Truck Mounted Boom Crane Daily Operator Safety Checklist

1.0 Objective & Intent

The objective of this Standard Operating Procedure (SOP) is to establish a mandatory daily safety inspection and operational checklist for all truck mounted boom cranes used within the cabinet and millwork manufacturing facility. This procedure is designed to prevent crane-related incidents, including tip-overs, load drops, structural failures, and personnel injuries, by ensuring that every crane is in safe operating condition before use. Compliance with WorkSafeBC regulations, specifically Part 14 (Cranes and Hoists) and Part 15 (Rigging), is mandatory. This SOP mitigates the risk of catastrophic failure due to mechanical defects, improper setup, or operator error.

2.0 Operational Scope

This procedure applies to all truck mounted boom cranes (including knuckle boom and telescopic boom types) operated on company premises, including loading docks, yard areas, and off-site delivery locations. It covers all maintenance personnel, operators, and supervisors involved in crane operation. The checklist must be completed at the start of each shift or prior to the first lift of the day. This SOP does not apply to overhead bridge cranes, gantry cranes, or manual hoists.

3.0 Hazard Identification & Mandatory PPE

- Crush Hazards: Crane tip-over, load swing, or boom collapse can cause severe crushing injuries. Maintain stable outrigger setup and never exceed load chart ratings.
- Struck-By Hazards: Falling loads, rigging failure, or swinging loads can strike workers. Keep all personnel clear of the load radius and use tag lines.
- Pinch Points: Sheaves, winch drums, and boom pivot points present amputation risks. Keep hands and loose clothing away from moving parts.
- Electrical Contact: Boom or load contact with overhead power lines can cause electrocution. Maintain minimum 10-foot clearance from energized lines.
- Slip/Trip/Fall: Wet or uneven ground around outriggers and operator cab steps. Ensure stable footing and use three-point contact when entering/exiting cab.
- CSA-Approved Hard Hat with chin strap (Class E or G)
- CSA-Approved Steel Toed Boots with slip-resistant soles
- High-Visibility Safety Vest (Class 2 or 3)
- Safety Glasses with side shields (Z87.1 rated)
- Heavy-Duty Work Gloves (cut-resistant for rigging tasks)
- Hearing Protection (if noise levels exceed 85 dBA)

4.0 Required Safety Equipment & Tools

- Daily Crane Inspection Checklist (paper or digital form)
- Crane Load Chart (specific to model and configuration)
- Outrigger Pads (minimum 24x24 inch, load-rated)

- Lockout/Tagout (LOTO) Kit with personal lock and hasp
- Rigging Inspection Kit (includes slings, shackles, hooks, and spreader bars)
- Tag Lines (non-conductive, minimum 15 feet)
- Fire Extinguisher (ABC rated, mounted in cab)
- First Aid Kit (minimum 10-person, in cab)
- Spill Kit (for hydraulic fluid leaks)
- Flashlight (for visual inspections in low light)
- Operator's Manual (stored in cab)

5.0 Step-by-Step Safety Procedure

1. Review the previous shift's inspection report and any outstanding maintenance issues. Confirm that all corrective actions have been completed and documented. If any red-tagged items remain, do not operate the crane and notify the supervisor immediately.
2. Perform a visual walk-around inspection of the entire crane. Check for visible damage, leaks (hydraulic, fuel, coolant), loose bolts, cracked welds, and tire condition. Inspect the boom for dents, corrosion, or deformation. Verify that all warning decals and load charts are legible and present.
3. Inspect the outrigger system. Verify that outrigger beams, pads, and floats are free of cracks and deformation. Check hydraulic cylinders for leaks. Ensure outrigger controls function properly and that the outrigger interlock system (if equipped) is operational.
4. Inspect all rigging hardware including slings (wire rope, synthetic, chain), shackles, hooks, and spreader bars. Look for broken wires, kinks, cuts, heat damage, stretched links, or deformed hooks. Remove any damaged rigging from service and tag it for repair or disposal.
5. Check the winch and hoist system. Verify that the wire rope is properly spooled, free of birdcaging, broken strands, or corrosion. Inspect the hook for throat opening deformation and ensure the safety latch operates freely. Test the winch brake by lifting a light load (if safe) or performing a static brake test per manufacturer instructions.
6. Test all crane controls from the operator's station. Verify that the boom raise/lower, telescope, swing, and winch functions operate smoothly without hesitation or unusual noise. Confirm that the emergency stop button cuts all power. Test the load moment indicator (LMI) or rated capacity limiter (RCL) by simulating a load (if equipped) and ensure alarms and cut-offs function.
7. Set up the crane on stable, level ground. Deploy outriggers fully and extend pads to firm ground. Use outrigger pads to distribute load. Ensure the crane is level (within 1 degree per manufacturer spec). Engage the outrigger interlock and verify that the crane is stable before any lift.
8. Conduct a pre-lift safety briefing with all ground personnel. Review the lift plan, load weight, load radius, and communication signals (hand signals or radio). Confirm that no unauthorized personnel are within the swing radius. Establish a clear exclusion zone (load radius plus 10 feet).
9. Perform a test lift of the actual load (or a test weight) to verify stability and control. Lift the load a few inches off the ground, pause, and check for any drift, unusual sounds, or instability. Lower the load and re-inspect rigging and outriggers before proceeding with the full lift.
10. Complete the Daily Crane Inspection Checklist, signing and dating all sections. Report any defects or concerns to the supervisor immediately. If any critical defect is found, apply a LOTO lock to the crane's main power disconnect and tag it out of service until repairs are completed and re-inspected.