# M-SAMC Master PBO List

## Master Equipment List

**First Release**

<table>
<thead>
<tr>
<th>Topic Area</th>
<th>Equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Digital Literacy</td>
<td>Computer, Flash Drive, MS Word (or equivalent), Internet Access, MS Excel (or equivalent), Email access, MS Powerpoint (or equivalent), MS Access (or equivalent), Projection capability</td>
</tr>
<tr>
<td>2 Instrumentation</td>
<td>Amitrol, Festo, Hart protocol communicator, Clamp on milliameters, Process control Flukes, 4-20 millamp simulators (if process meters unavailable), Multiple transmitters and transducers, I-P transducers, Scientific calculator (e.g. TI-84 Plus), Schematics diagrams, Millamp clamp</td>
</tr>
<tr>
<td>3 PLC 5</td>
<td>Allen Bradley, suitcase trainers (or equivalent)</td>
</tr>
<tr>
<td>4 FANUC</td>
<td>FANUC, Roboguide software</td>
</tr>
<tr>
<td>5 ControlLogix</td>
<td>Allen Bradley, or equivalent</td>
</tr>
<tr>
<td>6 Siemens PLC</td>
<td>Suitcase Trainers, Amitrol (or equivalent)</td>
</tr>
<tr>
<td>7 Basic Mechanical Power</td>
<td>DAC, Amitrol, Lab Volt, Fault Simulator</td>
</tr>
<tr>
<td>8 Integrated Systems</td>
<td>SMC/AMTEC/Festo/Amitrol Integrated Systems Simulator (or equivalent), Software-based (e.g. LogixPro), Schematic/diagram required, SMC/AMTEC/Festo/Amitrol Integrated Systems Simulator (or equivalent), Microsoft Word, Powerpoint, Visio (or equivalent), SMC/AMTEC/Festo/Amitrol Integrated Systems Simulator (or equivalent)</td>
</tr>
</tbody>
</table>
| 9 Safety | OSHA 10 Hour Industry Training  
| Portable Ladder Safety  
| Fire Safety  
| Machine Guarding  
| Lockout Tag-Out Training  
| Personal Protective Equipment  
| Lockout Tag-Out Training  
| Hazardous Communication Charts  
| Welding, Cutting, & Brazing Safety  
| Confined Space Safety  
| Material Handling and storage safety  
| Hoist operator’s manual  
| First aid/CPR/AED |
| 10 Hydraulics | "Electro-Hydraulics Learning System  
| Intermediate Hydraulics Learning Systems  
| Hydraulic Learning System"  
| Accumulator Charging Assembly  
| "Electro-Hydraulics Learning System  
| Intermediate Hydraulics Learning Systems  
| Hydraulic Learning System"  
| Hydraulic Fluid Serviec Learning System  
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| Hydraulic Troubleshooting Learning Systems  
| "Electro-Hydraulics Learning System  
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| Hydraulic Learning System"  
| Hydraulic Fluid Service Learning System |
| 11 Machine Tool | Lathe  
| Milling Machine  
| Vertical Milling Machine  
| Twist Drill  
| Drill Press  
| Band saw  
| Hand and Bench Tools  
| Power Tools |
| 12 Print Reading for Industry | Pictorial and Orthographic Projections  
| Prints to Read, interprete, & analyze  
| Blueprint Symbols  
| Electrical & Electronic Circuit Diagrams  
| Piping Diagrams  
| Hydraulic & Pneumatic Circuit drawings  
| Welding Symbols drawings  
| Electrical Diagrams and Schematics |
| 13 Preventative Maintenance | SMC/AMTEC/Festo/Amitrol Integrated Systems Simulator (or equivalent)  
| Mechanical Drives Learning System  
| Oil Analysis Kit  
| Viscosimeter |
| 14 Predictive Maintenance | SMC/AMTEC/Festo/Amitrol Integrated Systems Simulator (or equivalent)  
| Mechanical Drives Learning System  
| Laser Shaft Alignment Learning System  
| Vibration Analyzer  
<p>| Flir Infrared Camera or equivalent |</p>
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<tr>
<th>15 Pneumatics</th>
<th>Pneumatic Learning System</th>
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<tbody>
<tr>
<td></td>
<td>Variety of hand tools</td>
</tr>
<tr>
<td>16 Industrial Electricity</td>
<td>Direct Current Learning System</td>
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<td>Digital Multi Meter (DMM)</td>
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| 17 Industrial Electronics | Electronic Devices Learning Trainer        |
|                          | Electrical Soldering Learning System        |
|                          | Electronic Sensors Learning System          |
|                          | Power and Controls Learning System          |
|                          | Oscilloscope                               |
|                          | Function Generator                         |
|                          | Curve Tracer                               |
|                          | Transistor Tester                          |
|                          | Digital Multi Meter (DMM)                  |
|                          | Analog VOM                                 |

| 18 ACDC Motors           | Basic Electrical Machine Learning System   |
|                        | Tachometer                                 |
|                        | Clamp-on meter                             |
|                        | Meg-ohmmeter                               |
|                        | Digital Multi-meter (DMM)                  |
|                        | Wattmeter                                  |
|                        | Electric Motor Troubleshooting Learning System |
|                        | Electric Motor Control Learning System     |
|                        | AC Variable Frequency Drive Learning System|
|                        | Tachometer                                 |
|                        | Clamp-on meter                             |
|                        | Meg-ohmmeter                               |
|                        | Digital Multi-meter (DMM)                  |
|                        | Wattmeter                                  |

| 19 Welding               |angen in resources                        |
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