

LIFTING/MOBILE EQUIPMENT

CRANES AND DERRICKS

Steingass Mechanical Contracting, Inc.
754 Progress Drive
Medina, Ohio 44256
(330) 725-6090

CRANES AND DERRICKS

INTRODUCTION

The Occupational Safety and Health Act under 29 CFR 1926 Subpart N establishes requirements relating to the safe operation and maintenance of cranes and derricks. In response to the regulatory mandate, Steingass Mechanical Contracting, Inc. has developed and will maintain the Crane and Derrick Program to provide the proper and safe procedures for all applicable employees.

PURPOSE

This document is primarily intended to outline the methods of protecting and/or informing all employees engaged in the operation and maintenance of cranes and derricks. In addition, it is intended that Steingass Mechanical Contracting, Inc. will be in full compliance with 29 CFR 1926 Subpart N.

Due to the serious nature of this policy, Steingass Mechanical Contracting, Inc. intends to continually monitor this policy for its workability and identify inadequacies or deficiencies.

RESPONSIBILITY

Steingass Mechanical Contracting, Inc. will instruct all applicable employees in the safety significance of the operation and maintenance of cranes and derricks. In addition, Steingass Mechanical Contracting, Inc. considers these requirements to be of critical importance in helping to ensure that the applicable provisions of the Crane and Derricks Program are known, understood, and strictly adhered to by all employees. Strict enforcement of this program is required as a condition of employment. Any variations from these set procedures will be considered a work rule violation and because of the serious nature of this program, disciplinary action will be taken in accordance with the disciplinary guidelines described in Steingass Mechanical Contracting, Inc.'s Safety Rules and Regulations.

GENERAL USE AND OPERATION

1. Only designated personnel qualified by training in the safe work standards, including use of fire extinguishers and certified by an accredited testing organization will be allowed to operate equipment.
2. The Steingass Mechanical Contracting, Inc. will follow the manufacturer's specifications, the manufacturer's limitations and procedures applicable to the operation of any and all cranes and derricks.
3. A substantial and durable chart with clearly legible letters and figures that has rated load capacities and recommended operation speeds, procedures, special hazard warnings, or instructions will be securely posted and visible to the operator when seated on all equipment.
4. Hand signals to crane and derrick operators will be those prescribed by the applicable ANSI standard for the type of crane in use. All illustrations will be posted onsite.
5. A competent person will inspect all machinery and equipment prior to each use and during use to make sure it is in safe operating condition and that there are no apparent deficiencies. Repair deficiencies and replace defective parts before continued use. All safety devices must be in proper working order before operation begins.
6. A thorough monthly and annual inspection will be made by a competent person. A record of the inspections will be maintained.
7. Wire rope will be taken out of service when:
 - a. In running ropes, six randomly distributed broken wires in one lay or three broken wires in one strand in one lay.
 - b. Wear of one-third the original diameter of outside individual wire and/or when there is kinking, crushing, bird caging or distortion damage.
 - c. Evidence of heat damage.
 - d. Reduction from nominal diameters.
 - e. In standing ropes, more than two broken wires in one lay in sections beyond end connections or more than one broken wire at an end connection.
 - f. Wire rope safety factors will be in accordance with ANSI B30.5-1968 or SAEJ959-1966.

