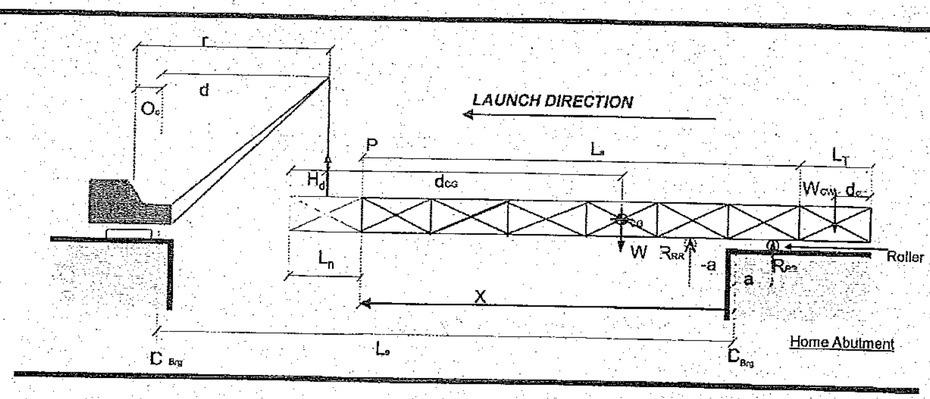
CRANE REACTION FOR CRANE ASSISTED LAUNCH [@ F.S. = 1.05]



L_a =	200 ft	d_{cw} =	5.0 ft	H_d =	0 ft
d_{cg} =	140.0 ft	W_{cw} =	30 k	Total Weight =	363.4 k (incl. W_{CW})
L_N =	40 ft	L_T =	10 ft	a =	0 ft
W_N =	31.8 k	W_T =	6.43 k	O_c =	20 ft

x (ft)	Radius of Crane (r) (ft.)	Hookload,P (Kips)	Reaction at R_{RR} (Kips)
90	90	1	362
95	85	3	360
100	80	5	358
105	75	14	349
110	70	26	337
115	65	37	326
120	60	48	315
125	55	58	305
130	50	68	295
135	45	77	286
140	40	85	278
145	35	93	270
150	30	101	262
155	25	108	255
160	20	115	248

*O_C = Offset of Crane Pin to CenterLine of Bearing at far Abutment

Project: T Buck - Woodford, VT **By:** MJP **Date:** 11/21/2012

Legend:

r = Radius of Crane
O_c = Offset of Crane from CenterLine of Bearing
d = distance from hook to CenterLine of Bearing
L_n = Length of Nose
L_a = Length of Main Bridge
d_{CW} = distance from end of bridge to Center of Gravity of the Counter Weight
R_{RR} = Reaction at Roller
a = distance from Roller to CenterLine of Bearing
d_{cg} = Distance from crane hook to Center of Gravity
X = Distance from End of Abutment to End of Crane
H_d = Distance from CenterLine of Bearing to Crane Hook