

Critical Pick Lift Work Sheet

Duttrigger Length
Duttrigger Width
Float Area:

Description of Load:

Project: _____

Date: _____

Reviewers Statement:

I have reviewed the information on this sheet and found it to be complete and accurate.

Date: _____

Signature: _____

Tandem Picks: Reduce Chart capacity by 25% and create a critical pick sheet for each crane. Cal DSHA Article 98 4994(d)

Wind Load Checks

(Good for winds of 20mph or less)

Check 1:

(Boom structure)

$$\frac{50v^2}{400} A \leq \text{Rated Load at Radius } R$$

Check 1 Solution: _____ D.K. No Good

Check 2:

(Overturning Due to wind on load and boom)

$$\frac{v^2}{300} A \sqrt{\frac{L^2}{R^2} - 1} + \frac{v^2 b}{1200} \left(\frac{L^2 - R^2}{R} \right) = \text{Load to be added to pick weight}$$

Check 2 Solution: _____

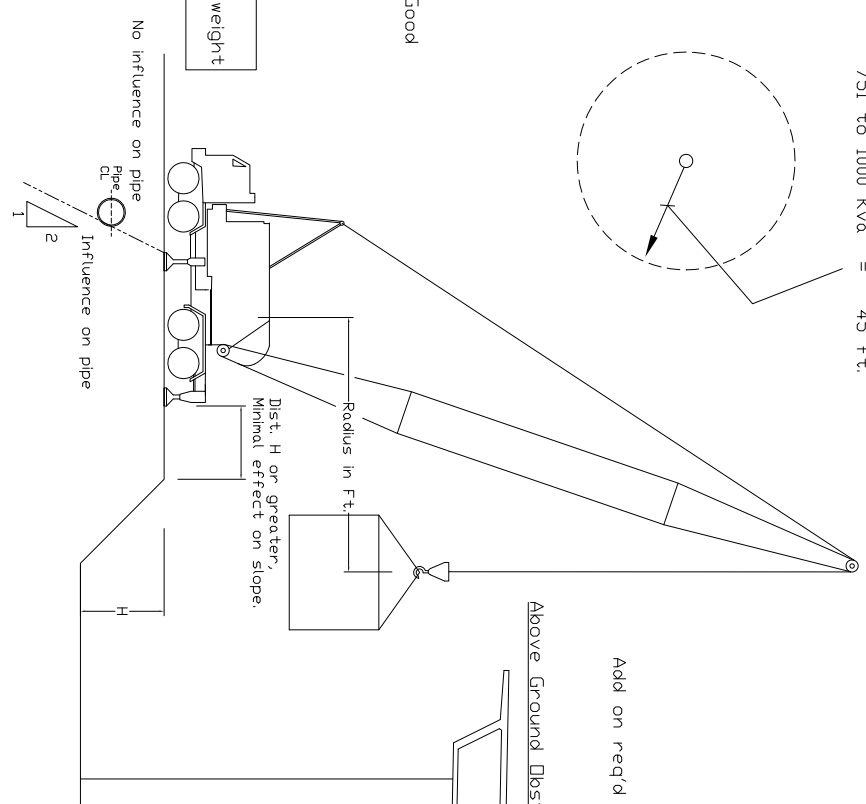
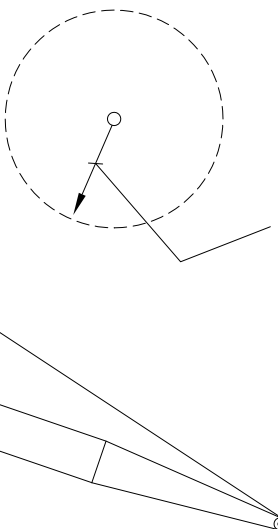
- v = wind velocity in mph
- b = width of boom (6 ft.)
- L = Length of boom in ft.
- R = Pick radius in ft.
- A = Area of load in sq.ft.

(Method taken from Shopjiro, "Cranes and Derricks", Section 85)

Power Lines

DSHA 1926.550(a)(15)(ii)

- 1 to 50 Kva = 10 ft.
- 51 to 200 Kva = 15 ft.
- 201 to 350 Kva = 20 ft.
- 351 to 500 Kva = 25 ft.
- 501 to 750 Kva = 35 ft.
- 751 to 1000 Kva = 45 ft.



Boom Length: _____

Load Calculations:

Item Weight: _____

(Is Jib Stowed on Boom?) Jib: _____

Main Hook: _____

Headache Ball: _____

Wire Rope: _____

Spreader Bar: _____

Rigging: _____

Check 2 from Wind Loading: _____
Add on req'd for this crane per the chart: _____

Total Pick Weight:

Pick Configuration:

Max. Radius to be used: _____

Chart Capacity at Radius: _____

Minimum Boom Angle: _____

Percent of chart capacity: _____

Set-Up Requirements:

Max. ground slope: _____

Max. Wind speed: _____

Duttrigger Load: _____

Duttrigger Pad Area: _____

Actual Ground Bearing Pressure: _____

Allowable Ground Bearing Pressure: _____

Estimated Ground Capacities (psf)
N = SPT blow count

- Hard Silt (NK25): 8,000-10,000 psf
- Firm Ground (10NK35): 5,000 psf
- Soft Ground (4NK10): 3,000 psf
- Very soft (NK4): 2,000 psf

Underground Utilities

Depth to top of pipe: _____

Pipe Diameter: _____

Pipe Wall Thickness: _____

Pipe Material: _____

Horizontal Dist. from tracks to pipe CL: _____

Slopes

Hi: _____

Slope: _____

Dist. from Float to Nose: _____