

## LIFTING ANALYSIS WORKSHEET

DEPARTMENT \_\_\_\_\_

JOB DESCRIPTION \_\_\_\_\_

JOB TITLE \_\_\_\_\_

ANALYST'S NAME \_\_\_\_\_

DATE \_\_\_\_\_

### STEP 1. Measure and record task variables

Object Weight (lbs)		Hand Location				Vertical Distance	Asymmetric Angle (deg.)		Frequency Rate	Duration	Object Coupling
		Origin		Dest			Origin	Destination	lifts/min	Hrs	
L(AVG)	L(MAX)	H	V	H	V	D	A	A	F		C

### STEP 2. Determine the multipliers and compute the RWLs

$$RWL = LC \times HM \times VM \times DM \times AM \times FM \times CM$$

ORIGIN	RWL =	51	x		x		x		x		x		x		=	
DEST.	RWL =	51	x		x		x		x		x		x		=	

### STEP 3. Compute the LIFTING INDEX

ORIGIN	LIFT INDEX	<u>OBJECT WEIGHT</u>	=		=	
		RWL				
DESTINATION	LIFT INDEX	<u>OBJECT WEIGHT</u>	=		=	
		RWL				

**Table 1**  
**Horizontal Multiplier**

H	HM	H	HM
in		cm	
≤ 10	1.00	≤ 25	1.00
11	.91	28	.89
12	.83	30	.83
13	.77	32	.78
14	.71	34	.74
15	.67	36	.69
16	.63	38	.66
17	.59	40	.63
18	.56	42	.60
19	.53	44	.57
20	.50	46	.54
21	.48	48	.52
22	.46	50	.50
23	.44	52	.48
24	.42	54	.46
25	.40	56	.45
> 25	.00	58	.43
		60	.42
		63	.40
		> 63	.00

**Table 2**  
**Vertical Multiplier**

V	VM	V	VM
in		cm	
0	.78	0	.78
5	.81	10	.81
10	.85	20	.84
15	.89	30	.87
20	.93	40	.90
25	.96	50	.93
30	1.00	60	.96
35	.96	70	.99
40	.93	80	.99
45	.89	90	.96
50	.85	100	.93
55	.81	110	.90
60	.78	120	.87
65	.74	130	.84
70	.70	140	.81
>70	.00	150	.78
		160	.75
		170	.72
		175	.70
		>175	.00

**Table 3**  
**Distance Multiplier**

<b>D</b>	<b>DM</b>	<b>D</b>	<b>DM</b>
in		cm	
≤10	1.00	≤25	1.00
15	.94	40	.93
20	.91	55	.90
25	.89	70	.88
30	.88	85	.87
35	.87	100	.87
40	.87	115	.86
45	.86	130	.86
50	.86	145	.85
55	.85	160	.85
60	.85	175	.85
70	.85	>175	.00
>70	.00		

**Table 4**  
**Asymmetric Multiplier**

A	AM
deg	
0	1.00
15	.95
30	.90
45	.86
60	.81
75	.76
90	.71
105	.66
120	.62
135	.57
>135	.00

**Table 5**  
**Frequency Multiplier Table (FM)**

Frequency Lifts/min (F) ‡	Work Duration					
	≤ 1 Hour		> 1 but ≤ 2 Hours		> 2 but ≤ 8 Hours	
	V < 30 †	V ≥ 30	V < 30	V ≥ 30	V < 30	V ≥ 30
≤ 0.2	1.00	1.00	.95	.95	.85	.85
0.5	.97	.97	.92	.92	.81	.81
1	.94	.94	.88	.88	.75	.75
2	.91	.91	.84	.84	.65	.65
3	.88	.88	.79	.79	.55	.55
4	.84	.84	.72	.72	.45	.45
5	.80	.80	.60	.60	.35	.35
6	.75	.75	.50	.50	.27	.27
7	.70	.70	.42	.42	.22	.22
8	.60	.60	.35	.35	.18	.18
9	.52	.52	.30	.30	.00	.15
10	.45	.45	.26	.26	.00	.13
11	.41	.41	.00	.23	.00	.00
12	.37	.37	.00	.21	.00	.00
13	.00	.34	.00	.00	.00	.00
14	.00	.31	.00	.00	.00	.00
15	.00	.28	.00	.00	.00	.00
> 15	.00	.00	.00	.00	.00	.00

† Values of V are in inches. ‡ For lifting less frequently than once per 5 minutes, set F = 2 lifts/minute.