8. Belts, guards, shafts, pulleys, sprockets, spindles, drums, fly wheels, chains, or other reciprocating, rotating, or other moving parts or equipment will be guarded is such parts are exposed to contact by employees, or otherwise create a hazard. Guarding will meet the requirements of ANSI B15.1-1958 Rev., Safety Code for Mechanical Power Transmission Apparatus.
9. Accessible areas within the swing radius of the rear of the rotating superstructure of the crane will be barricaded to prevent an employee from being struck or crushed by the crane.
10. Exhaust pipes will be guarded or insulated in areas where contact by employees is possible.
11. If exhausting in enclosed spaces, tests will be conducted and recorded to see that employees are not exposed to unsafe concentrations of toxic gases or oxygen deficient atmospheres.
12. All windows in cabs will be of safety glass, or its equivalent, that introduces no visible distortion that interferes with the safe operation of the machine.
13. Where necessary for rigging or service requirements, a ladder or steps will be provided to give access to cab roof.
14. Guardrails, handholds and steps will be provided on cranes for easy access to car and cab, conforming to ANSI B30.5.
15. Platforms and walkways will have anti-skid surfaces.
16. Fuel tank filler pipe will be located in such a position, or protected in such a manner, as to not allow spill or overflow to run onto the engine, exhaust, or electrical equipment of any machine being fueled.
17. An accessible fire extinguisher of 5 B:C rating, or higher will be available at all operator stations or cabs of equipment.
18. No modifications or additions, which affect the capacity or safe operation of the equipment, will be made without the manufacturer's written approval.
19. Side boom cranes mounted on wheel or crawler tractors will meet the requirements of SAE J743a-1964.
20. All employees will be kept clear of loads about to be lifted and of suspended loads.

CRANES AND ELECTRICITY

1. A pre-operation hazard assessment will be performed to identify the work zone (360 degrees around the equipment) and determine if any part of the equipment could reach closer than 20 feet to a power line.

Note: All overhead power lines will be considered energized unless proven different.

2. If it is determined that any part of the equipment load line or load could get closer than 20 feet the following measures will be taken:
 - a. Ensure the power lines have been de-energized and visibly grounded.
 - b. Ensure that no part of the equipment load line or load gets closer than 20 feet to the power line.
3. When it is difficult for the operator to see, a person will be designated to observe clearance of equipment.
4. Cage-type boom guards, insulating links or proximity warning devices may be used.
5. A determination of the lines voltage and minimum approach distance are as follows:
 - a. For lines rated 50kV or below, minimum clearance between lines and any part of the crane or load will be 10 feet.
 - b. For lines rated over 50kV, minimum clearance between the lines and any part of the crane or load will be 10 feet plus 0.4 inch for each 1kV over 50kV or twice the length of the line insulator, but never less than 10 feet.
 - c. When working around transmitter towers, the following precautions will be taken.:
 - i. Provide ground directly to upper rotating structure supporting the boom.
 - ii. Attach ground jumper cable to materials to be handles.
 - iii. Remove combustible and flammable materials from area.

CRAWLER, LOCOMOTIVE AND TRUCK CRANES

1. All jibs will have positive stops to prevent movement of more than 5 degrees above the straight line of the jib or boom.
2. All crawler, truck or locomotive cranes in use will meet the applicable requirements for design, inspection, construction, testing, maintenance and operation as prescribed in the ANSI B30.5-1968, Safety Code for Crawler, Locomotive and Truck Cranes.
3. A written certification record which includes the date the crane items were inspected; the signature of the person who inspected the crane items; and a serial number, or other identifier, for the crane inspected will be maintained on file. The most recent certification will be kept on file until a new one is prepared.

HAMMERHEAD TOWER CRANES

1. Adequate clearance will be maintained between moving and rotating structures of the crane and fixed objects to allow passage of employees without harm.
2. Each employee required to perform duties on the horizontal boom will be protected against falling by guardrails or a personal fall arrest system.
3. Buffers will be provided at both ends of travel of the trolley.
4. Cranes mounted on rail tracks will be equipped with limit switches limiting the travel of the crane on the track and stops or buffers at each end of the tracks.
5. Hammerhead tower cranes must meet the applicable requirements of the manufacturer.

OVERHEAD AND GANTRY CRANES

1. The rated load of the crane will be plainly marked on each side of the crane. If the crane has more than one hoisting unit, each hoist will have its rated load marked on it or its load block. This marking will be clearly legible from the ground or floor.
2. Bridge trucks will be equipped with sweeps, which extend below the top of the rail and project in front of the truck wheels.
3. Except for floor-operated cranes, a gong or other effective audible warning signal will be provided for each crane equipped with a power traveling mechanism.
4. All overhead and gantry cranes in use will meet the applicable requirements for design, construction, installation, testing, maintenance, inspection and operation as prescribed in the **ANSI B30.2.0-1967**, Safety Code for Overhead and Gantry Cranes.

