

**INSTRUCTIONS:** Ask yourself the questions in decision block; Check off questions that apply; follow the Yes or No; circle the Yes or No and initial; Fill out the required forms listed under Required Action and provide required data to PMCS 7 Calendar days prior to lift.

Company Name: \_\_\_\_\_ Signature: \_\_\_\_\_ Print: \_\_\_\_\_ Date: \_\_\_\_\_

PMCS CP No.:

**LIFT CLASSIFICATION FLOW CHART**

**TEST (Questions)**

Start

Lift > 10 Tons? and/or:

- Does the gross load exceed 85% of the crane's total lifting capacity?
- Does the gross load at any point during the lift exceed 80% of crane's capacity chart?
- Does load replacement time exceed 10 days?
- Will the loss of the load during installation cause a loss of production exceeding 10 days or a cost of \$100,000.
- Will the loss of the load constitute a risk to the public or environment, i.e. chlorine or acid?
- Does the lift require 2 or more cranes? (Note: never exceed 75% of each crane's capacity in a multi-crane lift.)
- Will the load be swung over an unprotected plant, equipment, service or persons?
- Will the lift be performed in proximity of live electrical conductors?

**LIFT CLASSIFICATION**

**REQUIRED ACTION**

Yes

NO

Medium Lift  
> 10T  
< 50T

Heavy Lift  
≥ 50T

Critical Lift

≤ 10T  
Incidental  
Or  
Light Lift

Lift Classification Flow Chart

Rigging Plan Checklist

Pre-Lift Safety Check List & Job Briefing

Lift Data Sheets

Rigging Sketches  
N/A for Medium Lift

Suspended Personnel Lift Check List (if applicable)

Lift Classification Flow Chart

Pre-Lift Safety Check List & Job Briefing

**REFERENCES**

29CFR 1926, "Occupational Safety and Health Standards", Code of Federal Regulations, Subpart N, Cranes, Derricks, Hoists, Elevators, and Conveyors, 1926.550, Cranes and Derricks.  
29 CFR, 1910.184 Slings.

29 CFR 1926, "Occupational Safety and Health Standards," Code of Federal Regulations, Subpart R, "Steel Erection," as amended.

29 CFR Occupational Safety and Health Standards, Subpart N, Materials Handling and Storage, 1910.180, Crawler locomotive and truck cranes.

Company Name:  
Project Description:  
PMCS CP:

### Pre-Lift Safety Checklist (Required for Incidental/Light, Medium, Critical & Heavy Lifts)

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Project \_\_\_\_\_ Inspection Date \_\_\_\_\_

Crane Make \_\_\_\_\_ Model \_\_\_\_\_ Serial No \_\_\_\_\_

Crane Manufacturer \_\_\_\_\_

Equipment No \_\_\_\_\_ Hours \_\_\_\_\_ Crane Capacity \_\_\_\_\_

Lift Date \_\_\_\_\_ Lift Weight \_\_\_\_\_ Lift Dimensions \_\_\_\_\_ x \_\_\_\_\_ x \_\_\_\_\_

Weather Conditions \_\_\_\_\_

### Pre-Lift Verifications

Verify that you satisfy all items in this checklist and all other safety precautions before making the lift. Strictly adhere to all precautions and instructions on the decals attached to the crane. Check or complete each item to document verification.

1. Verify acceptability of lines and fastenings (no frayed cables, worn parts, etc.)  
 Load Lines                       Boom Lines                       Sheaves and Blocks
2. Verify acceptability of boom members and connections  
 Correct Alignment                       No Bent/Defective Members                       Boom Pins/Keepers in Place
3. Verify acceptability of machinery  
 Engine                       Power Take-Off and Clutch                       Winch Drums and Gears  
 Brakes                       Safety Dogs                       Controls  
 Crane Tracks/Truck Mounting                       Outriggers                       Cab
4. Verify acceptability of rigging accessories  
 Size                       Capacity                       Condition
5. Verify acceptability of the following:  
 Boom Length                       Radius                       Load Line Reeving  
 Crawlers/Outriggers Fully Extended (as req'd)                       Crane Level
6. Verify acceptability of ground conditions  
 Ground can Take Crane Loading                       No Muddy/Uneven Terrain  
 Fill (if any) Compacted                       Mats Req'd (verify number size)
7. Verify overhead power line clearances
8. Verify crane operator qualifications
9. Verify the lifting path is free of obstructions
10. Use tag lines
11. Position a signal person in clear view of the crane operator OR establish radio communication

