

***On-the-Job Training Standards  
For  
Roadway Maintenance Machines***

*January 21, 2021*

## ***Foreword***

*The OJT tasks identified below assumes a continuous and ongoing positive conversation between the designated instructor / qualified person and trainee. It means enough opportunity for conversational feedback before, during, and after any task is undertaken. The purpose of this conversation is to ensure learning transfer occurs. Depending on task complexity and learner skill level, most adults gain mastery of new skills through practice and repetition. OJT standards provide the basis for measuring mastery of new skills in a fair and objective manner. It is understood that many of the tasks below are presented in a manner that may suggest non-complying conditions must be present for the trainee to demonstrate proficiency. That is not the case and it is for this reason that a positive conversation between teacher and learner is encouraged throughout the OJT process.*

*Please also note that there is no obligation under 49 CFR Part 243 for employers to train safety-related railroad employees on skills they will never apply in connection with their duties. For example, if an employee will not be required to perform duties in passenger service, no training on those tasks is required.*

## On-the-Job Training Roles and Responsibilities – Example Template

1. The **designated instructor** serves as the overall coordinator of the specific OJT program and is primarily responsible for:
  - Acting as the principal point of contact for the process, and ensuring the process is properly implemented.
  - Ensuring that all trainees and qualified persons involved in the OJT process have received hard copies of the OJT program or electronic copies of the checklist.
  - Providing guidance to both the trainee and qualified person in the process once they have received the OJT program.
  - Ensuring that trainees have access to all the supporting publications listed in this OJT program.
  - Ensuring the trainee has successfully completed all safety-related tasks to become a qualified member of an occupational category or subcategory.
2. The **qualified person** (sometimes referred to as a peer trainer) may serve as the mentor/coach for trainees. The qualified person must be qualified and has a duty to communicate with the trainees to ensure OJT is properly administered throughout the process. The qualified person will also provide daily briefings at the beginning and end of each day regarding the specific tasks focused on during that day. The trainee may perform OJT under the direct onsite observation of any qualified person, provided the qualified person has been advised of the circumstances and is capable of intervening if an unsafe act or noncompliance with Federal railroad safety laws, regulations, or orders is observed. **However, the trainee must demonstrate OJT proficiency to the satisfaction of the designated instructor to become a qualified member of an occupational category or subcategory.** A designated instructor and qualified person can be the same person.
3. The **trainee** (new hire) has the responsibility to pay close attention to the qualified person providing OJT, and to take advantage of the knowledge and experience he or she has to offer. Tracking progress of the OJT is essential and is the trainee's responsibility. Trainees should be aware of, and abide by, the following:
  - The designated instructor and/or qualified person will provide practical information and advice on the requirements and responsibilities of assigned duties.
  - Trainees are responsible for completing any narrative and self-study assignments outside the scope of this OJT program. Additional assignments are an integral part of the training experience and must be completed before being deemed qualified by the employer.
  - To gain the maximum benefit from the OJT experience, trainees should:
    - Remain alert and involved in the training activities.
    - Ask questions and learn from feedback.
    - Take notes and apply previous lessons.
    - Complete all required assignments.
    - Become familiar with and comply with FRA regulations, railroad safety rules, and other procedures mandated as a condition of employment by the employer.

- Develop and maintain a learning attitude.
- The OJT experience is designed to be much more than following a qualified person around and watching what he or she does. Trainees must take an active role in the OJT and thoroughly engage in the various job tasks outlined in this OJT program.
- Expect the qualified person to say, “Here, you give it a try.” Remember, while progressing through the OJT program, trainees can learn skills, to develop knowledge, and to adopt work habits and routines that will last throughout a railroad career.
- Tracking and documenting OJT progress is an essential process step.

### **Guidelines for On-the-Job Training Program Coordination and Administration**

In most cases, the first week or so of employment will involve administrative details and an overall orientation. Although it is understood that a trainee’s duties may overlap with other organizational requirements, each day of OJT should focus on one of the major duties of the OJT program to the extent possible. Once the tasks have been selected, there should be both an initial briefing on the tasks to be completed at the beginning and end of each day.

