TADANO

DATA FOR OPERATION

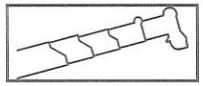
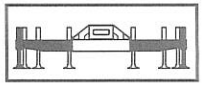
NOT TO BE TAKEN AWAY

TADANO LTD.

GR-1000XL SPECIFICATIONS

Model	: GR-1000XL
Capacity	: 90.7 metric ton (100Ton) at 2.4m (8')
Boom Length	: 12.0m (39.4') to 47.0m (154.2') (5 sections)
Jib Length	: 10.1m (33.2'), 17.7m (58.1') (3.5°, 25°, 45° offset)
Single Top Length	: 0.65m (2' 1 5/8") (30.5° offset)
Available Speeds	
Boom Extension	: 35.0m (114.8')/160s
Boom Elevation	: 20° to 60°/46s
Single Line Speed	
Main Winch Low	: 107m/min (352fpm) at the 4th layer
Main Winch High	: 149m/min (491fpm) at the 4th layer
Aux. Winch Low	: 107m/min (352fpm) at the 4th layer
Aux. Winch High	: 149m/min (491fpm) at the 4th layer
Swing	: 1.5min^{-1}{rpm}
Outrigger Extended Width	: 7.3m (23' 11 3/8")
Outrigger Float Size	: φ0.6m (φ1' 11 5/8")
Max. Load on Outrigger Float	: 58,600kg (129,200 lbs)
Tail Swing Radius	: 4.19m (13' 9")
Wire Rope Main Winch	: 19mm (3/4") diameter 253m (830') length
Aux. Winch	: 19mm (3/4") diameter 139m (456') length

GR-1000XL RATED LIFTING CAPACITIES (IN METRIC TON)

ON OUTRIGGERS FULLY EXTENDED 7.3m (23' 11 3/8") SPREAD 360° ROTATION

Load Radius (m)	Boom Length																									
	12m		16.4m		20.8m (68.1')				25.1m (82.4')				29.5m (96.8')				33.9m (111.1')				38.3m (125.5')				42.6m (139.8')				47m	
	∠°	(39.4')	∠°	(53.7')	∠°		∠°		∠°		∠°		∠°		∠°		∠°		∠°		∠°		∠°		∠°		∠°	(154.2')
2.4	73	90.7	78	46.6																						
3.0	70	82.4	76	46.6																						
3.5	68	74.2	75	46.6	79	40.9	78	18.2																		
4.0	65	67.3	73	46.6	77	40.9	76	18.2																		
4.5	61	60.9	70	46.6	75	40.8	75	18.2	78	19.3	78	16.1														
5.0	58	55.8	68	46.1	74	39.0	74	18.2	77	19.3	77	16.1														
5.5	56	51.0	66	45.6	73	37.0	72	18.2	76	19.3	76	16.1														
6.0	53	46.2	64	45.1	71	34.9	70	18.2	74	19.3	74	16.1	77	18.2	77	15.1										
6.5	49	42.5	62	42.2	70	33.3	69	18.2	73	19.3	73	16.1	76	18.2	76	15.1	78	16.1	78	14.6						
7.0	45	39.1	60	38.8	68	31.7	67	18.2	72	19.3	72	16.1	75	18.2	75	15.1	78	16.1	78	14.6						
7.5	42	35.7	58	35.4	66	30.1	65	18.2	71	19.3	70	16.1	74	18.2	74	15.1	77	16.1	77	14.6						
8.0	37	31.9	56	32.5	65	28.7	64	18.2	70	19.3	69	16.1	73	18.2	73	15.1	76	16.1	76	14.4	79	15.1	79	12.7		
9.0	26	24.1	52	27.0	61	26.1	60	18.2	67	19.3	67	16.1	71	18.2	71	15.1	74	16.1	74	13.8	77	15.1	77	12.0		
10.0			47	22.4	58	21.9	57	18.2	65	19.3	65	16.1	69	18.0	69	14.7	73	16.0	73	13.0	75	14.5	75	11.4	78	12.1	78	11.0		
11.0			41	18.4	55	18.0	54	17.8	62	18.5	62	16.1	67	17.4	67	14.1	71	15.6	71	12.2	74	13.8	74	10.7	77	12.0	77	10.7	78	9.5
12.0			34	15.6	51	15.1	50	16.7	60	16.0	60	16.1	65	15.7	65	13.4	69	14.7	69	11.4	72	13.0	72	10.1	75	11.6	75	10.2	77	9.5
14.0			14	9.0	43	11.1	42	13.7	53	12.0	53	14.0	60	12.4	60	11.8	65	12.4	65	10.3	69	11.6	69	9.0	72	10.5	73	9.3	75	9.3
16.0					33	8.4	32	10.6	47	9.2	47	11.2	56	9.6	56	10.5	61	10.0	62	9.3	66	9.8	66	8.2	69	9.4	70	8.5	72	8.5
18.0					16	6.4	15	7.6	40	7.2	39	9.1	50	7.6	51	9.2	57	8.0	58	8.4	62	8.1	62	7.4	66	8.1	66	7.7	69	7.7
20.0									31	5.7	31	7.5	44	6.1	45	7.6	53	6.4	53	7.5	58	6.6	59	6.7	63	6.8	64	7.1	67	6.8
22.0									17	4.5	15	6.1	38	4.9	38	6.4	47	5.2	48	6.5	55	5.4	55	6.0	60	5.6	60	6.1	64	5.7
24.0													31	4.0	31	5.5	42	4.3	43	5.6	50	4.5	51	5.4	56	4.7	57	5.2	61	4.8
26.0													20	3.2	20	4.6	37	3.5	38	4.7	46	3.7	46	4.8	53	3.9	53	4.4	58	4.0
28.0																	29	2.8	31	4.1	41	3.0	42	4.2	49	3.2	49	3.7	54	3.3
30.0																	20	2.3	22	3.5	35	2.5	36	3.6	44	2.7	45	3.1	51	2.8
32.0																					29	2.0	30	3.1	40	2.2	41	2.7	47	2.3
34.0																					21	1.6	21	2.7	36	1.8	35	2.3	43	1.9
36.0																									29	1.4	30	1.9	39	1.5
38.0																									22	1.1	23	1.6	34	1.2
40.0																													29	0.9
A	0°																												20°	

