maintenance <ol style="list-style-type: none"> 1.1. Preventive 1.2. Corrective 1.3. Predictive 2. Describe types of Maintenance schedule <ol style="list-style-type: none"> 2.1. Daily 2.2. Monthly 2.3. Quarterly 2.4. Yearly 3. Identify job order of maintenance requirement <ol style="list-style-type: none"> 3.1. Type of machine 3.2. Type of maintenance 3.3. Type of job 3.4. Department 3.5. Person in charge 3.6. Tools requirement 3.7. Date (commence and complete) 3.8. Verification 3.9. Etc. 	

Work Activity 3 : Perform static and rotating equipment maintenance	Duration : 48 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 static and rotating equipment maintenance technical manual <ol style="list-style-type: none"> 1.1. Installation manual 1.2. Operation manual 2. Describe technical drawing component such as: <ol style="list-style-type: none"> 2.1. Symbols 2.2. Dimensions 2.3. Projection view 2.4. Assembly drawing 2.5. Etc. 3. List types of tools for maintenance such as: <ol style="list-style-type: none"> 3.1. Hand tools 3.2. Power tools 3.3. Special tools 3.4. Etc. 4. Identify component of static and rotating equipment to be maintained such as <ol style="list-style-type: none"> 4.1. Packing 4.2. Mechanical seal 4.3. Gasket 4.4. Propeller 4.5. Bearing 4.6. Shaft 4.7. Bush 4.8. Lock pin 4.9. Gear 4.10. Etc. 5. Describe static and rotating equipment maintenance procedure <ol style="list-style-type: none"> 5.1. Installation procedure 5.2. Maintenance procedure 6. Explain static and rotating equipment maintenance technique <ol style="list-style-type: none"> 6.1. Repairing 6.2. Service 6.3. Part replacement 6.4. Calibration 6.5. Etc. 	

7. Explain static and rotating equipment maintenance wear & tear
 - 7.1. Fatigue
 - 7.2. Broken
 - 7.3. Crack
 - 7.4. Dent
 - 7.5. Bend
 - 7.6. Etc.
8. List types of lubrication for static and rotating equipment components
 - 8.1. Grease
 - 8.2. Lube oil
 - 8.3. Etc.
9. Explain troubleshooting of static and rotating equipment problem (repair/replace)
 - 9.1. Visual
 - 9.2. Noise
 - 9.3. Heat
 - 9.4. Vibration
 - 9.5. Misalignment
 - 9.6. Etc.

Work Activity 4 : Perform static and rotating equipment functionality test	Duration : 8 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 static and rotating equipment testing safety features according to Standard Operation Procedure (SOP) <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. Explain test run method and procedures of the static and rotating equipment <ol style="list-style-type: none"> 2.1. With load 2.2. Without load 2.3. Static 2.4. Dynamic 2.5. Visual 2.6. Vibration 2.7. Noise 2.8. Heat 2.9. Etc. 3. Describe functionality static and rotating equipment <ol style="list-style-type: none"> 3.1. Rotation direction 3.2. Stability 3.3. Vibration 3.4. Leakage 3.5. Balancing 3.6. Etc. 	

Work Activity 5 : Produce static and rotating equipment 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. Explain types of static and rotating equipment maintenance data <ol style="list-style-type: none"> 1.1. Technical data 1.2. Component 1.3. Etc. 2. Identify types of checklist <ol style="list-style-type: none"> 2.1. Work checklist 2.2. Test checklist 2.3. Etc. 3. Recognise types of report format <ol style="list-style-type: none"> 3.1. Manual 3.2. Computerize 3.3. Etc. 	
TOTAL	84 Hours