

Kennedy Space Center Lift Plan for Construction Contractors

This document is for use by construction contractors performing work for Kennedy Space Center. It is recommended for all lifts and will satisfy the lift planning requirements in accordance with OSHA and NASA regulations and contract requirements. A lift plan is mandatory when: 1) lifting personnel with a crane, 2) the load exceeds 75% of the crane's capacity in a given configuration, 3) the lift requires more than one crane, 4) during demolition when the actual weight or structural integrity of the load are in doubt, 5) when the operation is within a boom length of power lines, 6) when lifting over active work areas, occupied buildings, or public roadways, or 7) lifts of submerged or partially submerged objects. For further assistance, please contact the KSC Institutional Safety Office at 867-SAFE.

1. Company Name	Name and Signature of Person Preparing this Lift Plan	2. Date
3. Project Name and Job Location		
4. Load Description		
5. Crane Description - Type, Manufacturer, Model # <i>(multiple crane lifts require separate plan for each crane)</i>		
6. Lift Description <i>(attach diagram of lift and load placement)</i>		

LOAD	CRANE (continued)		
7. Load Condition <i>(describe)</i>	27. Radius at Set-down		ft
8. Known Center of Gravity? <i>(Attach diagram)</i>	28. Capacity at minimum boom angle / maximum radius <i>(Attach copy of actual load chart used)</i>		lbs
9. Source of Load Weight <i>(attach a copy of drawings, calculations, bill of lading, etc.)</i>	29. Maximum load on crane for <u>this lift</u> <i>(Gross Load from Block 20)</i>		lbs
10. Load Weight Empty	lbs	30. Percentage of the crane's rated capacity in this configuration	%
11. Weight of Load Contents / Fluids	lbs	JIB/FLY	
12. Weight of Auxillary Block	lbs	31. Erected _____ Stowed _____ Stored _____	
13. Weight of Main Block	lbs	32. If jib / fly is used: Length = _____ Angle = _____	
14. Weight of Lifting Beam <i>(See Block 50)</i>	lbs	33. Rated capacity of jib / fly from chart = _____	
15. Weight of Slings / Shackles / Other Rigging <i>(See Blocks 42 thru 52)</i>	lbs	34. Weight of Jib if installed but not in use	lbs
16. Deduction for Jib / Fly <i>(if applicable)</i> <i>(See Block 34)</i>	lbs	CRANE SETUP/OTHER CONSIDERATIONS	
17. Weight of Hoist Rope <i>(if applicable)</i>	lbs	35. Soil conditions / level / underground hazards / Crane mat required?	
18. Weight of Auxillary Head/Rope <i>(if applicable)</i>	lbs	36. Outriggers <i>(full / partial)</i> / pads / matting / on rubber? <input type="checkbox"/> Yes <input type="checkbox"/> No	
19. Additional Deductions <i>(list if applicable)</i>	lbs	37. Buildings, equipment, or structure to lift / swing over?	
20. Gross Load <i>(Add Block 10 thru 19)</i>	lbs	38. Travel required? <input type="checkbox"/> Yes <input type="checkbox"/> No	
CRANE		39. Working quadrants / swing restrictions?	
21. Boom Configuration		40. High voltage / electrical hazards/other hazards?	
22. Boom Length	ft	41. Other Considerations? <i>(Head room, winds, taglines, traffic, etc.) Add to Block 6</i>	
23. Counterweight	lbs	RIGGING	
24. Boom angle at Pick-up	°	42. Slings <i>(number, size, type)</i>	
25. Radius at Pick-up	ft	43. Slings rated capacity per configuration <i>(See Block 45)</i>	
26. Boom angle at Set-down	°	44. Total Weight of slings	lbs

RIGGING (continued)		REQUIRED ATTACHMENTS
45. Hitch (vertical, basket, choker) Sling Configuration Angle _____ deg		53. Load placement diagram showing location of pick & final place points <input type="checkbox"/>
46. Shackles (number, size)		54. Rigging diagram with sling angles, expected loads, & load CG <input type="checkbox"/>
47. Shackles rated capacity		55. Photocopy of actual load charts used to calculate crane capacity <input type="checkbox"/>
48. Total Weight of Shackles _____ lbs		56. Rigging certifications <input type="checkbox"/>
49. Spreader Beam/Other rigging required? (Type, Size, Capacity)		57. Rigging load limit charts (Safe Working Load Limit) <input type="checkbox"/>
50. Weight of Spreader Beam/other rigging _____ lbs		58. Crane certification (Annual/Daily Checklist) <input type="checkbox"/>
51. Connection to Load capacity each (lugs, bollards, pad eyes, none)		59. Operators certification <input type="checkbox"/>
52. Total Weight of all rigging (Add lines 44, 48, 50 and 51) _____ lbs		60. Rigger qualification document(s) <input type="checkbox"/>
		61. Narrative of lift procedures (See item 6) <input type="checkbox"/>
		62. Source of load weight (See Items 8 & 9) <input type="checkbox"/>
		63. Others _____ <input type="checkbox"/>

I certify that all information contained herein has been reviewed for accuracy and correctness.

