


Job Safety Analysis 	Job Title/Operation OPERATING ON-TRACK EQUIPMENT (OTE)	Supervising Position Engineering Department Managers	Date October 5, 2009	New JSA-E2-2009 ___X_ Revised 08/20/18
	Craft/Job Position Track and Bridge Employees	Department Engineering	Facility/Location On-Track	
	Required Personal Protective Equipment Hard Hat – Safety Glasses – Hearing Protection – Safety Footwear – Gloves – Type 2 Safety Vest or Outerwear			
Sequence of Basic Job Steps	Potential Hazards, Acts or Conditions	Required Actions or Procedures (New actions or procedures are <u>underlined</u>.)		
<u>Prior to operation</u>	Preparing operator and equipment for safe operation	<ul style="list-style-type: none"> Obtain or verify track authority to protect movements. Operator or EIC must be familiar with the territory. Verify your location, track, direction and limits of authority before occupying track. Ascertain whether a Form B track bulletin is in effect before occupying the track. If working where there is an adjacent track, ensure On-Track Safety is provided on adjacent track before fouling with equipment. Operator must be qualified on machine or be under the direct supervision of a qualified operator. Operator must understand braking and towing limitations of equipment. Operator must know the weight of the push cart and not tow the push cart if it exceeds 50% of the weight of the towing machine. (Ref. UP RMM Policy) Inspect equipment per UP rules & manufacturer's requirements and document in equipment logbook. <u>Test brakes before moving</u> and immediately after starting movement to ensure they are working properly. Perform required air brake tests when handling rail cars. Always wear seat belts when equipment is traveling per the seatbelt matrix. Do not allow riders unless there are approved seats for each rider or designated riding locations. 		
1. Handling switches	1A. Injury due to lining a switch 1B. Leaving switch open in non-signal territory	1A. Inspect switch to ensure it is not damaged, clamped, tagged or spiked. Use proper body mechanics & secure footing when lining switch. Keep hands & feet clear to avoid being struck by the switch handle. 1B. In non-signal territory, the employee handling a mainline switch must record the use of each switch on either the track authority form or switch position awareness form. Before releasing a track authority, verify that all switches operated have been restored to normal.		
2. Traveling to/from job site OTE is considered to be traveling when equipment is prepared for travel as required by the operator's manual (e.g. workheads pinned up) and equipment is in "travel" mode, if equipped. EIC must designate in the job briefing when/where OTE will be in travel mode vs work mode.	2A. Collision with other OTE while traveling 2B. Collision with other OTE while bunching up or stopping in travel mode 2C. Collision with other OTE while tying up	2A. Keep a minimum of at least 300 feet behind other OTE while traveling. Regardless of allowable speed, always operate equipment at a speed that will allow stopping within ½ the distance track is seen to be clear. <u>Operators of surfacing gang equipment will call out mileposts, signals and switches over the radio when moving in travel mode. Surfacing gangs will assign another employee, if available, to the lead machine when traveling to flag the machine behind when necessary to stop.</u> 2B. When bunching up to move over highway or rail crossings or when stopping for any reason, always keep at least 50 feet between OTE. <u>When bunching or stopping surfacing gang equipment, maintain a distance of at least 150 feet between equipment.</u> Operators must use a predetermined signal to stop and must acknowledge with the same signal. If acknowledgement is not received by the operator who is following, after stopping, dismount your equipment, walk along the field side in the direction of the oncoming equipment and try to get the operator's attention. When acknowledgment has been received and after you have stopped, if necessary to dismount your equipment, stand to the field side of the track and not foul the track until: <ul style="list-style-type: none"> You have flagged the following operator to a stop at least 50 feet behind your machine (150' surfacing), OR Another employee is providing lookout protection, OR You have conducted a job briefing with the following operator to discuss the location of your machine and specified where he will stop. <u>Before fueling equipment at other than the tie-up location, place orange cones 15 feet from each end of equipment per 135.3.2(A).</u> 2C. <u>When tying-up equipment, stop at least 50 feet behind the machine ahead.</u> After stopping, ease up to the machine ahead on hand signals from the operator ahead. When stopped, dismount machine on the field side of the track and direct the following operator to a stop. <u>If operating the first or only machine in the gang consist, stop at least 50 feet from tie-up location and then ease up to a stop.</u> Ensure equipment is properly secured – set brakes, secure booms, etc. to prevent uncontrolled movements.		

