### Industrial Mechanic (Millwright) RSOS (2016)
#### Subtask to Unit Comparison

<table>
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<th>Manitoba Unit(s)</th>
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<td><strong>A – PERFORMS COMMON OCCUPATIONAL SKILLS</strong></td>
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<tr>
<td><strong>Task A-1 Performs safety-related functions.</strong></td>
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</tbody>
</table>
| A-1.01 Uses personal protective equipment (PPE) and safety equipment. | A1 Trade Safety Awareness  
A2 Safety  
A7 Tools and Equipment  
A12 Grinders  
A13 Power Metal Saws |
| A-1.02 Maintains safe work environment. | A1 Trade Safety Awareness  
A2 Safety  
A7 Tools and Equipment |
| A-1.03 Protects the environment. | A1 Trade Safety Awareness  
A2 Safety |
| A-1.04 Performs lock-out/tag-out and zero energy procedures. | A1 Trade Safety Awareness  
A2 Safety |
| **Task A-2 Uses tools and equipment.** | |
| A-2.01 Uses hand and portable power tools. | A1 Trade Safety Awareness  
A2 Safety  
A7 Tools and Equipment  
A12 Grinders  
A13 Power Metal Saws |
| A-2.02 Uses shop machines. | A1 Trade Safety Awareness  
A2 Safety  
A7 Tools and Equipment  
A12 Grinders  
A13 Power Metal Saws |
| A-2.03 Uses access equipment. | A1 Trade Safety Awareness  
A2 Safety  
A7 Tools and Equipment  
A16 Access Equipment |
| **Task A-3 Performs routine trade tasks.** | |
| A-3.01 Plans work. | A1 Trade Safety Awareness  
A2 Safety  
A5 Communications  
B2 Job Planning |
| A-3.02 Fabricates workpiece. | A11 Welding I |
| A-3.03 Lubricates systems and components. | D9 Introduction to Commissioning |
| A-3.04 Performs leveling of components and systems. | A15 Hoisting, Lifting, Rigging and Moving  
A16 Access Equipment |
| A-3.05 Uses fastening and retaining devices. | I2 Introduction to Commissioning |
| A-3.06 Performs material identification. | A10 Metallurgy |
| A-3.07 Performs heat treatment of metal. | A10 Metallurgy |
| A-3.08 Uses mechanical drawings and schematics. | A6 Drawings and Sketching |
### A – PERFORMS COMMON OCCUPATIONAL SKILLS

#### Task A-4 Uses communication and mentoring techniques.
- **A-4.01** Uses communication techniques.  
  - [A5 Communications]
- **A-4.02** Uses mentoring techniques.  
  - [D2 Journeyperson Trainer]

#### Task A-5 Performs measuring and layout.
- **A5.01** Prepares work area, tools and materials.  
  - [A8 Measuring and Layout]
- **A5.02** Measures material and components.  
  - [A8 Measuring and Layout]
- **A5.03** Lays out components.  
  - [A8 Measuring and Layout]
- **A5.04** Maintains precision measuring and layout tools.  
  - [A8 Measuring and Layout]

#### Task A-6 Performs cutting and welding operations.
- **A6.01** Cuts material with gas and plasma arc cutting equipment.  
  - [A11 Welding I]
- **A6.02** Joins material using oxy-fuel welding equipment.  
  - [B3 Welding II]
- **A6.03** Welds material using shielded arc (SMAW) welding equipment.  
  - [A11 Welding I]
- **A6.04** Welds material with gas metal arc welding (GMAW) equipment.  
  - [A11 Welding I]
- **A6.05** Welds material with gas tungsten arc welding (GTAW) equipment (NOT COMMON CORE).  
  - [B3 Welding II]
- **A6.06** Maintains welding equipment.  
  - [A11 Welding I]