DERRICKS

1. All derricks will meet the applicable requirements of ANSI B30.6-1969, Safety Code for Derricks.

FLOATING CRANES AND DERRICKS

1. The rated load will not exceed the original capacity when mounted on a barge.
2. A legible, secured and visible load rating will be provided.
3. A new load-rating chart will be provided when load ratings are reduced to stay within limits for list of the barge.
4. Mobile cranes on barges will be positively secured.

PERMANENTLY MOUNTED FLOATING CRANE AND DERRICKS

1. The capacity and limitations of use will be based on competent design criteria.
2. A secured and visible load-rating chart will be provided.
3. Floating cranes and derricks will meet all applicable requirements prescribed by the manufacturer.
4. The employer will comply with the applicable requirements for protection of employees working onboard marine vessels.

CRANE OR DERRICK SUSPENDED PERSONNEL PLATFORMS

DEFINITIONS

FAILURE: Means load refusal, breakage or separation of components.

HOIST: Means all crane or derrick functions such as lowering, lifting, swinging, booming in and out or up and down, or suspending a personnel platform.

LOAD REFUSAL: Means the point where the ultimate strength is exceeded.

MAXIMUM INTENDED LOAD: Means the total load of all employees, tools, materials and other loads reasonable anticipated to be applied to a personnel platform or component.

RUNWAY: Means a firm, level surface designed, prepared and designated as a path of travel.

GENERAL REQUIREMENTS

The use of a crane or derrick to hoist employees on a personnel platform is prohibited except when the erection, use and dismantling or conventional means of reaching the work site would be more hazardous, or is not possible due to structural design or work site conditions.

OPERATIONAL CRITERIA

1. Hoisting of the personnel platform will be performed in a slow, controlled, cautious manner with no sudden movements of the crane or derrick, or the platform.
2. Load lines will be capable of supporting, without failure, at least 7 times the maximum intended load.
3. Where rotation resistant rope is used, the lines will be capable of supporting without failure, at least 10 times the maximum intended load.
4. Load and boom hoist drum brakes, swing brakes and locking devices such as pawls or dogs will be engaged when the occupied personnel platform is in a stationary working position.

5. The crane will be uniformly level within 1% of level grade and located on firm footing. Outriggers will be fully deployed.
6. The total weight of the loaded personnel platform and related rigging will not exceed 50% of the rated capacity for the radius and configuration of the crane or derrick.

INSTRUMENTS AND COMPONENTS

1. Cranes and derricks with variable booms will be equipped with a boom angle indicator, visible to the operator.
2. Cranes with telescoping booms will be equipped with a device to indicate to the operator, the boom's extended length.
3. A positive acting device will be used which prevent contact between the load block or overhaul ball and the boom tip (anti-two-blocking device).
4. The load line hoist drum will have a device on the power train, other than the load hoist brake, to control load lowering. Free fall is prohibited.

DESIGN CRITERIA FOR PERSONNEL PLATFORMS

1. Personnel platforms will be designed by a qualified engineer or a qualified person competent in structural design.
2. The suspension platform will be designed to minimize tipping of the platform due to movement of employees occupying the platform.
3. The personnel platform will be capable of supporting, without failure, its own weight and at least 5 times the maximum intended load.

PLATFORM SPECIFICATIONS FOR PERSONNEL PLATFORMS

1. Each platform will be equipped with a guardrail system and will be enclosed at least from the toeboard to mid-rail with either solid construction or expanded metal having openings no greater than ½ inch.
2. A grab rail will be installed inside the entire perimeter of the personnel platform.
3. Access gates, if installed will not swing outward during hoisting.
4. Access gates will be equipped with a restraining device to prevent accidental opening.
5. Headroom will be provided to allow the employees to stand upright in the platform.
6. When exposed to falling objects, employees will be protected by overhead protection including hard hats.
7. All rough edges exposed to employees will be surfaced or smooth to prevent injury.
8. All welding of the personnel platform will be performed by a qualified welder familiar with platform design.