Telescoping conditions (%)

Telescoping mode	I, II	I	I	II	I	II	I	II	I	II	I	II	I	II	I, II
2nd boom	0	50	100	0	100	0	100	0	100	0	100	0	100	50	100
3rd boom	0	0	0	33	16	50	33	66	50	83	66	100	83	100	100
4th boom	0	0	0	33	16	50	33	66	50	83	66	100	83	100	100
Top boom	0	0	0	33	16	50	33	66	50	83	66	100	83	100	100

∠: Loaded boom angle (°)

A: Minimum boom angle (°) for indicated length (no load)

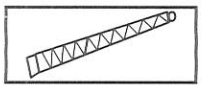
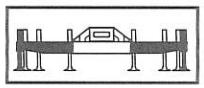
LIFTING CAPACITIES AT ZERO DEGREE BOOM ANGLE ON OUTRIGGERS FULLY EXTENDED 7.3m (23′ 11 3/8″) SPREAD 360° ROTATION

Boom Angle	Boom Length																												
	Load Radius (m)	12m (39.4′)	Load Radius (m)	16.4m (53.7′)	Load Radius (m)	20.8m (68.1′)	Load Radius (m)	20.8m (68.1′)	Load Radius (m)	25.1m (82.4′)	Load Radius (m)	25.1m (82.4′)	Load Radius (m)	29.5m (96.8′)	Load Radius (m)	29.5m (96.8′)	Load Radius (m)	33.9m (111.1′)	Load Radius (m)	33.9m (111.1′)	Load Radius (m)	38.3m (125.5′)	Load Radius (m)	38.3m (125.5′)	Load Radius (m)	42.6m (139.8′)	Load Radius (m)	42.6m (139.8′)	
0°	9.8	13.9	14.2	8.7	18.5	5.5	18.4	7.0	22.9	4.0	22.9	5.3	27.1	2.8	27.1	2.8	31.1	2.0	31.4	2.0	35.7	1.4	35.4	2.4	39.9	0.9	39.6	1.4	
Telescoping mode	Ⅰ , Ⅱ		Ⅰ		Ⅰ		Ⅱ		Ⅰ		Ⅱ		Ⅰ		Ⅱ		Ⅰ		Ⅱ		Ⅰ		Ⅱ		Ⅰ		Ⅱ		

NOTE: • The lifting capacity data stored in the LOAD MOMENT INDICATOR (AML−C) is based on the standard number of parts of line listed in the chart.
• Standard number of parts of line for each boom length should be according to the following table.