#### Task B-7 Plans rigging, hoisting/lifting and moving.
- **B7.01** Determines load.  
  - [A15 Hoisting, Lifting, Rigging and Moving]
- **B7.02** Selects rigging equipment.  
  - [A15 Hoisting, Lifting, Rigging and Moving]
- **B7.03** Selects hoisting/lifting and moving equipment.  
  - [A15 Hoisting, Lifting, Rigging and Moving]
- **B7.04** Secures area.  
  - [A15 Hoisting, Lifting, Rigging and Moving]

#### Task B-8 Rigs, hoists/lifts and moves load.
- **B8.01** Sets up rigging, hoisting/lifting and moving equipment.  
  - [A15 Hoisting, Lifting, Rigging and Moving]
- **B8.02** Performs hoist/lift and move.  
  - [A15 Hoisting, Lifting, Rigging and Moving]
- **B8.03** Maintains rigging, hoisting/lifting and moving equipment.  
  - [A15 Hoisting, Lifting, Rigging and Moving]

### B – PERFORMS RIGGING, HOISTING/LIFTING AND MOVING

#### Task B-7 Plans rigging, hoisting/lifting and moving.
- **B7.01** Determines load.  
  - [A15 Hoisting, Lifting, Rigging and Moving]
- **B7.02** Selects rigging equipment.  
  - [A15 Hoisting, Lifting, Rigging and Moving]
- **B7.03** Selects hoisting/lifting and moving equipment.  
  - [A15 Hoisting, Lifting, Rigging and Moving]
- **B7.04** Secures area.  
  - [A15 Hoisting, Lifting, Rigging and Moving]

#### Task B-8 Rigs, hoists/lifts and moves load.
- **B8.01** Sets up rigging, hoisting/lifting and moving equipment.  
  - [A15 Hoisting, Lifting, Rigging and Moving]
- **B8.02** Performs hoist/lift and move.  
  - [A15 Hoisting, Lifting, Rigging and Moving]
- **B8.03** Maintains rigging, hoisting/lifting and moving equipment.  
  - [A15 Hoisting, Lifting, Rigging and Moving]

