

# INSTALLATION PARAMETERS AND APPLIED FORCES TO THE SUPPORTING STRUCTURE

The applied forces drawing in diagram 1, details the relative position and the direction of forces that the work station bridge crane applies to the supporting structure.

Loads applied to the support structure can be determined by the following formulas:

- P = Live Load
- R1 = Vertical Load applied by support hanger (lb.)
- R2 = Longitudinal load applied by movement of the crane to each runway (lb.)
- R3 = Lateral load applied by movement of the trolley and load to each runway (lb.)
- L1 = Maximum distance between hanger centerlines (support centers) (ft)
- L2 = Maximum splice joint centerline to hanger centerline (support center) (in)
- L5 = Maximum bridge cantilever (in)
- L9 = Maximum runway cantilever (in)
- L4 = Bridge span (distance between runway centerlines) (ft)
- 1.4 = Design factor which includes 25% for impact and 15% for hoist weight
- W = Weight per foot of runway (lb./ft)
- w = Weight per foot of bridge (lb./ft)

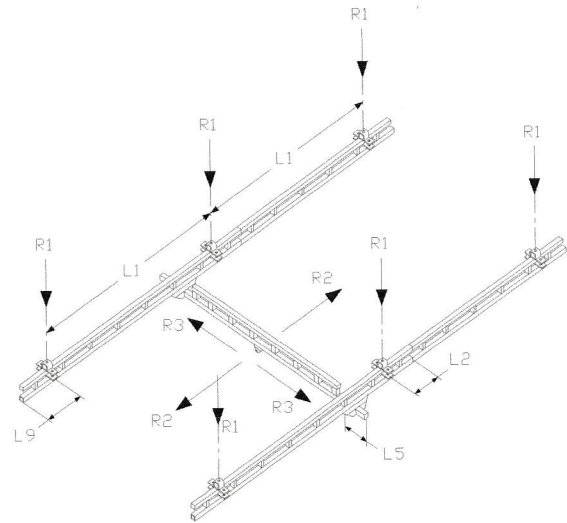


Diagram 1. Applied forces to supporting structure.

INSTALLATION PARAMETERS						
CAPACITY	SERIES	WEIGHT PER FOOT	MAX. L1	MAX. L2	MAX. L5	MAX. L9
250#	GLC	2.53#	6'	8"	18"	18"
	GLCS	4.92#	20'	48"	18"	48"
	AL	4.05#	20'	30"	48"	48"
500#	GLCSL	8.43#	25'	48"	18"	48"
	GLC	4.11#	6'	8"	24"	20"
	GLCS	7.44#	20'	48"	24"	48"
	AL	4.87#	20'	30"	48"	48"
1000#	GLCSL	10.71#	25'	48"	24"	48"
	GLCSLX	11.01#	30'	48"	24"	48"
	GLC	6.22#	6'	8"	24"	20"
	GLCS	12.25#	20'	48"	24"	48"
	AL	8.36#	20'	30"	48"	48"
2000#	GLCSL	14.08#	25'	48"	24"	48"
	GLCSLX	17.47#	30'	48"	24"	48"
	GLC	9.12#	6'	8"	24"	24"
	GLCS	16.89#	20'	48"	24"	48"
4000#	AL	10.01#	20'	30"	48"	48"
	GLCSL	19.36#	25'	48"	24"	48"
	GLCSLX	20.13#	30'	48"	24"	48"
	GLC	9.12#	6'	8"	24"	24"
4000#	GLCS	20.68#	20'	48"	24"	48"
	GLCSL	26.21#	25'	48"	24"	48"
	GLCSLX	28.22#	30'	48"	24"	48"

$$R1 = (1.4 * P) + (W * L1) + \frac{(w * L4)}{2}$$

$$R2 = [(1.15 * P) + \frac{(w * L4)}{2}] * 0.10$$

$$R3 = 1.15 * P * 0.20$$

**Track supplied by Mortuary Lift Company highlighted in Red**