Company Name:  
Project Description:  
PMCS CP:

**Pre-Lift Safety Checklist (Required for Incidental/Light, Medium, Critical & Heavy Lifts)**

12. Perform a preliminary lift by slowly raising and lowering the load a few inches and checking the function of all equipment AND suspension of the load

13. Verify the rigging scheme agrees with the approved rigging diagrams  
 Yes       No      If NO, explain on page 2

14. Verify the following weights and look for discrepancies:

- A. Home office engineering calculated
- B. Rigging department calculated
- C. Field Engineer calculated
- D. Vendor calculated
- E. Scale or load cell weight

15. When the erection weight is within 5% of the crane chart capacity, either weigh the load on scales or with an approved load cell to protect against overloading the crane and rigging attachments

16. Inspect and verify the acceptability of the entire crane assembly, auxiliary equipment, engineering data and site prior to making the lift

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17. Verify current crane, hook, wire rope, sling and rigging hardware inspections completed.

Yes       No

Additional Comments:

\_\_\_\_\_  
Rigging Engineer

\_\_\_\_\_  
Date

\_\_\_\_\_  
Hoisting and Rigging Superintendent

\_\_\_\_\_  
Date

Company Name:  
 PMCS Project Description:  
 PMCS CP:

(Required for Medium, Critical & Heavy Lifts)

Project Name:		Date:	
Preparer:			
Rigging Plan Initial Considerations		Yes	N/A
1	Address soil conditions and site terrain for lifting equipment and to ensure stability along the haul path and at location of the lift.	<input type="checkbox"/>	<input type="checkbox"/>
2	Consider weather conditions, for extreme conditions added precautions may be required (i.e. extreme cold, heat, rain, wind, etc...)	<input type="checkbox"/>	<input type="checkbox"/>
3	Research underground utilities along the haul path or at the lift location to avoid damage to existing utilities and to ensure adequate ground support.	<input type="checkbox"/>	<input type="checkbox"/>
4	Verify the location of overhead power lines to ensure required clearances are maintained during both heavy haul and lifting operations.	<input type="checkbox"/>	<input type="checkbox"/>
5	Check lift equipment and rigging hardware requirements to ensure equipment is available.	<input type="checkbox"/>	<input type="checkbox"/>
6	Ensure access of haul and lift equipment into and out of the lift area is adequate. Assembly and disassembly of cranes/equipment should also be considered.	<input type="checkbox"/>	<input type="checkbox"/>
7	Verify whether or not escorts are required to ensure safe movement of the load.	<input type="checkbox"/>	<input type="checkbox"/>
8	Consider the need for a contingency plan based on a list of typical risk scenarios.	<input type="checkbox"/>	<input type="checkbox"/>
Rigging Plan Preparation Minimum Requirements			
1	Review Vendor Drawings (equipment weight, location of center of gravity, recommended of specified lifting points, and special handling requirements).	<input type="checkbox"/>	<input type="checkbox"/>
2	A list of the crane or hoisting equipment to be used in the work operation.	<input type="checkbox"/>	<input type="checkbox"/>
3	A sketch showing the position and travel path of haul equipment, hoisting equipment, lift crane, trailing crane, initial location of the item to be lifted, and the final "set" position of the lifted item.	<input type="checkbox"/>	<input type="checkbox"/>
4	A layout of the work area, including the locations of all obstacles and potential interferences.	<input type="checkbox"/>	<input type="checkbox"/>
5	Haul and lift path minimum clearances, turning radius, and clearance requirements from existing facilities, utilities and overhead power lines.	<input type="checkbox"/>	<input type="checkbox"/>
6	Definition of the item to be lifted/hailed including verified weight and authorized attachment of lift points.	<input type="checkbox"/>	<input type="checkbox"/>
7	Equipment manufacturer drawings showing component weight, shipping skid weight, designated rigging attachment points, and center of gravity should be attached to the rigging plan.	<input type="checkbox"/>	<input type="checkbox"/>
8	Actual shipping weight tickets should be attached to the rigging plan (if available)	<input type="checkbox"/>	<input type="checkbox"/>
9	Definition of special soil preparation and crane mat requirements (if any)	<input type="checkbox"/>	<input type="checkbox"/>
10	A sketch showing the locations of underground utilities that could affect the haul route and/or rigging work operation of that require special clearances or cribbing to perform the work.	<input type="checkbox"/>	<input type="checkbox"/>
11	Rigging equipment to be used for the rigging operation, including slings, spreader beams, shackles, hooks and other components in the load chain.	<input type="checkbox"/>	<input type="checkbox"/>
12	Calculations used to determine the forces applied to each rigging component must be provided for all heavy lifts. Standard rigging reference charts may be used to determine sized and type of the components required.	<input type="checkbox"/>	<input type="checkbox"/>
13	Load capacity charts and notes for cranes or other equipment used to perform the lift. These shall be posted in the crane and reference in the rigging plan.	<input type="checkbox"/>	<input type="checkbox"/>
14	A description of the communication method to be used by equipment operators and rigging crews during completion of the lift.	<input type="checkbox"/>	<input type="checkbox"/>
15	Special considerations, such as the effects of wind on the ability of crews to safely complete the lift.	<input type="checkbox"/>	<input type="checkbox"/>
16	Any special precautions that the work crew must be aware of prior to making the lift (e.g. removal of temporary shipping skids prior to lifting).	<input type="checkbox"/>	<input type="checkbox"/>