<p>2. Traveling to/from job site (cont.)</p>	<p>2D. Collision with a vehicle at a grade crossing</p> <p>2E. Collision with a train on the same track</p> <p>2F. Striking a person on or near the track</p> <p>2G. Derailment of equipment</p>	<p>2D. Approach all grade crossings sounding horn and/or siren prepared to stop and yield right-of-way to vehicular traffic. If necessary, flag the crossing. If vehicles are oncoming and/or present, give the right-of-way to the vehicle and do not proceed until the way is clear. If need be, exit your equipment, flag the vehicles through the crossing and proceed when clear.</p> <p>2E. Always be aware of the track authority limits to ensure equipment stays within the limits. <u>When approaching a control point, the operator of the lead machine must stop and announce his authority into and beyond each control point on the company radio. Example: "Jones at CPB 216, authority extends to CPB 218 – switch YES".</u> Keep at least 300 feet behind trains and engines while traveling. Operate equipment at a speed that will allow the operator to stop in ½ the distance track is seen to be clear.</p> <p>2F. When approaching people on or near the track, reduce speed and, if necessary, stop equipment.</p> <p>2G. Keep a lookout for obstructions on or near the track. <u>If necessary to look away, stop the movement.</u> Be aware of the position of derails and switches before passing over them. Make sure all components such as booms, turntables, workheads and wings are secured against uncontrolled movements.</p>
<p>3. Working equipment</p> <p>OTE is considered to be working when equipment is <u>not</u> prepared for travel as required by the operator's manual.</p> <p>Speed in work mode must not exceed 10 MPH.</p> <p>EIC must designate in the job briefing when/where OTE will be in work mode vs travel mode.</p>	<p>3A. Collision with other OTE while in work mode</p> <p>3B. Injury while making repairs or adjustments</p> <p>3C. Employee or machine struck by a train on the adjacent track</p> <p>3D. Striking a person on or near the track</p>	<p>3A. Keep at least 50 feet between OTE while working unless a different distance is specified in the job briefing. Certain situations may necessitate the bunching of equipment closer than 50 feet (working into or out of CP's, working into and out of ends of yard tracks, hooking tow bars, etc...) Enhanced job briefing must be conducted to specify all moves to be made and working distance. Working distance for surfacing gang equipment is a minimum of 150 feet – no exceptions for bunching or working.</p> <p>3B. Lockout and tagout equipment before making any repairs or adjustments except as provided for by CEB 135.4. Face the equipment and maintain 3 point contact when climbing on/off equipment. Use tools only for the purpose for which they are designed.</p> <p>3C. Before fouling any adjacent track, determine that On-Track Safety is being provided. Where track centers are 19 feet or less, no employee may perform work, walk or stand between OTE and an adjacent main track or controlled siding unless a lookout or adjacent track protection is provided. Exception: If OTE may be entered or exited from either the field side or live track side, employees must use the field side when practical and safe to do so. Employees may exit or enter OTE on the live track side only after looking in both directions and ensuring there is no train or on-track equipment movement on the adjacent track. Place a "Danger Live Track" sign across entrance on the live track side of the equipment or ensure another physical restraint is in place.</p> <p>3D. When operating OTE around roadway workers:</p> <ul style="list-style-type: none"> • If equipped, sound the horn (3 short blasts) or ensure the back-up alarm is sounding before making a reverse move. • When making a move of more than 15 feet (or other work zone distance specified in job briefing), make sure the way is clear before making the move. • Do not approach closer than 15 feet to any roadway worker fouling the track without first communicating with the roadway worker.
<p>4. Getting on/off OTE</p>	<p>4A. Slip/Trip/Fall injuries</p> <p>4B. Pinch points</p> <p>4C. Being struck by equipment or trains on adjacent track</p>	<p>4A. Do not get on or off moving equipment except for equipment that is working at a slow speed such as the TRT-909, tampers or rail heaters. Always use steps, ladders and hand holds for getting on or off OTE. Keep hands free to maintain a secure hand hold. Face the equipment and maintain a 3 point contact. Before getting off equipment, observe ground conditions for obstructions, debris, uneven footing or hazardous conditions. <u>When dismounting equipment, maintain a secure hand hold until both feet are firmly on the ground (4 point stance). Pause before releasing handholds and look right, left, behind and ahead and then step away from equipment.</u> Keep walkways and steps on equipment clear and free from oil, ice and other slippery surfaces.</p> <p>4B. Always use door handles to open and close doors. Face the door and keep hands and fingers clear of door edges and door jambs.</p> <p>4C. <u>When dismounting equipment, maintain a secure hand hold until both feet are firmly on the ground (4 point stance). Pause before releasing handholds and look right and left for approaching trains or equipment on the adjacent track and then step away from equipment. Before crossing an adjacent track, look in both directions (180° scan) for trains or equipment. Then step high over rail and walk straight across the track looking for conditions that could interfere with good footing.</u></p>