- The purpose of the debriefing is to go through the day’s activities, and to focus on each of the tasks associated with the task selected.
- There is no required sequential order for completing the OJT associated with any task, and no attempt is made to prioritize any tasks. Although OJT should be focused on a task, it is anticipated that the task standards will be accomplished based on available training opportunities.

**Important Note:** Although OJT is a critical aspect of 49 CFR Part 243, FRA will consider, on a case by case basis, alternate approaches to OJT in lieu of the traditional approach (*see 49 CFR § 243.5- On-the-job training*). For example, some employers or training organizations may have access to state of the art indoor/outdoor training facilities that permit students to practice tasks that require neuromuscular coordination to learn in a controlled environment with minimal or no risk of personal injury. Other approaches may include; classroom practical exercises, role play, lab simulation, virtual reality (VR), and other emerging technologies. While FRA does encourage alternate approaches to OJT to lessen the risk of personal injury exposure to students, enough detail must be included in the submission and satisfy the regulatory requirements of 49 CFR § 243.101(d) (1-3).

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**Task X: Content of OJT Tasks**

**Task:** Each task noted in the subheadings is the description of a series of related tasks that must be performed to meet the requirements of the job. The description should include an action verb. In this context, duties are all tasks associated with Federal regulations that safety-related employees are expected to perform, or may perform, in connection with the discharge of their duties.

**Note about accuracy and the relationship between conditions and standards:** A rule of reasonableness should be applied. For example, the organization might require 100-percent accuracy for a simple task or one that is absolutely essential, but 90-percent accuracy for a more complex task that takes into consideration that anyone can occasionally miss a noncomplying condition.

<b><u>Performance</u> Tasks</b>	<b><u>Conditions</u> Tools, Equipment, Documents, Practice</b>	<b><u>Standards</u> Time, Completeness, or Accuracy</b>
<p><b><u>Performance</u></b> is a basic description of the task or related tasks that the learner is supposed to be able to do. It should be no longer than one sentence.</p>	<p><b><u>Conditions</u></b> are the things the organization, including the trainers, are required to give the learners so that they can prepare themselves to meet the standards that relate to this task. They include:</p> <ul style="list-style-type: none"><li>• Gauges, level boards, or other tools and equipment necessary.</li><li>• Documents, such as the applicable CFR part/section, railroad standard operating procedures or safety rule manuals, etc.</li></ul> <p>Practice, which is essential for the sake of both fairness, and enhancement of proficiency. It is not reasonable to expect certain things of employees unless they are given sufficient exposure to them. A good rule of thumb is at least two practice sessions for each repetition expected in the Standards column.</p>	<p><b><u>Standards</u></b> start with an educational verb. The amount of repetition, the completeness, and the percentage of accuracy are driven by the complexity of the related task, as described in the Performance column.</p> <ul style="list-style-type: none"><li>• Repetition might be one time for a simple task such as identifying the number of placards required on a car load of one hazardous materials product, or it might be three, four, or five repeats for a complex task, such as inspecting a locomotive for compliance with the locomotive inspection standards.</li><li>• Completeness is the ability to show the person doing the evaluation that the learner is able to go through all of the steps necessary to successfully perform the task. It is a strong indicator of proficiency.</li></ul>