(Required for Medium, Critical & Heavy Lifts)

Company Name: \_\_\_\_\_  
 PMCS Project Description: \_\_\_\_\_  
 PMCS CP: \_\_\_\_\_

**LIFT DATA SHEET -- Single Crane Pick and Set**

Project: \_\_\_\_\_ Originator \_\_\_\_\_ Date \_\_\_\_\_  
 Job No.: \_\_\_\_\_ Checker \_\_\_\_\_ Date \_\_\_\_\_  
 Revision \_\_\_\_\_ Date \_\_\_\_\_

**Pay Load Description:**

Length:	Height:	Width/Diameter:	Weight:	LBS.
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Pay Load Weight includes all applicable internals, trays, insulation, fireproofing, etc., based on attached calculations  
 Reference Drawings:

**Crane 1 Configuration**

Crane Type: _____
Boom Type: _____
Boom Length: _____
Tip Type: _____
CWT's (Main): _____
Superlift CWT's: _____
Block Size: _____
Line Size: _____
Parts of Line: _____
Parts/Maximum : _____
Jib Type: _____
Jib Length: _____
Jib Offset: _____

**Crane 1 Fixed Weights (Pounds)**

Crane Items			Weight
Main Load Block			
Wire Rope - Load Line in Falls			
Jib Block			
Aux. Boom Sheaves (deduct)			
Jib (deduct)			
Rigging			
Item	Size	Load Rate	
Spreader			
Slings			
Shackles			
Rigging B.O.M.			
Total Fixed Weight Crane 1			

% Pay Load Weight to Crane 1  %

Total Pay Load Wt. X % Crane 1

**Crane 1 Lift Weight Summary (Pounds)**

Total Fixed Weight	
Portion of Pay Load Weight	
Total Lifted Load	

**Pick/Carry Capacity Crane 1**

Actual Pick Radius (Feet)	
Chart Radius (Feet)	
Chart Capacity (Pounds)	
Percentage Capacity	

**Set Capacity Crane 1**

Actual Set Radius (Feet)	
Chart Radius (Feet)	
Chart Capacity (Pounds)	
Percentage Capacity	

**Calculated Pay Load Weight**

Description	Quantity	Calculation Extensions	Weight
Pay load/Equipment/Vessel			
Internal Components (i.e.trays)			
Insulation			
Fireproofing			
Ladders & Platforms			
Pipe Downcomers			
Other Equipment attached			
Fixtures			
Fluids			
Total Estimated Pay Load Weight			

Company Name: \_\_\_\_\_  
 PMCS Project Description: \_\_\_\_\_  
 PMCS CP: \_\_\_\_\_

**LIFT DATA SHEET -- Single Crane Pick and Set**

Project: \_\_\_\_\_ Originator \_\_\_\_\_ Date \_\_\_\_\_  
 Job No.: \_\_\_\_\_ Checker \_\_\_\_\_ Date \_\_\_\_\_  
 Revision \_\_\_\_\_ Date \_\_\_\_\_