Boom Length	12m (39.4′)	12m to 20.8m (39.4′ to 68.1′)		20.8m to 47m (68.1′ to 154.2′)	Single top Jib
Telescoping mode	Ⅰ , Ⅱ	Ⅰ	Ⅱ	Ⅰ , Ⅱ	Ⅰ , Ⅱ
Number of parts of line	16	8	4	4	1

GR-1000XL RATED LIFTING CAPACITIES (IN METRIC TON)

ON OUTRIGGERS FULLY EXTENDED 7.3m (23' 11 3/8") SPREAD
360° ROTATION
10.1m (33.2') Jib

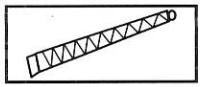
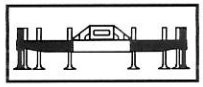
Boom Angle in Degree	Boom Length: 47.0m (154.2') Boom + 10.1m (33.2') Jib					
	3.5° Tilt		25° Tilt		45° Tilt	
	R	W	R	W	R	W
80°	11.5	4.9	15.7	4.9	17.9	4.3
79°	12.7	4.9	16.9	4.7	19.0	4.2
78°	13.8	4.9	17.9	4.6	20.0	4.1
77°	15.0	4.9	18.9	4.5	20.9	4.0
76°	16.0	4.9	19.9	4.4	21.8	3.9
75°	17.2	4.9	21.0	4.2	22.7	3.9
73°	19.4	4.8	22.9	4.0	24.5	3.7
70°	22.4	4.4	25.8	3.8	27.1	3.5
68°	24.3	4.1	27.5	3.6	28.8	3.4
65°	26.8	3.7	30.0	3.3	31.1	3.1
63°	28.6	3.4	31.7	3.0	32.3	2.9
60°	31.1	3.1	33.8	2.8	34.8	2.6
58°	32.6	2.6	35.4	2.5	36.0	2.3
55°	34.8	2.1	37.2	2.0	37.8	1.9
53°	36.0	1.9	38.4	1.7	39.0	1.7
50°	38.1	1.5	40.5	1.3	40.5	1.3
48°	39.3	1.2	41.5	1.1	41.8	1.1
45°	41.5	0.9	43.3	0.8	43.3	0.8
43°	42.4	0.7	44.5	0.7		
40°	44.2	0.5	46.0	0.5		

Boom Angle in Degree	Boom Length: 42.6m (139.8') Boom (telescoping **mode II**) + 10.1m (33.2') Jib					
	3.5° Tilt		25° Tilt		45° Tilt	
	R	W	R	W	R	W
80°	10.0	5.3	14.0	5.2	16.2	4.6
79°	11.1	5.3	14.9	5.1	17.0	4.5
78°	12.1	5.3	15.9	5.0	18.0	4.4
77°	13.1	5.3	16.8	4.8	18.8	4.3
76°	14.1	5.3	17.6	4.7	19.5	4.2
75°	15.1	5.3	18.6	4.6	20.4	4.1
73°	17.0	5.2	20.4	4.3	22.1	4.0
70°	19.8	4.7	22.9	4.0	24.4	3.7
68°	21.5	4.4	24.6	3.8	25.9	3.5
65°	23.9	3.9	26.9	3.4	28.0	3.2
63°	25.5	3.6	28.4	3.2	29.4	3.0
60°	27.7	3.2	30.5	2.9	31.4	2.8
58°	29.3	3.0	31.7	2.7	32.6	2.6
55°	31.4	2.7	33.8	2.5	34.4	2.4
53°	32.9	2.6	35.1	2.3	35.7	2.3
50°	34.8	2.3	36.9	2.2	37.2	2.1
48°	36.3	2.1	38.1	2.0	38.4	1.9
45°	37.8	1.8	39.6	1.7	39.6	1.6
43°	39.0	1.6	40.8	1.6		
40°	40.8	1.4	42.1	1.4		
38°	41.8	1.3	43.0	1.2		
35°	43.3	1.1	44.2	1.1		
33°	44.2	1.0	45.1	1.0		
30°	45.4	0.9	46.0	0.8		
25°	47.2	0.7	47.6	0.7		
20°	48.5	0.6				
15°	49.4	0.5				