<b>Task X: General Safety</b>		
<b><u>Performance</u> Tasks</b>	<b><u>Conditions</u> Tools, Equipment, Documents, Practice</b>	<b><u>Standards</u> Time, Completeness, or Accuracy</b>
<p><b>Task 1.1:</b> Explain general safety practices employees must follow when operating or riding maintenance machines.</p>	<p>Given participation in the course, Roadway Maintenance Machines Course ID XXXX and opportunity to study:</p> <ul style="list-style-type: none"> <li>- Engineering Department Special Instructions #XX</li> <li>- Railroad Safety Rules/General Procedures (XXX, XXX)</li> <li>- Maintenance of Way Rules (X.XX, X.XX, X.XX)</li> <li>- RMM manufacturer’s manual for maintenance and operations.</li> <li>- 49CFR Part 214, Subpart C</li> </ul> <p>Practice X times with a Qualified Person</p>	<p>Perform the following steps 3 times with at least 100% accuracy.</p> <p>Demonstrate and/or describe:</p> <ul style="list-style-type: none"> <li>- Techniques for remaining alert while operating machines.</li> <li>- Techniques for remaining alert while riding machines.</li> <li>- Techniques for remaining alert of workers at track level.</li> <li>- Traveling distance between machines.</li> <li>- On track safety practice when crossing tracks in front of a moving train/equipment.</li> <li>- On track safety practice of maintaining distance from standing equipment.</li> <li>- Any other railroad rules that are applicable</li> </ul>

<b>Task X: General Machine Inspection</b>		
<b><u>Performance</u> Tasks</b>	<b><u>Conditions</u> Tools, Equipment, Documents, Practice</b>	<b><u>Standards</u> Time, Completeness, or Accuracy</b>
<p><b>Task 2-1:</b> Perform a general machine Inspection</p>	<p>Given participation in the course, Roadway Maintenance Machines Course ID XXXX and opportunity to study:</p> <ul style="list-style-type: none"> <li>- Maintenance of Way Rules (X.XX, X.XX, X.XX)</li> <li>- RMM manufacturer’s manual for maintenance and operations.</li> <li>- 49CFR Part 214, Subpart C, D</li> </ul> <p style="padding-left: 40px;">- Practice X times with a Qualified Person</p>	<p>Perform the following steps three times with at least 95% accuracy following machine's instructions for safe operation and: (if applicable to the machine being trained on).</p> <ul style="list-style-type: none"> <li>• Rail/Hi-rail wheels for cracks, flange damage, and flat spots.</li> <li>• Highway wheels for cracks (particularly in the bolt-hole area) and tires to ensure proper condition and inflation.</li> <li>• Environmental controls for cabs (if applicable)</li> <li>• Windows (if applicable) are in sound condition and enable the operator a clear view of the workplace.</li> <li>• Handholds, steps, ladder treads, or other safety appliances for proper tightness and clearances.</li> <li>• Doors (if applicable) to ensure they open and close properly both from inside and outside the operator cab.</li> <li>• Seats to ensure they are appropriately secured, integrity of any padding and armrests, and adjustment capabilities (if applicable).</li> <li>• Visual illumination devices such as headlights or work lights.</li> <li>• Brake light activated by the application of the machine braking system.</li> <li>• Rearward viewing devices, such as rearview mirrors.</li> <li>• Floors, decks, stairs, and ladders are free of oil, grease, or any obstruction that creates a slipping, falling, or fire hazard.</li> <li>• Fire extinguisher to ensure the tag is up-to-date and the gauge indicates it is charged.</li> <li>• First Aid kit is available on the machine.</li> <li>• Flagging kit (if required)</li> <li>• Any other manufacturers requirements.</li> </ul>

<b>Task X: Machine Start-up Procedures</b>		
<b><u>Performance</u> Tasks</b>	<b><u>Conditions</u> Tools, Equipment, Documents, Practice</b>	<b><u>Standards</u> Time, Completeness, or Accuracy</b>
<p><b>Task 2-2:</b> Demonstrate Machine Start-up Procedures</p>	<p>Given participation in the course, Roadway Maintenance Machines Course ID XXXX and opportunity to study:</p> <ul style="list-style-type: none"> <li>- Maintenance of Way Rules (X.XX, X.XX, X.XX)</li> <li>- RMM manufacturer’s manual for maintenance and operations.</li> <li>- 49CFR Part 214, Subpart C, D</li> <li>- Practice X times with a Qualified Person</li> </ul>	<p>Perform the following steps 3 times with 95% accuracy following machine's instructions for safe operation and:</p> <ul style="list-style-type: none"> <li>• Check all fluid levels <ul style="list-style-type: none"> <li>○ Engine oil</li> <li>○ Gearbox and/or transmission oil</li> <li>○ Compressor oil (if applicable)</li> <li>○ Coolant level</li> <li>○ Fuel</li> </ul> </li> <li>• Complete any log entries and associated checklists.</li> <li>• Place battery switch in on position.</li> <li>• Ensure transmission is in neutral position.</li> <li>• Activate starter switch.</li> <li>• Check all gauges for proper operating pressures or levels.</li> <li>• Any other manufacturers requirements.</li> </ul>