9. The personnel platform will be conspicuously posted with a plate or other permanent marking which indicates the weight of the platform and it's rated load capacity or maximum intended load.

PERSONNEL PLATFORM LOADING

1. Personnel platforms will not be loaded in excess of its load capacity.
2. The number of employees occupying the personnel platform will not exceed the number required for the work being performed.
3. Personnel platforms will be used only for employees, their tools, and the materials necessary to do their work, and will not be used to hoist only materials or tools when not hoisting personnel.
4. Materials and tools for use during a personnel lift will be secured to prevent displacement and evenly distributed within the confines of the platform while the platform is suspended.

CRITERIA FOR RIGGING OF PERSONNEL PLATFORMS

1. When a wire rope bridle is used to connect the personnel platform to the load line, each bridle leg will be connected to a master link or shackle in such a manner to ensure that the load is evenly divided among the bridle legs.
2. Hooks on overhaul ball assemblies, lower load blocks will be of the type that can be closed and locked.
3. Wire rope, shackles, rings, master links and other rigging hardware must support without failure at least 5 times the maximum intended load applied. Rotation resistant rope must support at least 10 times the maximum intended load.
4. All eyes in wire rope slings will be fabricated with thimbles.
5. Bridles and associated rigging for attaching the personnel platform to the hoist line will be used only for the platform and the necessary employees, tools and materials.

TRIAL LIFT, INSPECTION AND PROOF TESTING
FOR PERSONNEL PLATFORMS

1. A trial lift with the unoccupied personnel platform loaded at least to the anticipated liftweight will be made from ground level and stop at all locations. This trial lift will be performed immediately prior to placing personnel on the platform.
2. The operator will determine that all systems, controls and safety devices are activated and functioning properly.
3. A single trial lift may be performed at one time for all locations that are to be reached from a single set up position.
4. The trial lift will be repeated prior to hoisting employees whenever the crane or derrick is moved and set up again in a new or previously used location.
5. After the trial lift and just prior to hoisting personnel, the platform will be hoisted a few inches and inspected to ensure that it is secure and properly balanced.
6. Employees will not be hoisted unless the following conditions are determined to exist:
 - a. Hoist ropes will be free of kinks.
 - b. Multiple part lines will not be twisted around each other.
 - c. The primary attachment will be centered over the platform.
 - d. The hoisting system will be inspected if the load rope is slack to ensure all ropes are properly stated on drums and in sheaves.
7. A visual inspection will be conducted by a competent person after the trial lift to look for any exposed defects.
8. Any defects found will be corrected before hoisting personnel.
9. Prior to hoisting, proof testing at 125% of the platform's rating will be conducted by holding it in suspended position for 5 minutes.

10. After proof testing, a competent person will inspect for defects and take corrective action. Personnel hoisting will not be conducted until the proof testing requirements are satisfied.

WORK PRACTICES FOR PERSONNEL PLATFORMS

1. All parts of employees' bodies will be kept inside the platform during raising, lowering and positioning.
2. Before employees exit or enter a hoisted personnel platform that is not loaded, the platform will be secured to the structure where the work is to be performed.
3. Taglines will be used unless their use creates an unsafe condition.
4. The crane or derrick operator will remain at the controls at all times when the crane engine is running and the platform is occupied.
5. Upon indication of any dangerous weather conditions or other impending danger, hoisting operations will discontinue.
6. The operator or signal person must always keep employees being hoisted in their sites. Direct radio communication alone may be used in special cases.
7. Employees occupying the personnel platform will use a body belt/harness system with lanyard appropriately attached to the lower load block or overhaul ball, or to a structural member within the personnel platform capable of supporting a fall impact for employees using the anchorage.
8. No lifts will be made on another of the crane or derrick's loadlines while personnel are suspended on a platform.

TRAVELING

1. Hoisting of employees while the crane is traveling is prohibited, except for portal, tower and locomotive cranes, or where the employer demonstrates that there is no less hazardous way to perform the work.