**Pay Load Description:**  
 Length: \_\_\_\_\_ Height: \_\_\_\_\_ Width/Diameter: \_\_\_\_\_ Weight: \_\_\_\_\_ LBS.

Chart Capacity (Pounds)		Chart Capacity (Pounds)	
Percentage Capacity		Percentage Capacity	

**Calculated Pay Load Weight**

Description	Quantity	Calculation Extensions	Weight
Pay load/Equipment/Vessel			
Internal Components (i.e.trays)			
Insulation			
Fireproofing			
Ladders & Platforms			
Pipe Downcomers			
Other Equipment attached			
Fixtures			
Fluids			
<b>Total Estimated Pay Load Weight</b>			

**Rigging Bill of Material's**

Item	Product Description	Size	Rating	Qty.	Units	Length	Wt./Unit	Weight
<b>Total Weight:</b>								

**Pertinent Information: (Attach Drawing or Sketch if required)**  
 Minimum Clearance from Boom to Obstruction: \_\_\_\_\_  
 Minimum Clearance from Boom to Lifted Piece or Spreader: \_\_\_\_\_  
 Ground Bearing Pressure: \_\_\_\_\_ Actual: \_\_\_\_\_ Allowable: \_\_\_\_\_

**Special Instructions or Restrictions for Crane, Rigging, Lift, etc.:**

Company Name: \_\_\_\_\_  
 PMCS Project Description: \_\_\_\_\_  
 PMCS CP: \_\_\_\_\_

NOTE: If two crane lift not applicable, draw a single diagonal line across two crane lift data pages and sign the last

**LIFT DATA SHEET -- Two Crane Pick and Set**

Project: \_\_\_\_\_ Originator \_\_\_\_\_ Date \_\_\_\_\_  
 Job No.: \_\_\_\_\_ Checker \_\_\_\_\_ Date \_\_\_\_\_  
 Revision \_\_\_\_\_ Date \_\_\_\_\_

**Pay Load Description:**  
 Length: \_\_\_\_\_ Height: \_\_\_\_\_ Width/Diameter: \_\_\_\_\_ Weight : \_\_\_\_\_ LBS.

Pay Load Weight includes all applicable internals, trays, insulation, fireproofing, etc., based on attached calculations  
 Reference Drawings: \_\_\_\_\_

**Crane 1 Configuration**

Crane Type: \_\_\_\_\_  
 Boom Type: \_\_\_\_\_  
 Boom Length: \_\_\_\_\_  
 Tip Type: \_\_\_\_\_  
 CWT's (Main): \_\_\_\_\_  
 Superlift CWT's: \_\_\_\_\_  
 Block Size: \_\_\_\_\_  
 Line Size: \_\_\_\_\_  
 Parts of Line: \_\_\_\_\_  
 Parts/Maximum: \_\_\_\_\_  
 Jib Type: \_\_\_\_\_  
 Jib Length: \_\_\_\_\_  
 Jib Offset: \_\_\_\_\_

**Crane 2 Configuration**

Crane Type: \_\_\_\_\_  
 Boom Type: \_\_\_\_\_  
 Boom Length: \_\_\_\_\_  
 Tip Type: \_\_\_\_\_  
 CWT's (Main): \_\_\_\_\_  
 Superlift CWT's: \_\_\_\_\_  
 Block Size: \_\_\_\_\_  
 Line Size: \_\_\_\_\_  
 Parts of Line: \_\_\_\_\_  
 Parts/Maximum: \_\_\_\_\_  
 Jib Type: \_\_\_\_\_  
 Jib Length: \_\_\_\_\_  
 Jib Offset: \_\_\_\_\_

**Crane 1 Fixed Weights (Pounds)**

Crane Items		Weight
Main Load Block		
Wire Rope - Load Line in Falls		
Jib Block		
Aux. Boom Sheaves (deduct)		
Jib (deduct)		
Rigging		
Item	Size	Load Rate
Spreader		
Slings		
Shackles		
Rigging B.O.M		
Total Fixed Weight Crane 1		

**Crane 2 Fixed Weight (Pounds)**

Crane Items		Weight
Main Load Block		
Wire Rope - Load Line in Falls		
Jib Block		
Aux. Boom Sheaves (deduct)		
Jib (deduct)		
Rigging		
Item	Size	Load Rate
Spreader		
Slings		
Shackles		
Rigging B.O.M		
Total Fixed Weight Crane 2		