<b>Task X: Prepare Machine for Work or Travel</b>		
<b><u>Performance</u> Tasks</b>	<b><u>Conditions</u> Tools, Equipment, Documents, Practice</b>	<b><u>Standards</u> Time, Completeness, or Accuracy</b>
<b>Task 2-3:</b> Prepare Machine for Travel or Work	<p>Given participation in the course, Roadway Maintenance Machines Course ID XXXX and opportunity to study:</p> <ul style="list-style-type: none"> <li>- Maintenance of Way Rules (X.XX, X.XX, X.XX)</li> <li>- RMM manufacturer’s manual for maintenance and operations.</li> <li>- 49CFR Part 214, Subpart C, D</li> <li>- Practice X times with a Qualified Person</li> </ul>	<p>Perform the following steps 3 times with 95% accuracy following machine's instructions for safe operation.</p> <ul style="list-style-type: none"> <li>• Activate each control lever, and check for leaks.</li> <li>• Ensure field of vision is not obstructed.</li> <li>• Check brake pedal or lever for proper adjustment.</li> <li>• Perform static brake test if machine configuration permits.</li> <li>• Ensure any movable machine appurtenances are in proper work position, or locked in travel position.</li> <li>• Explain the proper safe operating range for readings of all gauges.</li> <li>• Perform or verbalize proper re-fueling procedure.</li> </ul>

<b>Task X: Machine Operations in Travel Mode</b>		
<b><u>Performance</u> Tasks</b>	<b><u>Conditions</u> Tools, Equipment, Documents, Practice</b>	<b><u>Standards</u> Time, Completeness, or Accuracy</b>
<p><b>Task 2-4:</b> Demonstrate Machine Operations while in Travel Mode</p>	<p>Given participation in the course, Roadway Maintenance Machines Course ID XXXX and opportunity to study:</p> <ul style="list-style-type: none"> <li>- Maintenance of Way Rules (X.XX, X.XX, X.XX)</li> <li>- RMM manufacturer’s manual for maintenance and operations.</li> <li>- 49CFR Part 214, Subpart C, D</li>   <li>- Practice X times with a Qualified Person</li> </ul>	<p>Perform the following steps 3 times with 100% accuracy following machine's instructions for safe operation.</p> <ul style="list-style-type: none"> <li>• Perform a running brake test.</li> <li>• Turn on headlights and any warning lights.</li> <li>• Sound audible device just prior to initial movement of the machine.</li> <li>• Sound audible device when approaching and traveling through a station, or when any person approaches the work envelop of the machine.</li> <li>• Comply with restricted speed when operating on-track unless a specific movement authority permits a higher speed.</li> <li>• Maintain minimum XX-foot spacing from other equipment when traveling</li> <li>• If applicable, approach highway-rail crossings prepared to stop, and give highway traffic the right-of-way.</li> <li>• Disallow other employees from riding the machine unless it is equipped for that purpose.</li> <li>• Any other railroad rules that are applicable</li> </ul>