2. When traveling while hoisting personnel, the following will be implemented:
 - a. Crane travel will be restricted to a fixed track or runway.

 - b. Travel will be limited to the load radius of the boom used during the lift.

 - c. The boom must be parallel to the direction of travel.

 - d. A complete trial run will be performed to test the route of travel before employees are allowed to occupy the platform.

 - e. If travel is done with a rubber tired-carrier, the condition and air pressure of the tires will be checked.

PRE-LIFT MEETINGS

1. A meeting attended by the crane or derrick operator, signal person(s), employee(s) to be lifted and the person responsible for the tasks to be performed will be held to review the appropriate requirements.
2. This meeting will be held prior to the trial lift at each new work location and will be repeated for any employees newly assigned to the operation.
3. Operators have the authority to stop and/or refuse to handle loads whenever there is a safety concern.
4. Operators will be provided a signal person if their view is obstructed, if site specific safety concerns require it or if the operator determines it is necessary.
5. Equipment will not be assembled or used unless ground conditions are able to support the equipment, load and any supporting materials per the manufacturer's specifications.
Steingass Mechanical Contracting, Inc.'s competent and qualified person will direct and will follow the manufacturer's procedures and prohibitions during assembly and disassembly of equipment.
Hazardous areas will be identified and the boundaries of the crane swing will be marked.

APPENDICES

APPENDIX A - CRANE HAND SIGNALS

APPENDIX B - MOBILE CRANE PRE-OPERATIONAL INSPECTION

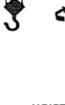
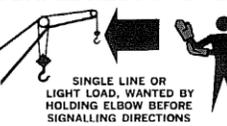
APPENDIX C – PRE-LIFTING CHECKLIST FOR PERSONNEL PLATFORMS

APPENDIX D – PRE-LIFT CHECKLIST

CRANE HAND SIGNALS

CRANE SIGNALS

Ohio Bureau of Workers' Compensation
Division of Safety and Hygiene

STOP SIGNALS			TELESCOPING BOOMS		
 STOP	 EMERGENCY STOP	 DOG EVERYTHING	 SHORTEN BOOM	 EXTEND BOOM	
SLOW SIGNALS					
 MAKE MOVEMENTS SLOWLY	 RAISE LOAD SLIGHTLY	 LOWER LOAD SLOWLY	 LOWER BOOM LIGHTLY	 RAISE BOOM SLOWLY	
CLAM BUCKET SIGNALS		CRAWLER or TRACK SIGNALS			
 OPEN	 CLOSE	 TRAVEL BOTH CRAWLER BELTS IN DIRECTION INDICATED BY REVOLVING FISTS	 RIGHT TURN	 LEFT TURN	
 HOIST LOAD	 ARM POSITION 45°	 ARM POSITION 90°	 BOOM DOWN	 ARM POSITION 90°	
 LOWER LOAD	 BOOM UP	 BOOM DOWN	 SWING	 ARM POSITION 90°	
SELECTING SINGLE or MULTIPLE REEVED LINES					
 RAISE THE BOOM AND RAISE THE LOAD	 RAISE THE BOOM AND LOWER THE LOAD	 MULTIPLE OR BIG LOAD LINE TAPPING HEAD BEFORE DIRECTION	 SINGLE LINE OR LIGHT LOAD, WANTED BY HOLDING ELBOW BEFORE SIGNALLING DIRECTIONS		
INSTRUCTIONS TO SIGNALER					
<ol style="list-style-type: none"> 1. Only one person to be signaler 2. Make sure the Operator can see you and acknowledges the signal given 		<ol style="list-style-type: none"> 3. Signaler must watch the load — the Operator is watching you 4. Don't twist the load over other workers; warn them to keep out of the way 			
WATCH FOR OVERHEAD LINES OR OTHER OBSTRUCTIONS.					
An Equal Opportunity Employer		<small>Total copies printed 6000 Unit Cost \$1.00 Publication date 4/83</small>	1615		

APPENDIX B

Steingass Mechanical Contracting, Inc. Mobile Crane Pre-Operational Inspection

(Must be completed prior to each shift)

Manufacturer/Model: _____ Unit #: _____

Mileage: _____ Hours: _____

- Consult operator's manual for additional inspection items. Do not operate crane until unsafe conditions are corrected.

