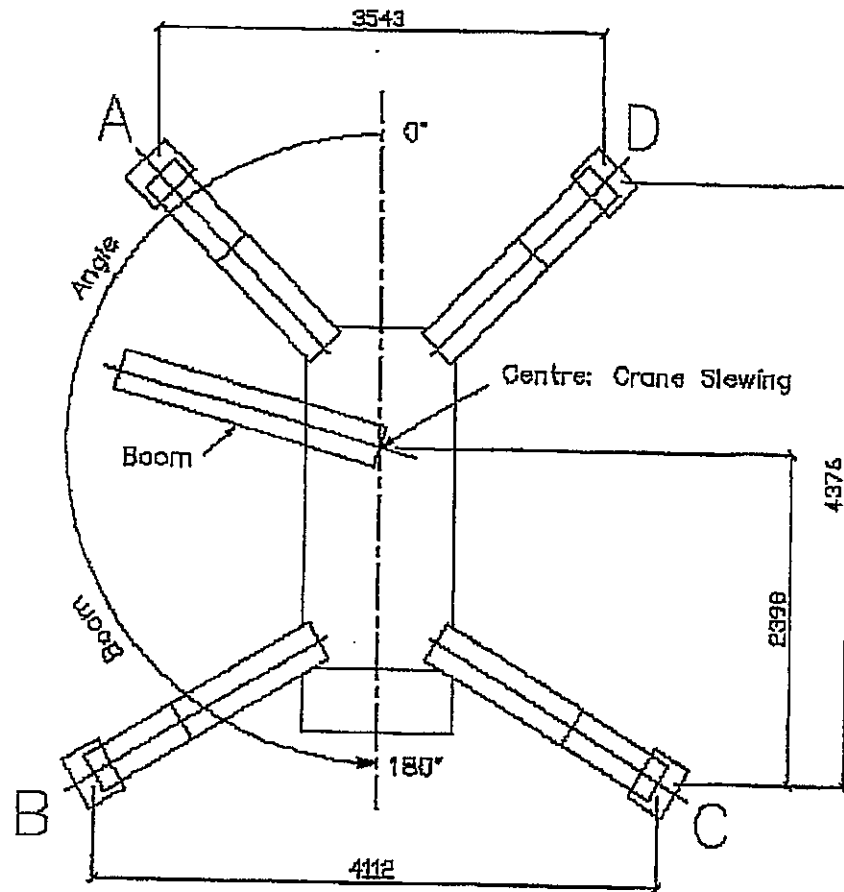


# MAEDA Model MC354C, 355HC Outrigger Reaction Calculation (Dynamic Load: 1.25 Against Static Load)

- Conditions: 1. Lifting capacity x Working Radius: 3625kg x 2.25m  
 2. Extension of Outriggers: Optimum

Boom Angle (degrees)	A	B	C	D
	Front OR (L) Reaction (kg)	Rear OR (L) Reaction (kg)	Rear OR (R) Reaction (kg)	Front OR (R) Reaction (kg)
0	2440.7	925.3	925.3	2440.7
5	2632.2	924.2	933.0	2242.6
10	2813.5	931.8	945.6	2041.3
15	2981.0	949.2	961.3	1840.5
20	3131.9	978.5	978.2	1643.4
25	3263.1	1020.6	994.9	1453.4
30	3372.2	1078.6	1009.8	1273.3
35	3457.3	1147.0	1022.0	1105.7
40	3518.6	1232.1	1030.5	952.8
45	3549.4	1331.7	1034.7	816.2
50	3555.1	1445.1	1034.6	697.2
55	3533.9	1571.3	1030.2	596.6
60	3486.5	1709.0	1022.1	514.4
65	3414.1	1858.3	1011.1	450.5
70	3318.5	2011.1	998.2	404.2
75	3201.7	2171.0	984.9	374.4
80	3066.6	2333.2	972.7	359.5
85	2916.9	2494.8	963.4	357.8
90	2752.3	2653.0	958.2	367.5
95	2580.7	2804.8	960.4	386.1
100	2402.9	2947.2	970.3	411.8
105	2222.7	3077.5	990.3	441.5
110	2043.4	3192.8	1021.3	474.5
115	1868.1	3291.0	1066.0	507.9
120	1699.5	3370.0	1122.3	540.1
125	1540.4	3428.3	1193.6	569.7
130	1392.5	3464.5	1278.2	595.7
135	1257.6	3478.2	1378.9	617.3
140	1136.9	3468.7	1492.2	634.2
145	1031.7	3435.5	1617.4	646.4
150	940.0	3382.0	1755.7	654.3
155	853.0	3307.0	1913.5	658.5
160	804.2	3212.7	2084.0	661.1
165	755.6	3101.0	2271.9	662.5
170	721.1	2974.3	2371.8	664.8
175	695.0	2835.2	2531.0	669.8
180	679.6	2686.4	2686.4	679.6