<b>Task X: Machine Operations in Work Mode</b>		
<b><u>Performance</u> Tasks</b>	<b><u>Conditions</u> Tools, Equipment, Documents, Practice</b>	<b><u>Standards</u> Time, Completeness, or Accuracy</b>
<b>Task 2-5:</b> Demonstrate Machine Operations while in Work Mode	<p>Given participation in the course, Roadway Maintenance Machines Course ID XXXX and opportunity to study:</p> <ul style="list-style-type: none"> <li>- Maintenance of Way Rules (X.XX, X.XX, X.XX)</li> <li>- RMM manufacturer’s manual for maintenance and operations.</li> <li>- 49CFR Part 214, Subpart C, D</li> <li>- Practice X times with a Qualified Person</li> </ul>	<p>Perform the following steps 3 times with 100% accuracy following machine's instructions for safe operation.</p> <ul style="list-style-type: none"> <li>• Perform a running brake test.</li> <li>• Turn on headlights</li> <li>• Activate work lights if visibility requires.</li> <li>• Maintain minimum XX-foot spacing from other equipment when performing work, unless a specific operation requires otherwise.</li> <li>• Sound audible device when a person who is not part of the machine operation approaches the work envelop of the machine.</li> </ul>

<b>Task X: Safety While in Machine is in Motion</b>		
<b><u>Performance</u> Tasks</b>	<b><u>Conditions</u> Tools, Equipment, Documents, Practice</b>	<b><u>Standards</u> Time, Completeness, or Accuracy</b>
<p><b>Task 3-1:</b> Avoid making contact with track/ground workers and other equipment while the maintenance machine is in motion.</p>	<p>Given participation in the course, Roadway Maintenance Machines Course ID XXXX and opportunity to study:</p> <ul style="list-style-type: none"> <li>- Maintenance of Way Rules (X.XX, X.XX, X.XX)</li> <li>- RMM manufacturer’s manual for maintenance and operations.</li> <li>- 49CFR Part 214, Subpart C</li> </ul> <ul style="list-style-type: none"> <li>- Practice X times with a Qualified Person</li> </ul>	<p>Perform the following 3 times with at least 100% accuracy:</p> <ul style="list-style-type: none"> <li>- State the requirements for maintaining the space between machines to avoid collision.</li> <li>- Comply with safety requirements when: <ul style="list-style-type: none"> <li>- Operating on-track equipment between a standing train and a station platform.</li> <li>- Approaching a standing train from the rear.</li> <li>- Operating at restricted speed not to exceed 20 mph.</li> <li>- Maintaining restricted speed until no longer required.</li> </ul> </li> <li>- Operating, on other than main track, in a manner that allows stopping within half the range of vision, short of: <ul style="list-style-type: none"> <li>• Trains</li> <li>• Rail cars</li> <li>• Workers or equipment fouling the track</li> <li>• Stop signals</li> <li>• Broken rail</li> <li>• Derails</li> <li>• Switches lined improperly</li> </ul> </li> <li>- Operating at maximum authorized speed, considering grade, load, rail weather, curvature and sight distance.</li> <li>- Demonstrate communication with Roadway Workers on the ground: <ul style="list-style-type: none"> <li>• Establish work zone</li> <li>• Someone entering work zone</li> <li>• Losing sight of roadway worker</li> </ul> </li> <li>- Any other railroad rules that are applicable</li> </ul>

<b>Task X: Identify Safety Hazards</b>		
<b><u>Performance</u> Tasks</b>	<b><u>Conditions</u> Tools, Equipment, Documents, Practice</b>	<b><u>Standards</u> Time, Completeness, or Accuracy</b>
<p><b>Task 3-3:</b> Identify potential safety hazards at the work site.</p>	<p>Given participation in the course, Roadway Maintenance Machines Course ID XXXX and opportunity to study:</p> <ul style="list-style-type: none"> <li>- Maintenance of Way Rules (X.XX, X.XX, X.XX)</li> <li>- RMM manufacturer’s manual for maintenance and operations.</li> <li>- 49CFR Part 214, Subpart C</li>   <li>- Practice X times with a Qualified Person</li> </ul>	<p>Perform the following 3 times with at least 100% accuracy:</p> <ul style="list-style-type: none"> <li>- Assess the work site and identify potential hazards, including for example: <ul style="list-style-type: none"> <li>• Hazardous materials</li> <li>• Blind curves</li> <li>• Overhead/Underground electrical wires</li> <li>• Elevated structures</li> <li>• Weather conditions</li> <li>• Environment (e.g., standing water)</li> </ul> </li> </ul>

