N_Z = 2.0g inf (Up)

3.3 Composite Center of Gravity, Loads, and Moments:

The loads from the equipment are applied to the rack shelves and the shelves transfer the loads to the vertical support. Therefore, the loads are applied to the rack at the height of each shelf.

Table 3.3 shows the calculation for the composite CG for the three areas assuming the maximum equipment weight and that the shelf for each area is at the heights shown on Sheet 2 of the drawing. This table also shows the calculations for the loads and the moments for each load condition that is required.

Area	Weight (lbs)	Shelf Height (in)	Moment (in-lbs)	Forward 9.0	Down 7.5	Up 4.5	Side 1.5	Forward Moment	Side Moment
A	30	25.37	911	270	225	135	45	8,200	1,367
B	60	15.00	1,200	540	450	270	90	10,800	1,800
C	260	0.00	1,300	2,340	1,950	1,170	390	11,700	1,950
Equip.	350	9.75	3,411	3,150	2,625	1,575	525	30,700	5,117
Rack	45	12.20	549	405	338	203	68	4,941	824
Total	395	10.0	3,960	3,555	2,963	1,778	593	35,641	5,940

Table 3.3

The moments calculated in Table 3.3 assumed that the center of gravity for the equipment on each shelf is 5.0-in above the shelf. The height of 10.0-in shown in the table is the overall center of gravity of the fully loaded rack based on this assumption.