Boom Angle in Degree	Boom Length: 38.3m (125.5') Boom (telescoping **mode I**) + 10.1m (33.2') Jib					
	3.5° Tilt		25° Tilt		45° Tilt	
	R	W	R	W	R	W
80°	9.3	6.6	13.3	6.4	15.3	4.9
79°	10.2	6.6	14.0	6.2	16.0	4.8
78°	11.0	6.6	15.0	6.0	16.8	4.7
77°	11.9	6.6	15.8	5.9	17.6	4.7
76°	13.0	6.6	16.5	5.7	18.3	4.6
75°	13.9	6.6	17.3	5.6	19.1	4.6
73°	15.6	6.6	19.0	5.4	20.6	4.5
70°	18.2	6.2	21.3	5.1	22.7	4.4
68°	19.7	5.9	22.8	4.9	24.0	4.4
65°	22.0	5.5	25.0	4.7	26.0	4.3
63°	23.5	5.3	26.3	4.5	27.2	4.2
60°	25.6	4.6	28.4	4.1	29.1	3.8
58°	26.9	4.1	29.4	3.7	30.2	3.5
55°	28.7	3.4	31.1	3.1	31.7	3.0
53°	30.0	3.0	32.3	2.8	32.9	2.7
50°	31.7	2.6	33.8	2.4	34.1	2.3
48°	32.9	2.3	35.1	2.2	35.4	2.1
45°	34.4	2.0	36.6	1.9	36.6	1.7
43°	35.7	1.8	37.5	1.7		
40°	37.2	1.5	38.7	1.4		
38°	38.1	1.4	39.3	1.3		
35°	39.3	1.2	40.5	1.1		
33°	40.2	1.0	41.2	1.0		
30°	41.5	0.9	42.4	0.9		
25°	43.0	0.7	43.6	0.7		
20°	44.2	0.5				
15°	45.1	0.4				

R : Load Radius in meters
W : Rated Lifting Capacity in metric ton

GR-1000XL RATED LIFTING CAPACITIES (IN METRIC TON)

ON OUTRIGGERS FULLY EXTENDED 7.3m (23' 11 3/8") SPREAD
360° ROTATION
17.7m (58.1') Jib

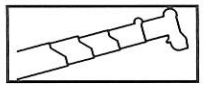
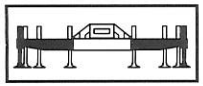
Boom Angle in Degree	Boom Length: 47.0m (154.2') Boom + 17.7m (58.1') Jib					
	3.5° Tilt		25° Tilt		45° Tilt	
	R	W	R	W	R	W
80°	14.0	3.1	21.9	2.9	25.5	2.3
79°	15.2	3.1	23.0	2.8	26.6	2.3
78°	16.5	3.1	24.1	2.7	27.5	2.3
77°	17.8	3.1	25.2	2.7	28.4	2.3
76°	19.1	3.1	26.3	2.6	29.3	2.2
75°	20.4	3.1	27.4	2.6	30.3	2.2
73°	22.7	3.1	29.5	2.5	32.0	2.2
70°	26.6	3.1	32.6	2.4	34.4	2.1
68°	28.8	3.0	34.4	2.3	36.3	2.1
65°	31.7	2.7	37.2	2.2	38.4	2.0
63°	33.5	2.5	39.0	2.1	40.2	1.9
60°	36.3	2.1	41.5	1.9	42.4	1.7
58°	37.8	1.8	43.0	1.6	43.6	1.6
55°	39.9	1.3	44.8	1.3	45.4	1.2
53°	41.8	1.1	46.3	1.0	46.6	1.0
50°	43.9	0.7	48.2	0.7	48.2	0.7
48°	45.4	0.5	49.4	0.5	49.4	0.5

Boom Angle in Degree	Boom Length: 42.6m (139.8') Boom (telescoping **mode II**) + 17.7m (58.1') Jib					
	3.5° Tilt		25° Tilt		45° Tilt	
	R	W	R	W	R	W
80°	12.4	3.3	19.7	3.0	23.6	2.4
79°	13.6	3.3	20.7	2.9	24.5	2.3
78°	14.8	3.3	21.9	2.8	25.5	2.3
77°	16.0	3.3	22.9	2.8	26.3	2.3
76°	17.2	3.3	23.8	2.7	27.2	2.3
75°	18.3	3.3	24.9	2.7	28.2	2.3
73°	20.4	3.3	26.9	2.6	29.8	2.2
70°	23.9	3.3	29.7	2.5	32.0	2.1
68°	26.0	3.2	31.4	2.4	33.5	2.1
65°	28.7	2.8	34.1	2.3	36.0	2.1
63°	30.4	2.6	35.7	2.2	37.5	2.0
60°	33.2	2.3	37.8	1.9	39.3	1.8
58°	34.8	2.1	39.3	1.8	40.5	1.7
55°	37.2	1.9	41.8	1.6	42.4	1.6
53°	38.7	1.8	43.0	1.5	43.6	1.5
50°	40.8	1.6	44.8	1.4	45.1	1.4
48°	42.4	1.5	46.0	1.3	46.3	1.2
45°	44.2	1.2	47.6	1.2	47.6	1.1
43°	45.4	1.1	48.8	1.0		
40°	47.2	0.9	50.3	0.9		
38°	48.5	0.8	50.9	0.8		
35°	50.0	0.6	52.1	0.6		
33°	51.2	0.6	53.0	0.5		
30°	52.4	0.4	54.0	0.4		