<b>Task X: Machine Securement Procedures</b>		
<b><u>Performance</u> Tasks</b>	<b><u>Conditions</u> Tools, Equipment, Documents, Practice</b>	<b><u>Standards</u> Time, Completeness, or Accuracy</b>
<b>Task 3-4:</b> Demonstrate Machine Securement Procedures	<p>Given participation in the course, Roadway Maintenance Machines Course ID XXXX and opportunity to study:</p> <ul style="list-style-type: none"> <li>- Maintenance of Way Rules (X.XX, X.XX, X.XX)</li> <li>- RMM manufacturer’s manual for maintenance and operations.</li> <li>- 49CFR Part 214, Subpart C, D</li> <li>- Practice X times with a Qualified Person</li> </ul>	<p>Perform the following 3 times with at least 100% accuracy following machine's instructions for safe operation:</p> <ul style="list-style-type: none"> <li>• Place gear shift into neutral position</li> <li>• Place all foot pedals in proper position</li> <li>• Make sure all accessory switches on control panel are in off position</li> <li>• Apply hand or parking brake (if applicable)</li> <li>• Turn battery switch to off position</li> <li>• Close any windows (if applicable)</li> <li>• Lock door (if applicable)</li> <li>• Secure machine to prevent movement as required.</li> </ul>

<b>Task X: Crane Pre-Planning</b>		
<b><u>Performance</u> Tasks</b>	<b><u>Conditions</u> Tools, Equipment, Documents, Practice</b>	<b><u>Standards</u> Time, Completeness, or Accuracy</b>
<p><b>Task 4-1:</b> Demonstrate the pre-planning required before putting a crane in use.</p>	<p>Given participation in the course, Roadway Maintenance Machines/Crane Course ID XXXX and opportunity to study:</p> <ul style="list-style-type: none"> <li>- Maintenance of Way Rules (X.XX, X.XX, X.XX)</li> <li>- RMM manufacturer’s manual for maintenance and operations.</li> <li>- 49CFR Part 214, Subpart C, D</li> <li>- Practice X times with a Qualified Person</li> </ul>	<p>Perform the following 3 times with at least 100% accuracy following machine's instructions for safe operation:</p> <ul style="list-style-type: none"> <li>• Perform a site survey and load evaluation.</li> <li>• Determine work zone and communication with ground personnel.</li> <li>• Ensure the crane is capable of handling the load.</li> <li>• Side loading the boom or crane</li> <li>• Determine and explain whether the crane is on a firm, supported surface, and is level within 1%.</li> <li>• Explain the capacity of the crane they are being trained on.</li> <li>• Explain the load limiting factors for the crane being used.</li> <li>• Explain suitability of rigging for the load</li> <li>• Explain lifting principles. <ul style="list-style-type: none"> <li>○ Boom angle</li> <li>○ Boom radius</li> <li>○ Appropriate blocking</li> </ul> </li> <li>• Perform a job briefing that must include the following: <ul style="list-style-type: none"> <li>○ Determine and explain the location of overhead power lines.</li> <li>○ Explain the job site conditions (e.g. unstable soil or high winds).</li> <li>○ Advise other personnel on the job site of hoisting activities.</li> </ul> </li> <li>• Discuss the counterweight swing radius.</li> </ul>