### C – SERVICES MECHANICAL POWER TRANSMISSION COMPONENTS AND SYSTEMS
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<tr>
<th>Task</th>
<th>Description</th>
<th>Code</th>
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<tr>
<td><strong>Task C-9 Services prime movers.</strong></td>
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<tr>
<td>C9.01</td>
<td>Installs prime movers.</td>
<td>D5 Prime Movers</td>
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<tr>
<td>C9.02</td>
<td>Diagnoses prime movers.</td>
<td>D5 Prime Movers</td>
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<td>Maintains prime movers.</td>
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</tr>
<tr>
<td>C9.04</td>
<td>Repairs prime movers.</td>
<td>D5 Prime Movers</td>
</tr>
<tr>
<td><strong>Task C-10 – Services shafts, bearings and seals.</strong></td>
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<tr>
<td>C10.01</td>
<td>Installs shafts, bearings and seals.</td>
<td>B7 Bearings, Seals and Gaskets</td>
</tr>
<tr>
<td>C10.02</td>
<td>Diagnoses shafts, bearings and seals.</td>
<td>B7 Bearings, Seals and Gaskets</td>
</tr>
<tr>
<td>C10.03</td>
<td>Maintains shafts, bearings and seals.</td>
<td>B7 Bearings, Seals and Gaskets</td>
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<tr>
<td>C10.04</td>
<td>Repairs shafts, bearings and seals.</td>
<td>B7 Bearings, Seals and Gaskets</td>
</tr>
<tr>
<td><strong>Task C-11 – Services couplings, clutches and brakes.</strong></td>
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</tr>
<tr>
<td>C11.01</td>
<td>Installs couplings, clutches and brakes.</td>
<td>B8 Couplings and Shafts</td>
</tr>
<tr>
<td>C11.02</td>
<td>Diagnoses couplings, clutches and brakes.</td>
<td>B8 Couplings and Shafts</td>
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<tr>
<td>C11.03</td>
<td>Maintains couplings, clutches and brakes.</td>
<td>B8 Couplings and Shafts</td>
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<tr>
<td>C11.04</td>
<td>Repairs couplings, clutches and brakes.</td>
<td>B8 Couplings and Shafts</td>
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<td><strong>Task 12–Services chain and belt drive systems.</strong></td>
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<tr>
<td>C12.01</td>
<td>Installs chain and belt drive systems.</td>
<td>B10 Chain and Belt Drive Systems and Gear Drives</td>
</tr>
<tr>
<td>C12.02</td>
<td>Diagnoses chain and belt drive systems.</td>
<td>B10 Chain and Belt Drive Systems and Gear Drives</td>
</tr>
<tr>
<td>C12.03</td>
<td>Maintains chain and belt drive systems.</td>
<td>B10 Chain and Belt Drive Systems and Gear Drives</td>
</tr>
<tr>
<td>C12.04</td>
<td>Repairs chain and belt drive systems.</td>
<td>B10 Chain and Belt Drive Systems and Gear Drives</td>
</tr>
<tr>
<td><strong>Task 13–Services gear systems.</strong></td>
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<tr>
<td>C13.01</td>
<td>Installs gear systems.</td>
<td>B10 Chain and Belt Drive Systems and Gear Drives</td>
</tr>
<tr>
<td>C13.02</td>
<td>Diagnoses gear systems.</td>
<td>B10 Chain and Belt Drive Systems and Gear Drives</td>
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<td>C13.03</td>
<td>Maintains gear systems.</td>
<td>B10 Chain and Belt Drive Systems and Gear Drives</td>
</tr>
<tr>
<td>C13.04</td>
<td>Repairs gear systems.</td>
<td>B10 Chain and Belt Drive Systems and Gear Drives</td>
</tr>
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<td><strong>Task 14 – Performs shaft alignment procedures.</strong></td>
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<tr>
<td>C14.01</td>
<td>Performs rough alignment.</td>
<td>B6 Shaft Alignment I</td>
</tr>
<tr>
<td>C14.02</td>
<td>Performs dial alignment.</td>
<td>B6 Shaft Alignment I</td>
</tr>
<tr>
<td>C14.03</td>
<td>Performs laser alignment.</td>
<td>B6 Shaft Alignment I</td>
</tr>
<tr>
<td><strong>D – SERVICES MATERIAL HANDLING / PROCESS SYSTEMS</strong></td>
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<tr>
<td><strong>Task D15 – Services robotics and automated equipment.</strong></td>
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</tr>
<tr>
<td>D15.01</td>
<td>Installs robotics and automated equipment.</td>
<td>D11 Robotics and Automated Equipment</td>
</tr>
<tr>
<td>D15.02</td>
<td>Diagnoses robotics and automated equipment.</td>
<td>D11 Robotics and Automated Equipment</td>
</tr>
<tr>
<td>D15.03</td>
<td>Maintains robotics and automated equipment.</td>
<td>D11 Robotics and Automated Equipment</td>
</tr>
<tr>
<td>D15.04</td>
<td>Repairs robotics and automated equipment.</td>
<td>D11 Robotics and Automated Equipment</td>
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</table>
### Task D16 – Services fans and blowers.
- **D16.01** Installs fans and blowers.  
  D5 Prime Movers
- **D16.02** Diagnoses fans and blowers.  
  D5 Prime Movers
- **D16.03** Maintains fans and blowers.  
  D5 Prime Movers
- **D16.04** Repairs fans and blowers.  
  D5 Prime Movers

### Task D17 – Services pumps.
- **D17.01** Installs pumps.  
  C4 Pumps
- **D17.02** Diagnoses pumps.  
  C4 Pumps
- **D17.03** Maintains pumps.  
  C4 Pumps
- **D17.04** Repairs pumps.  
  C4 Pumps

### Task D18 – Services compressors.
- **D18.01** Installs compressors.  
  C2 Compressors I
  C3 Compressors II
- **D18.02** Diagnoses compressors.  
  C2 Compressors I
  C3 Compressors II
- **D18.03** Maintains compressors.  
  C2 Compressors I
  C3 Compressors II
- **D18.04** Repairs compressors.  
  C2 Compressors I
  C3 Compressors II