Boom Angle in Degree	Boom Length: 38.3m (125.5') Boom (telescoping **mode I**) + 17.7m (58.1') Jib					
	3.5° Tilt		25° Tilt		45° Tilt	
	R	W	R	W	R	W
80°	11.3	4.0	17.9	3.2	21.7	2.4
79°	12.6	4.0	18.7	3.1	22.5	2.3
78°	13.7	4.0	19.9	3.0	23.4	2.3
77°	14.6	4.0	20.9	3.0	24.2	2.3
76°	15.6	4.0	21.6	2.9	25.0	2.3
75°	16.7	4.0	22.7	2.9	25.9	2.3
73°	18.8	4.0	24.5	2.8	27.4	2.2
70°	21.7	3.8	27.1	2.6	29.7	2.1
68°	23.5	3.6	28.8	2.6	31.1	2.1
65°	26.2	3.4	31.1	2.5	33.2	2.1
63°	28.0	3.2	32.6	2.4	34.4	2.1
60°	30.5	3.1	35.1	2.3	36.6	2.0
58°	32.0	3.0	36.3	2.3	37.8	2.0
55°	34.1	2.5	38.4	2.2	39.3	2.0
53°	35.7	2.2	39.6	2.0	40.5	1.9
50°	37.5	1.8	41.5	1.7	42.1	1.6
48°	38.7	1.6	42.4	1.5	42.7	1.4
45°	40.5	1.3	43.9	1.2	44.2	1.1
43°	41.8	1.2	44.8	1.1		
40°	43.6	1.0	46.0	0.9		
38°	44.5	0.8	46.9	0.8		
35°	46.0	0.7	48.2	0.6		
33°	46.9	0.6	48.8	0.6		
30°	48.2	0.5	49.7	0.4		

R: Load Radius in meters
W: Rated Lifting Capacity in metric ton

GR-1000XL RATED LIFTING CAPACITIES (IN METRIC TON)

ON OUTRIGGERS MID EXTENDED 6.7m (21' 11 3/4") SPREAD 360° ROTATION

Load Radius (m)	Boom Length																											
	12m (39.4')		16.4m (53.7')		20.8m (68.1')				25.1m (82.4')				29.5m (96.8')				33.9m (111.1')				38.3m (125.5')				42.6m (139.8')				47m (154.2')	
	∠		∠		∠		∠		∠		∠		∠		∠		∠		∠		∠		∠		∠		∠	
2.4	73	90.7	78	46.6																								
3.0	70	80.6	76	46.6																								
3.5	68	72.3	75	46.6	79	40.9	78	18.2																				
4.0	65	65.4	73	46.6	77	40.9	76	18.2																				
4.5	61	59.0	70	46.6	75	40.8	75	18.2	78	19.3	78	16.1																
5.0	58	53.9	68	46.0	74	38.9	74	18.2	77	19.3	77	16.1																
5.5	56	48.9	66	45.3	73	36.7	72	18.2	76	19.3	76	16.1																
6.0	53	44.0	64	44.6	71	34.4	70	18.2	74	19.3	74	16.1	77	18.2	77	15.1												
6.5	49	39.8	62	40.6	70	32.2	69	18.2	73	19.3	73	16.1	76	18.2	76	15.1	78	16.1	78	14.6								
7.0	45	35.7	60	35.8	68	29.9	67	18.2	72	19.3	72	16.1	75	18.2	75	15.1	78	16.1	78	14.6								
7.5	42	31.7	58	31.0	66	27.6	65	18.2	71	19.3	70	16.1	74	18.2	74	15.1	77	16.1	77	14.6								
8.0	37	28.4	56	27.5	65	25.2	64	18.2	70	19.3	69	16.1	73	18.2	73	15.1	76	16.1	76	14.4	79	15.1	79	12.7				
9.0	26	22.2	51	21.5	61	20.6	60	18.2	67	19.3	67	16.1	71	18.2	71	15.1	74	16.1	74	13.8	77	15.1	77	12.0				
10.0			46	17.5	58	17.0	57	17.8	65	17.2	65	16.1	69	17.0	69	14.7	73	16.0	73	13.0	75	14.5	75	11.4	78	12.1	78	11.0		
11.0			40	14.3	55	13.8	54	16.7	62	14.8	62	15.7	67	15.3	67	14.1	71	15.2	71	12.2	74	13.8	74	10.7	77	12.0	77	10.7	78	9.5
12.0			34	12.0	51	11.5	51	14.3	59	12.4	59	14.3	65	12.9	65	13.4	69	13.2	69	11.4	72	13.0	72	10.1	75	11.6	75	10.2	77	9.5
14.0			13	8.6	43	8.2	42	10.8	53	9.1	53	11.1	60	9.6	60	11.3	64	9.9	65	10.2	69	10.1	69	9.0	72	10.3	73	9.3	75	9.3
16.0					33	6.0	32	8.5	47	6.8	47	8.8	55	7.3	56	8.9	61	7.6	62	8.7	66	7.9	66	8.2	69	8.0	70	8.3	72	8.1
18.0					16	4.4	15	6.7	39	5.1	39	7.0	50	5.6	50	7.2	57	5.9	57	7.3	64	6.2	62	7.3	66	6.3	66	6.9	69	6.5
20.0									31	3.9	31	5.7	44	4.3	44	5.9	52	4.7	53	6.0	58	4.9	59	6.1	63	5.0	63	5.6	67	5.2
22.0									15	2.9	15	4.7	38	3.3	38	4.9	47	3.7	47	5.0	54	3.9	55	5.1	59	4.1	60	4.6	63	4.2
24.0													31	2.5	31	4.0	42	2.8	42	4.1	50	3.1	50	4.2	56	3.2	56	3.8	61	3.4
26.0													20	1.9	19	3.4	36	2.2	37	3.5	46	2.4	46	3.5	52	2.6	52	3.1	57	2.7
28.0																	29	1.6	29	2.9	41	1.8	41	3.0	48	2.0	48	2.5	54	2.1
30.0																	19	1.2	19	2.4	35	1.4	35	2.5	44	1.5	44	2.0	51	1.7
32.0																					29	1.0	29	2.1	40	1.1	40	1.6	47	1.3
34.0																					21	0.6	20	1.7	35	0.8	35	1.3	43	0.9
36.0																											29	1.0		
38.0																											21	0.7		
A	0°																								27°		11°		38°	