<b>Task X: Crane Maintenance</b>		
<b><u>Performance</u> Tasks</b>	<b><u>Conditions</u> Tools, Equipment, Documents, Practice</b>	<b><u>Standards</u> Time, Completeness, or Accuracy</b>
<p><b>Task 4-2:</b> Describe Crane Components and Demonstrate Ability to Perform Operator-Required Maintenance</p>	<p>Given participation in the course, Roadway Maintenance Machines/Crane Course ID XXXX and opportunity to study:</p> <ul style="list-style-type: none"> <li>- Maintenance of Way Rules (X.XX, X.XX, X.XX)</li> <li>- RMM manufacturer’s manual for maintenance and operations.</li> <li>- 49CFR Part 214, Subpart C, D</li>   <li>- Practice X times with a Qualified Person</li> </ul>	<p>Perform the following 3 times with at least 95% accuracy:</p> <ul style="list-style-type: none"> <li>• Identify those components that must be inspected for lubrication prior to use of the crane. Inspect and perform lubrication as needed if an operator requirement.</li> <li>• Identify and explain the periodic maintenance requirements of the crane you are working with entails.</li> <li>• Identify controls and other components that operators are required to adjust. Adjust if instructed to do so.</li> </ul>



<b>Task X: Pre-Use Crane Inspection</b>		
<b><u>Performance</u> Tasks</b>	<b><u>Conditions</u> Tools, Equipment, Documents, Practice</b>	<b><u>Standards</u> Time, Completeness, or Accuracy</b>
<b>Task 4-3:</b> Perform a Pre-Use Crane Inspection	<p>Given participation in the course, Roadway Maintenance Machines/Crane Course ID XXXX and opportunity to study:</p> <ul style="list-style-type: none"> <li>- Maintenance of Way Rules (X.XX, X.XX, X.XX)</li> <li>- RMM manufacturer’s manual for maintenance and operations.</li> <li>- Load chart and hand signal chart</li> <li>- 49CFR Part 214, Subpart C, D</li> </ul> <p style="padding-left: 40px;">- Practice X times with a Qualified Person</p>	<p>Perform the following 3 times with at least 95% accuracy following machine's instructions for safe operation:</p> <ul style="list-style-type: none"> <li>• Ensure annual inspection requirement is up-to-date (inspect on-crane document).</li> <li>• Load chart and hand signal charts are posted.</li> <li>• Inspect rigging/slings</li> <li>• Ensure all controls are adjusted properly.</li> <li>• Ensure boom, sheaves, nuts and bolts are okay.</li> <li>• If so equipped, ensure good condition of all wire ropes and/or pendant lines, including crane hooks and sheaves. Check for spooling, condition, lubrication, etc. (Operators must give perform a good visual inspection daily of the wire ropes they are going to use).</li> <li>• Inspect hook for safety latch, throat opening, twisting, and saddle wear.</li> <li>• Inspect becket to ensure it is installed correctly, and in good working order.</li> <li>• Stand in front of head sheave, and look down boom for bends, twists, hooking, and any other unusual aspects of the boom.</li> <li>• If so equipped, inspect crane booms for bent lacings and/or damaged cords or other deformations.</li> <li>• Determine whether anti-two block or other limiting device or switch is in good working order.</li> <li>• Ensure overload protection system is in good working order (if applicable).</li> </ul>

<b>Task X: Hand Signals</b>		
<b><u>Performance</u> Tasks</b>	<b><u>Conditions</u> Tools, Equipment, Documents, Practice</b>	<b><u>Standards</u> Time, Completeness, or Accuracy</b>
<p><b>Task 4-4:</b> Demonstrate the hand signals used with crane operations.</p>	<p>Given participation in the course, Roadway Maintenance Machines/Crane Course ID XXXX and opportunity to study:</p> <ul style="list-style-type: none"> <li>- Maintenance of Way Rules (X.XX, X.XX, X.XX)</li> <li>- RMM manufacturer's manual for maintenance and operations.</li> <li>- 49CFR Part 214, Subpart C, D</li> <li>- Practice X times with a Qualified Person</li> </ul>	<p>Perform the following 3 times with at least 100% accuracy:</p> <ul style="list-style-type: none"> <li>• Swing</li> <li>• Stop</li> <li>• Emergency Stop</li> <li>• Hoist</li> <li>• Lower</li> <li>• Use Main Hoist</li> <li>• Raise Boom</li> <li>• Lower Boom</li> <li>• Retract Boom</li> <li>• Extend Boom</li> <li>• Move Slowly</li> <li>• Move right</li> <li>• Move left</li> <li>• Raise the Boom and Lower the Load</li> <li>• Lower the Boom and Raise the Load</li> </ul>