### Task D19 - Services process piping, tanks and containers.
- **D19.01** Installs process tanks and containers.  
  C8 Piping Systems and Process Tanks and Containers
- **D19.02** Installs process piping.  
  C8 Piping Systems and Process Tanks and Containers
- **D19.03** Diagnoses process tanks and containers.  
  C8 Piping Systems and Process Tanks and Containers
- **D19.04** Diagnoses process piping.  
  C8 Piping Systems and Process Tanks and Containers
- **D19.05** Maintains process tanks and containers.  
  C8 Piping Systems and Process Tanks and Containers
- **D19.06** Maintains process piping.  
  C8 Piping Systems and Process Tanks and Containers
- **D19.07** Repairs process tanks and containers.  
  C8 Piping Systems and Process Tanks and Containers
- **D19.08** Repairs process piping.  
  C8 Piping Systems and Process Tanks and Containers

### Task D20 - Services conveying systems.
- **D20.01** Installs conveying systems.  
  B11 Conveying Systems
- **D20.02** Diagnoses conveying systems.  
  B11 Conveying Systems
- **D20.03** Maintains conveying systems.  
  B11 Conveying Systems
- **D20.04** Repairs conveying systems.  
  B11 Conveying Systems

### E – SERVICES FLUID POWER SYSTEMS

#### Task E-21 Services hydraulic systems.
- **E21.01** Installs hydraulic systems.  
  C6 Hydraulic Systems I
  D6 Hydraulic Systems II
- **E21.02** Diagnoses hydraulic systems.  
  C6 Hydraulic Systems I
  D6 Hydraulic Systems II
- **E21.03** Maintains hydraulic systems.  
  C6 Hydraulic Systems I
  D6 Hydraulic Systems II
- **E21.04** Repairs hydraulic systems.  
  C6 Hydraulic Systems I
  D6 Hydraulic Systems II

#### Task E-22 Services pneumatic and vacuum systems.
- **E22.01** Installs pneumatic and vacuum.  
  C7 Pneumatic Systems I
  D6 Hydraulic Systems II
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<td>E22.02</td>
<td>Diagnoses pneumatic and vacuum systems.</td>
<td>C7 Pneumatic Systems I</td>
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<td>E22.03</td>
<td>Maintains pneumatic and vacuum systems.</td>
<td>C7 Pneumatic Systems I</td>
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<tr>
<td>E22.04</td>
<td>Repairs pneumatic and vacuum systems.</td>
<td>C7 Pneumatic Systems I</td>
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**F – PERFORMS PREVENTATIVE AND PREDICTIVE MAINTENANCE, COMMISSIONING AND DECOMMISSIONING**

**Task F-23** Performs preventive and predictive maintenance.

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<tr>
<td>F23.01</td>
<td>Performs preventative maintenance activities</td>
<td>D10 Preventative and Predictive Maintenance</td>
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<tr>
<td>F23.02</td>
<td>Performs vibration analysis procedures.</td>
<td>D10 Preventative and Predictive Maintenance</td>
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<tr>
<td>F23.03</td>
<td>Performs balancing procedures.</td>
<td>D10 Preventative and Predictive Maintenance</td>
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<tr>
<td>F23.04</td>
<td>Performs non-destructive testing (NDT) procedures.</td>
<td>D10 Preventative and Predictive Maintenance</td>
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<td>F23.05</td>
<td>Performs fluid analysis procedures.</td>
<td>D10 Preventative and Predictive Maintenance</td>
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<td>F23.06</td>
<td>Performs predictive maintenance activities.</td>
<td>D10 Preventative and Predictive Maintenance</td>
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**Task F24** – Commissions and decommissions equipment.

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<tr>
<td>F24.01</td>
<td>Commissions systems and components.</td>
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<tr>
<td>F24.02</td>
<td>Decommissions systems and components.</td>
<td>D9 Introduction to Commissioning</td>
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*Based on the Red Seal Occupational Standard (RSOS) 2016*