## 2. GENERAL

### 1) Main Specifications of Crane

Crane model		MC-354C	MC-355HC
Lifting load		3.0 t	
Maximum working radius		9.8 m	12.135 m
Maximum lift above ground		9.5 m	11.8 m
Winch	Hook travel speed	11.5 m/min. (4 Booms, 4 lines)	
	Winding speed (Rope speed)	46 m/min. (4 Booms)	
	Wire rope (cable)	6 × Ws(26) φ 8 × 63 m	6 × Ws(26) φ 8 × 73 m
	Type	Axial plunger motor drive; spur reduction gear; mechanical brake	
Extender	Boom length	3.39 m to 10.0 m	3.525 m to 12.335 m
	Boom extending/ retracting speed	6.61 m/28 sec.	6.61 m/28 sec. (full ext 4 boom)
	Type of boom	Pentagon-shaped, 4-boom type (4 hydraulic automatic telescoping booms)	Pentagon-shaped, 4 hexagon-shaped, 1-boom (4 hydraulic automatic + 1 semiautomatic)
	Type of extender	Sequentially operated 2-cylinder type + 1 set of wire rope simultaneous extension/retraction device	Sequentially operated 2-cylinder type + 1 set of wire rope simultaneous extension/retraction device + OMS hydraulic extension/retraction derrick
Raising	Raising angle/time	3° to 76° /13 sec.	
	Type	Double acting cylinder, direct drive	
Swivel	Swivel angle/speed	360° continuous/2.8 rpm	
	Type	Ball bearing supported, hydraulic motor drive, worm and spur gears reduction	
Outriggers		Double section extending, hydraulic cylinder direct drive	
Hydraulic oil tank capacity		76 liters	
Hydraulic pump		Twin gear pump, rated pressure 206bar (210 kg/m <sup>2</sup> )	
Safety devices		Overwind alarm, loadmeter, hydraulic safety valve, sling wire rope holder, hydraulic automatic locking device	

## 2) Main Specifications of Carrier

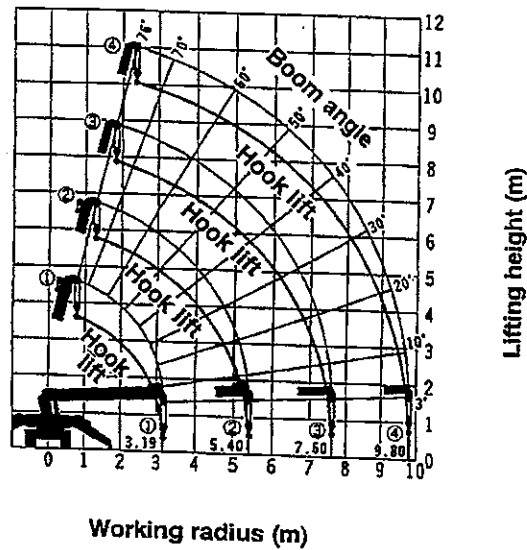
Crane model		MC-354C	MC-355HC
Body Dimensions	Length	4150 mm	4290 mm
	Width	1300 mm	
	Height	1845 mm	
Crawlers	Ground contact length	1720 mm	
	Width	280 mm	
	Crawlers	Rubber crawlers	
	Ground pressure	0.3 kg/cm <sup>2</sup>	
Engine	Model	Water-cooled diesel engine 3TNA72L (Yanmar)	
	Output/rpm	19ps/3000 rpm	
	Starting system	Electric starting motor	
Travel systems	Gradeability	20°	
	Travel speed	Forward	1.28 km/h
		Reverse	1.28 km/h
	Travel system	Hydraulic motor with integrated left and right independent parking brake, planetary reduction gear type	
	Brake system	Disc brake integrated with hydraulic motor	
	Swivel system	Left and right independent traveling motors	
Fuel	Diesel Fuel		
Fuel tank capacity	35 liters		
Battery	NX100-S6		
Weight	3120 kg	3170 kg	




## 5) Operating Range Chart and Rated Load Table

### (1) MC-354C (4-section boom)

The operating range chart shows the working radius of the machine, and the relationship between boom and lift above ground.

### MC-354C OPERATING RANGE



MC-354C RATED LOAD TABLE											
Outriggers shall be used in the standard extension width.	Boom ①, Booms ① + ②										
	Working radius (m)	0.2 or less	2.25	2.5	2.7	3.0	3.5	4.0	4.5	5.0	5.4
	Rated load (kg)	2900	2900	2900	2800	2300	1950	1650	1370	1080	900
	Booms ① + ② + ③	If mark  can be seen, be sure to operate within the limit of booms ① + ② + ③.									
	Working radius (m)	2.3 or less	2.7	3.0	3.5	4.0	4.5	5.0	6.0	7.0	7.6
	Rated load (kg)	2300	2300	2100	1700	1400	1200	1050	780	590	480
	Booms ① + ② + ③ + ④	If mark  is midway between booms ② and ④ on boom ③, operate within the limit of booms ① + ② + ③ + ④.									
	Working radius (m)	4.0 or less	4.5	5.0	5.5	6.0	7.0	8.0	9.0	9.8	
	Rated load (kg)	1000	900	800	750	700	590	480	390	290	
	<b>CAUTION:</b> 1. Working range chart does not include boom deflections. 2. Rated load table is based on actual working radius that takes into account boom deflections under load. Rough crane operation is quite risky even if the work is within the rated load. 3. In some cases there is a fear that the crane turns over according to the extension condition or width of outriggers even if the rated load listed. Therefore, be careful! 4. The case that more than a half of the mark  comes out from boom ② is applicable to 3. above.										