Telescoping conditions (%)

Telescoping mode	I, II	I	I	II	I	II	I	II	I	II	I	II	I	II	I, II
2nd boom	0	50	100	0	100	0	100	0	100	0	100	0	100	50	100
3rd boom	0	0	0	33	16	50	33	66	50	83	66	100	83	100	100
4th boom	0	0	0	33	16	50	33	66	50	83	66	100	83	100	100
Top boom	0	0	0	33	16	50	33	66	50	83	66	100	83	100	100

∠ : Loaded boom angle (°)

A : Minimum boom angle (°) for indicated length (no load)

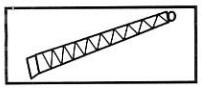
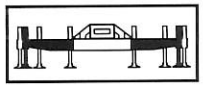
LIFTING CAPACITIES AT ZERO DEGREE BOOM ANGLE ON OUTRIGGERS MID EXTENDED 6.7m (21′ 11 3/4″) SPREAD 360° ROTATION

Boom Angle	Boom Length																									
	Load Radius (m)	12m (39.4′)	Load Radius (m)	16.4m (53.7′)	Load Radius (m)	20.8m (68.1′)	Load Radius (m)	20.8m (68.1′)	Load Radius (m)	25.1m (82.4′)	Load Radius (m)	25.1m (82.4′)	Load Radius (m)	29.5m (96.8′)	Load Radius (m)	29.5m (96.8′)	Load Radius (m)	33.9m (111.1′)	Load Radius (m)	33.9m (111.1′)	Load Radius (m)	38.3m (125.5′)	Load Radius (m)	38.3m (125.5′)			
0°	9.8	12.7	14.2	8.2	18.5	4.0	18.5	6.4	22.9	2.5	22.9	4.3	27.2	1.5	27.2	3.0	31.4	0.9	31.1	2.2	35.7	0.4	35.4	1.5			
Telescoping mode	Ⅰ, Ⅱ		Ⅰ		Ⅰ		Ⅱ		Ⅰ		Ⅱ		Ⅰ		Ⅱ		Ⅰ		Ⅱ		Ⅰ		Ⅱ				

NOTE : • The lifting capacity data stored in the LOAD MOMENT INDICATOR (AML−C) is based on the standard number of parts of line listed in the chart.
• Standard number of parts of line for each boom length should be according to the following table.