Check the appropriate box S=Satisfactory U=Unsatisfactory NA=Not Applicable					
CONDITIONS		S	U	NA	COMMENTS
Fluid Levels					
1.	Crankcase oil				
2.	Coolant				
3.	Hydraulic oil				
Cab(s)					
4.	Electrical system				
5.	Service / parking brake				
6.	Swing brake / house lock				
7.	Gauges				
8.	Housekeeping				
9.	Fire extinguisher(s)				
10.	Load chart				
11.	Windows / mirrors				
Functions					
12.	Travel				
13.	Steering				
14.	Outriggers				
15.	Boom up / down				
16.	Boom in / out				
17.	Hoist (s) up / down				
18.	Swing				
Safety Devices					
19.	Anti-two-block				
20.	LMI / load weight indicator				
21.	Boom length indicator				
22.	Boom angle indicator				
23.	Radius indicator				
24.	Warning lights / buzzers				
25.	Back-up alarm / horn				

Steingass Mechanical Contracting, Inc.
Mobile Crane Pre-Operational Inspection
Page Two

Booms, Jibs & Accessories					
26.	Load block / ball / hook(s)				
27.	Safety latches				
28.	Wedge socket(s)				
29.	Sheaves				
30.	Wire rope retainers				
31.	Main boom				
32.	Jim / extension				
33.	Lift cylinder(s)				
Lower Works					
34.	Tires / inflation				
35.	Carrier				
36.	Outriggers				
Upper Works					
37.	Machine Guards				
38.	Hoist brake(s)				
39.	Hoses / tubing				
40.	Hoist(s)				
41.	Wrapping on drum(s)				
42.	Rope reeving				
43.	Wire rope				

Operator Signature _____ Date _____

APPENDIX C

Pre-Lifting Checklist for Personnel Platforms

Project: _____ Date: _____

Superintendent / Foreman: _____

<i>Check the appropriate box</i>			
		Yes	No
1.	Have all criteria for rigging personnel platforms been met? <ul style="list-style-type: none"> • If a wire rope bridle is used to connect the personnel platform to the load line, is each bridle leg connected to a master link or shackle so as to ensure that the load is evenly divided among the bridle legs? • Are all hooks on overhaul ball assemblies and lower load blocks of the type that can be closed and locked, eliminating the hook throat opening? • Does all wire rope, shackles, rings, master links and other rigging hardware support at least 5 times the maximum intended load? • Are all eyes in wire rope slings fabricated with thimbles? • Are bridles and associated rigging for attaching the personnel platform to the hoist line <i>solely</i> used for the personnel platform? 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
	Has a trial lift been performed? <ul style="list-style-type: none"> • Personnel platform must be unoccupied • Loaded at least to the anticipated liftweight. • Trial lift conducted immediately prior to placing personnel on the platform. • Trial lift must be repeated whenever the crane or derrick is moved and set up in a new or previously used location. 	<input type="checkbox"/>	<input type="checkbox"/>
	Are all systems, controls and safety devices activated and functioning properly?	<input type="checkbox"/>	<input type="checkbox"/>
	Is the hoist ropes free of kinks?	<input type="checkbox"/>	<input type="checkbox"/>
	Is the primary attachment centered over the platform?	<input type="checkbox"/>	<input type="checkbox"/>
	Has a visual inspection been conducted by the competent person after the trial lift to look for any exposed defects? Note: Any defects found must be corrected before proceeding.	<input type="checkbox"/>	<input type="checkbox"/>
	Has proof testing been performed? <ul style="list-style-type: none"> • Proof testing at 125% of the platform's rating must be conducted by holding it in a suspended position for 5 minutes. 	<input type="checkbox"/>	<input type="checkbox"/>
	Following proof testing, has a visual inspection been conducted by the competent person to inspect for defects? Note: Any defects found must be corrected and proof testing and inspection repeated until the proof testing requirements are satisfied.	<input type="checkbox"/>	<input type="checkbox"/>
	Has a pre-lift meeting been held? <ul style="list-style-type: none"> • Attendees must include: crane or derrick operator, signal person(s), employees and the competent person. • Pre-lift meeting will be held prior to the trial lift at each work location and repeated for any employees newly assigned to the operation. 	<input type="checkbox"/>	<input type="checkbox"/>