<b>Task X: Crane Use</b>		
<b><u>Performance</u> Tasks</b>	<b><u>Conditions</u> Tools, Equipment, Documents, Practice</b>	<b><u>Standards</u> Time, Completeness, or Accuracy</b>
<p><b>Task 4-5:</b> Demonstrate Use of Crane</p>	<p>Given participation in the course, Roadway Maintenance Machines/Crane Course ID XXXX and opportunity to study:</p> <ul style="list-style-type: none"> <li>- Maintenance of Way Rules (X.XX, X.XX, X.XX)</li> <li>- RMM manufacturer's manual for maintenance and operations.</li> <li>- Load chart and hand signal chart</li> <li>- 49CFR Part 214, Subpart C, D</li> <li>- Practice X times with a Qualified Person</li> </ul>	<p>Perform the following 3 times with at least 100% accuracy following machine's instructions for safe operation:</p> <ul style="list-style-type: none"> <li>• Calculate load, using chart.</li> <li>• Ensure adequate clearance between the load block and boom point (test anti-two block).</li> <li>• Perform empty hook exercise to show proficiency to multi-function (instructor led), for example: extend boom at an angle, and maintain cable height simultaneously.</li> <li>• Position crane as necessary to prepare for actual load lift. Set-up crane for the specific operation by: <ul style="list-style-type: none"> <li>○ Deploying outriggers if needed and/or if equipped.</li> <li>○ Leveling the crane within 1% if the crane and geography allow.</li> <li>○ Configuring the overload protection system.</li> <li>○ Deploying knuckle boom if equipped.</li> </ul> </li> <li>• Center boom tip over the center of gravity for the load to be lifted.</li> <li>• Attach rigging to load and crane, or instruct assigned helper to do so.</li> <li>• Ensure area is clear of unauthorized people.</li> <li>• Raise load a few inches, hold, verify capacity/balance, and test brake system before delivering load.</li> <li>• Keep boom in a centered, lowered position when traveling with a load (unless the crane is otherwise configured).</li> <li>• Deliver load to destination in a controlled manner.</li> <li>• Remove rigging, or instruct assigned helper to do so.</li> <li>• Return crane to travel mode and move to area designated by the instructor.</li> </ul>

<b>Task X: Crane Securement</b>		
<b><u>Performance</u> Tasks</b>	<b><u>Conditions</u> Tools, Equipment, Documents, Practice</b>	<b><u>Standards</u> Time, Completeness, or Accuracy</b>
<p><b>Task 4-6:</b> Demonstrate Crane Securement Procedures</p>	<p>Given participation in the course, Roadway Maintenance Machines/Crane Course ID XXXX and opportunity to study:</p> <ul style="list-style-type: none"> <li>- Maintenance of Way Rules (X.XX, X.XX, X.XX)</li> <li>- RMM manufacturer's manual for maintenance and operations.</li> <li>- 49CFR Part 214, Subpart C, D</li> <li>- Practice X times with a Qualified Person</li> </ul>	<p>Perform the following 3 times with at least 100% accuracy following machine's instructions for safe operation:</p> <ul style="list-style-type: none"> <li>• Place gear shift into neutral position</li> <li>• Place all foot pedals in proper position</li> <li>• Make sure all accessory switches on control panel are in off position</li> <li>• Apply hand or parking brake (if applicable)</li> <li>• Turn battery switch to off position (if applicable)</li> <li>• Close any windows (if applicable)</li> <li>• Lock door (if applicable)</li> <li>• Secure machine to prevent movement as required.</li> </ul>