% Pay Load Weight to Crane 1  %

% Pay Load Weight to Crane 2  %

Total Pay Load Wt. X % Crane 1

Total Pay Load Wt. X % Crane 2

**Crane 1 Lift Weight Summary (Pounds)**

Total Fixed Weight	
Portion of Pay Load Weight	
Total Lifted Load	

**Crane 2 Lift Weight Summary (Pounds)**

Total Fixed Weight	
Portion of Pay Load Weight	
Total Lifted Load	

**Pick/Carry Capacity Crane 1**

Actual Pick Radius (Feet)	
Chart Radius (Feet)	
Chart Capacity (Pounds)	
Percentage Capacity	

**Pick/Carry Capacity Crane 2**

Actual Pick Radius (Feet)	
Chart Radius (Feet)	
Chart Capacity (Pounds)	
Percentage Capacity	

Company Name:  
 PMCS Project Description:  
 PMCS CP:

**LIFT DATA SHEET -- Two Crane Pick and Set**

**Project:** \_\_\_\_\_ **Originator** \_\_\_\_\_ **Date** \_\_\_\_\_  
**Job No.:** \_\_\_\_\_ **Checker** \_\_\_\_\_ **Date** \_\_\_\_\_  
 \_\_\_\_\_ **Revision** \_\_\_\_\_ **Date** \_\_\_\_\_

**Pay Load Description:**  
 Length: \_\_\_\_\_ Height: \_\_\_\_\_ Width/Diameter: \_\_\_\_\_ Weight : \_\_\_\_\_ LBS.

**Set Capacity Crane 1**

Actual Set Radius (Feet)	
Chart Radius (Feet)	
Chart Capacity (Pounds)	
Percentage Capacity	

**Set Capacity Crane 2**

Actual Set Radius (Feet)	
Chart Radius (Feet)	
Chart Capacity (Pounds)	
Percentage Capacity	

**Calculated Pay Load Weight**

Description	Quantity	Calculation Extensions	Weight
Pay load/Equipment/Vessel			
Internal Components (i.e.trays)			
Insulation			
Fireproofing			
Ladders & Platforms			
Pipe Downcomers			
Other Equipment attached			
Fixtures			
Fluids			
Total Estimated Pay Load Weight			

**Rigging Bill of Material's - Crane 1**

Item	Product Description	Size	Rating	Qty.	Units	Length	Wt./Unit	Weight
<b>Total Weight:</b>								

**Rigging Bill of Material's - Crane 2**

Item	Product Description	Size	Rating	Qty.	Units	Length	Wt./Unit	Weight
<b>Total Weight:</b>								



Company Name:  
 PMCS Project Description:  
 PMCS CP:

LIFT DATA SHEET -- Two Crane Pick and Set

Project: \_\_\_\_\_ Originator \_\_\_\_\_ Date \_\_\_\_\_  
 Job No.: \_\_\_\_\_ Checker \_\_\_\_\_ Date \_\_\_\_\_  
 \_\_\_\_\_ Revision \_\_\_\_\_ Date \_\_\_\_\_

**Pay Load Description:**  
 Length: \_\_\_\_\_ Height: \_\_\_\_\_ Width/Diameter: \_\_\_\_\_ Weight : \_\_\_\_\_ LBS.

<b>Minimum Clearance from Boom to Obstruction:</b>				
<b>Minimum Clearance from Boom to Lifted Piece or Spreader:</b>				
<b>Ground Bearing Pressure:</b>		Actual:	Allowable:	

**Special Instructions or Restrictions for Crane, Rigging, Lift, etc.:**

NOTE: Job titles are generic and may not apply to your organization.  
 Have the person who is responsible for the functions listed below sign the appropriate blocks.

**CONTRACTOR APPROVALS (As Applicable):**

<b>Manager:</b>	_____	(Heavy & Critical Lifts)
<b>Hoisting and Rigging Superintendent:</b>	_____	(Medium, Heavy & Critical Lifts)
<b>Field Support Technical Operations Manager:</b>	_____	(Medium, Heavy & Critical Lifts)
<b>Field Operations General Superintendent:</b>	_____	(Heavy & Critical Lifts)
<b>Certified Rigging Engineer:</b>	_____	(Heavy & Critical Lifts)
<b>Project/Functional Manager:</b>	_____	(Critical Lifts)