• *If the answer to any of the above questions is NO – the condition must be corrected before proceeding.*

Competent Person Signature: _____ Date _____

APPENDIX D

Pre-Lift Checklist

Project: _____ Date: _____

Superintendent / Foreman: _____

<i>Check the appropriate box</i>		
	Yes	No
Is the crane configured in accordance with the lift plan?	<input type="checkbox"/>	<input type="checkbox"/>
Has the crane been inspected and the condition acceptable?	<input type="checkbox"/>	<input type="checkbox"/>
Has the rigging equipment been inspected, secured, and in acceptable condition?	<input type="checkbox"/>	<input type="checkbox"/>
Is the supporting surface stable?	<input type="checkbox"/>	<input type="checkbox"/>
Are proper crane mats placed under outrigger floats and at a 90-degree angle to the outrigger cylinders? Are crawler cranes on proper crane mats?	<input type="checkbox"/>	<input type="checkbox"/>
Are outrigger (if applicable) fully extended with tires off the ground?	<input type="checkbox"/>	<input type="checkbox"/>
Is the crane within 1 degree of level? Has the levelness of the crane been checked with a four-foot carpenter's level or other acceptable method? The "target" level in the crane cab can be used for initial leveling but should not be considered reliable for critical lifts?	<input type="checkbox"/>	<input type="checkbox"/>
Is the exact load weight known?	<input type="checkbox"/>	<input type="checkbox"/>
Is the location of the center of gravity of the load known and the crane hook positioned directly above it?	<input type="checkbox"/>	<input type="checkbox"/>
Was the load radius measured exactly? For heavy lifts, has the potential increasing load radius due to deflections in the boom, tire, and/or carrier been considered?	<input type="checkbox"/>	<input type="checkbox"/>
Was the boom length determined exactly?	<input type="checkbox"/>	<input type="checkbox"/>
Was the boom angle determined exactly?	<input type="checkbox"/>	<input type="checkbox"/>
Are wind conditions acceptable? If wind speeds are in excess of 30 mph, the lift should not be made; if wind speeds are more than 20 mph, consider postponing the lift.	<input type="checkbox"/>	<input type="checkbox"/>
Is the rope reeving balance to prevent boom twist?	<input type="checkbox"/>	<input type="checkbox"/>
Is the rigging capacity acceptable?	<input type="checkbox"/>	<input type="checkbox"/>
Is the weight of the rigging known?	<input type="checkbox"/>	<input type="checkbox"/>
Has the clearance between the boom and the load been considered and is it sufficient?	<input type="checkbox"/>	<input type="checkbox"/>
Has the clearance between the boom tip and block been considered and is it sufficient?	<input type="checkbox"/>	<input type="checkbox"/>
Is the crane operator experienced and qualified?	<input type="checkbox"/>	<input type="checkbox"/>
Has a qualified crane signalperson been assigned and method of communication between the crane operator and signalperson been established?	<input type="checkbox"/>	<input type="checkbox"/>
Is a person assigned to control the load with the use of a tag line?	<input type="checkbox"/>	<input type="checkbox"/>
Is the area clear of obstacles (including power lines, pipelines and unnecessary personnel)?	<input type="checkbox"/>	<input type="checkbox"/>
Has a pre-lift meeting between the crane operator, signalperson, supervisor, and other affected persons been conducted?	<input type="checkbox"/>	<input type="checkbox"/>

- *If the answer to any of the above questions is NO – the condition must be corrected before proceeding.*

Competent Person Signature: _____ Date _____