Boom Length	12m (39.4′)	12m to 20.8m (39.4′ to 68.1′)		20.8m to 47m (68.1′ to 154.2′)	Single top Jib
Telescoping mode	Ⅰ, Ⅱ	Ⅰ	Ⅱ	Ⅰ, Ⅱ	Ⅰ, Ⅱ
Number of parts of line	16	8	4	4	1

GR-1000XL RATED LIFTING CAPACITIES (IN METRIC TON)

ON OUTRIGGERS MID EXTENDED 6.7m (21' 11 3/4") SPREAD
360° ROTATION
10.1m (33.2') Jib

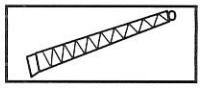
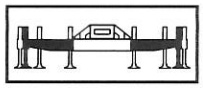
Boom Angle in Degree	Boom Length: 47.0m (154.2') Boom + 10.1m (33.2') Jib					
	3.5° Tilt		25° Tilt		45° Tilt	
	R	W	R	W	R	W
80°	11.5	4.9	15.7	4.9	17.9	4.3
79°	12.7	4.9	16.9	4.7	19.0	4.2
78°	13.8	4.9	17.9	4.6	20.0	4.1
77°	15.0	4.9	18.9	4.5	20.9	4.0
76°	16.0	4.9	19.9	4.4	21.8	3.9
75°	17.2	4.9	21.0	4.2	22.7	3.9
73°	19.4	4.8	22.9	4.0	24.5	3.7
70°	22.4	4.4	25.8	3.8	27.1	3.5
68°	24.1	3.9	27.4	3.5	28.7	3.2
65°	26.4	3.0	29.5	2.7	30.8	2.5
63°	28.0	2.5	31.1	2.3	32.0	2.2
60°	30.3	1.9	33.2	1.8	34.1	1.7
58°	31.7	1.6	34.8	1.5	35.4	1.4
55°	34.1	1.2	36.9	1.1	37.2	1.0
53°	35.4	0.9	38.1	0.9	38.4	0.8
50°	37.5	0.6	39.9	0.6	40.2	0.6
48°	39.0	0.4				

Boom Angle in Degree	Boom Length: 42.6m (139.8') Boom (telescoping **mode II**) + 10.1m (33.2') Jib					
	3.5° Tilt		25° Tilt		45° Tilt	
	R	W	R	W	R	W
80°	10.0	5.3	14.0	5.2	16.2	4.6
79°	11.1	5.3	14.9	5.1	17.0	4.5
78°	12.1	5.3	15.9	5.0	18.0	4.4
77°	13.1	5.3	16.8	4.8	18.8	4.3
76°	14.1	5.3	17.6	4.7	19.5	4.2
75°	15.1	5.3	18.6	4.6	20.4	4.1
73°	17.0	5.2	20.4	4.3	22.1	4.0
70°	19.8	4.7	22.9	4.0	24.4	3.7
68°	21.5	4.4	24.6	3.8	25.9	3.5
65°	23.9	3.9	26.9	3.4	28.0	3.2
63°	25.5	3.6	28.4	3.2	29.4	3.0
60°	27.8	3.0	30.3	2.7	31.1	2.6
58°	29.1	2.6	31.7	2.4	32.3	2.3
55°	31.1	2.1	33.5	1.9	34.1	1.9
53°	32.6	1.8	34.8	1.7	35.4	1.6
50°	34.4	1.5	36.6	1.4	36.9	1.3
48°	35.7	1.3	37.8	1.2	38.1	1.2
45°	37.5	1.0	39.3	1.0	39.3	0.9
43°	38.7	0.9	40.2	0.8		
40°	40.2	0.7	41.8	0.6		
38°	41.5	0.5	42.7	0.5		

Boom Angle in Degree	Boom Length: 38.3m (125.5') Boom (telescoping **mode I**) + 10.1m (33.2') Jib					
	3.5° Tilt		25° Tilt		45° Tilt	
	R	W	R	W	R	W
80°	9.3	6.6	13.3	6.4	15.3	4.9
79°	10.2	6.6	14.0	6.2	16.0	4.8
78°	11.0	6.6	15.0	6.0	16.8	4.7
77°	11.9	6.6	15.8	5.9	17.6	4.7
76°	13.0	6.6	16.5	5.7	18.3	4.6
75°	13.9	6.6	17.3	5.6	19.1	4.6
73°	15.6	6.6	19.0	5.4	20.6	4.5
70°	18.2	6.2	21.3	5.1	22.7	4.4
68°	19.7	5.9	22.8	4.9	24.0	4.4
65°	21.9	4.8	24.8	4.1	25.9	3.8
63°	23.3	4.2	26.0	3.6	27.1	3.4
60°	25.2	3.4	27.9	2.9	28.8	2.8
58°	26.5	2.9	29.1	2.5	29.9	2.4
55°	28.4	2.4	30.8	2.1	31.7	2.0
53°	29.6	2.0	32.0	1.8	32.6	1.8
50°	31.4	1.6	33.5	1.5	34.1	1.4
48°	32.6	1.4	34.8	1.3	35.1	1.2
45°	34.1	1.1	36.3	1.0	36.6	1.0
43°	35.4	0.9	37.2	0.8		
40°	36.9	0.7	38.4	0.6		
38°	37.8	0.6	39.3	0.5		