Submitting Official Signature _____	Name & Title _____	Date _____
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FOR NASA USE ONLY (please initial)

Institutional Safety:	Accept: _____	Accept with Changes: _____	Not Accepted: _____
Lifting Device's Equipment Manager:	Accept: _____	Accept with Changes: _____	Not Accepted: _____
Contracting Officer:	Approve: _____	Disapprove: _____	

Instructions for Kennedy Space Center Lift Plan for Construction Contractors

1. Name of contractor performing the lift. Include name of person preparing this lift plan.
2. Date lift plan was prepared.
3. Project name and actual location of lift.
4. Describe the load and any special considerations.
5. Self-explanatory.
6. Brief description of pickup and placement of load. Attach diagrams as necessary.
7. Describe the load and any special considerations (e.g., dry, solid, filled with liquid, empty, stable, unstable, etc.).
8. Is the load's center of gravity known? If so where is it documented? Attach diagram. **(On Lift Plan Worksheet)**
9. Document the source of load weight (e.g., drawings, calculations, bill of lading, etc.).
10. - 18. Self-explanatory. **(On Lift Plan Worksheet)**
19. List all additional deductions and weights.
20. Add Block 10 through Block 19. **(On Lift Plan Worksheet)**
21. Describe boom configuration. Refer to manufacturer's terminology.
22. - 27. Self explanatory. **(On Lift Plan Worksheet)**
28. Crane's rated capacity at minimum boom angle / maximum radius. Figure worst case between pick and place.
29. Copy Gross Load from Block #20.
30. Block #29 divided by Block #28.
31. Check to indicate jib / fly erected, stowed, or stored off the crane.
32. If the Jib is used, enter the length of the boom in feet and the angle in degrees. **(On Lift Plan Worksheet)**
33. List the Jib capacity from the Fly from chart.
34. The weight of the jib if it is installed on the boom but is not being used during the lift. **(On Lift Plan Worksheet)**
35. Describe site, soil, stability conditions and any underground hazards or concerns.
36. Describe outrigger setup and required matting if applicable. **(On Lift Plan Worksheet)**
37. Describe considerations for buildings, structures, or equipment which will be under the load during the lift.
38. Describe crane travel with load on the hook if required.
39. Describe planned crane working quadrant(s) and any swing restrictions.
40. Describe any electrical hazards or concerns in close proximity to the crane.
41. Describe other considerations of note such as restricted head room, use of taglines, reduced wind limitations, traffic control, etc.
42. Describe slings to be used.
43. In the planned configuration, list the maximum rated capacity the sling can lift in lbs. **(On Lift Plan Worksheet)**
44. The weight of the sling to be used.
45. The type of hitch to be used and its sling configuration angle (choker, vertical, basket). **(On Lift Plan Worksheet)**
46. Describe shackles to be used, number and size.
47. The maximum rated capacity each shackle can lift in lbs.
48. The total weight of all shackles used.
49. List Spreader beam / other rigging used. State type, size, and capacity.
50. Self explanatory.
51. Self explanatory. **(On Lift Plan Worksheet)**
52. The total weight of all rigging that will be used.
53. - 63. Self explanatory.

Lift Planning Worksheet

17. Aux Hoist / Whip Line Not in Use

12. Hook / Overhaul Ball Wt.

32. Jib Extension Length

43. Sling Capacity

45. Sling Angle

49. Rigging Attach Point Capacity

(10,11) Load weight

y

x

z

(8) Load COG

x _____

y _____

z _____

32. Jib Extension Offset

Hoisting Point

Main Boom

Extension

Jib

Aux Boom Head

17. Boom Point Elevation

24. Boom Angle

24. Pick

26. Set

17. Parts of Line

22. Max Boom Length

25. Load Radius at Pickup

23. Counterweight and Configuration Designation

13. Load Block Weight

27. Load Radius at Set

36. Outrigger Position

Full

Mid

Retracted

On Tires

52. Rigging Weight

Refer to operator's manual and all notes and warnings for crane-specific information

Load Weight Field Verification

Lift	Equipment Item	Weight	Crane Operator's Verification (Name & Initials)
1			
	Total Weight: Maximum Radius:		
2			
	Total Weight: Maximum Radius:		
3			
	Total Weight: Maximum Radius:		
4			
	Total Weight: Maximum Radius:		
5			
	Total Weight: Maximum Radius:		