R : Load Radius in meters
W : Rated Lifting Capacity in metric ton

GR-1000XL RATED LIFTING CAPACITIES (IN METRIC TON)

ON OUTRIGGERS MID EXTENDED 6.7m (21' 11 3/4") SPREAD
360° ROTATION
17.7m (58.1') Jib

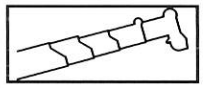
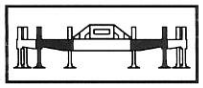
Boom Angle in Degree	Boom Length: 47.0m (154.2') Boom + 17.7m (58.1') Jib					
	3.5° Tilt		25° Tilt		45° Tilt	
	R	W	R	W	R	W
80°	14.0	3.1	21.9	2.9	25.5	2.3
79°	15.2	3.1	23.0	2.8	26.6	2.3
78°	16.5	3.1	24.1	2.7	27.5	2.3
77°	17.8	3.1	25.2	2.7	28.4	2.3
76°	19.1	3.1	26.3	2.6	29.3	2.2
75°	20.4	3.1	27.4	2.6	30.3	2.2
73°	22.7	3.1	29.5	2.5	32.0	2.2
70°	26.6	3.1	32.6	2.4	34.4	2.1
68°	28.6	2.8	34.4	2.3	36.3	2.1
65°	31.1	2.1	36.6	1.8	38.1	1.7
63°	32.9	1.7	38.1	1.5	39.6	1.4
60°	35.4	1.3	40.5	1.1	41.8	1.0
58°	36.9	1.0	42.1	0.9	43.0	0.8
55°	39.3	0.6	44.2	0.6	44.8	0.6
53°	40.8	0.4				

Boom Angle in Degree	Boom Length: 42.6m (139.8') Boom (telescoping **mode Ⅱ**) + 17.7m (58.1') Jib					
	3.5° Tilt		25° Tilt		45° Tilt	
	R	W	R	W	R	W
80°	12.4	3.3	19.7	3.0	23.6	2.4
79°	13.6	3.3	20.7	2.9	24.5	2.3
78°	14.8	3.3	21.9	2.8	25.5	2.3
77°	16.0	3.3	22.9	2.8	26.3	2.3
76°	17.2	3.3	23.8	2.7	27.2	2.3
75°	18.3	3.3	24.9	2.7	28.2	2.3
73°	20.4	3.3	26.9	2.6	29.8	2.2
70°	23.9	3.3	29.7	2.5	32.0	2.1
68°	26.0	3.2	31.4	2.4	33.5	2.1
65°	28.7	2.8	34.1	2.3	36.0	2.1
63°	30.4	2.6	35.7	2.2	37.5	2.0
60°	32.9	2.1	37.8	1.8	39.3	1.7
58°	34.4	1.8	39.0	1.6	40.5	1.5
55°	36.6	1.4	41.2	1.2	42.4	1.2
53°	38.1	1.2	42.4	1.1	43.3	1.0
50°	40.2	0.9	44.2	0.8	44.8	0.8
48°	41.8	0.7	45.4	0.7	46.0	0.7
45°	43.6	0.5	47.2	0.5	47.2	0.5

Boom Angle in Degree	Boom Length: 38.3m (125.5') Boom (telescoping **mode Ⅰ**) + 17.7m (58.1') Jib					
	3.5° Tilt		25° Tilt		45° Tilt	
	R	W	R	W	R	W
80°	11.3	4.0	17.9	3.2	21.7	2.4
79°	12.6	4.0	18.7	3.1	22.5	2.3
78°	13.7	4.0	19.9	3.0	23.4	2.3
77°	14.6	4.0	20.9	3.0	24.2	2.3
76°	15.6	4.0	21.6	2.9	25.0	2.3
75°	16.7	4.0	22.7	2.9	25.9	2.3
73°	18.8	4.0	24.5	2.8	27.4	2.2
70°	21.7	3.8	27.1	2.6	29.7	2.1
68°	23.5	3.6	28.8	2.6	31.1	2.1
65°	26.2	3.4	31.1	2.5	33.2	2.1
63°	27.9	3.0	32.6	2.4	34.4	2.1
60°	30.0	2.3	34.8	2.0	36.6	1.9
58°	31.7	2.0	36.0	1.7	37.5	1.6
55°	33.8	1.6	37.8	1.4	39.3	1.3
53°	35.1	1.3	39.3	1.1	40.2	1.1
50°	37.2	1.0	40.8	0.9	41.8	0.9
48°	38.4	0.8	42.1	0.7	42.7	0.7
45°	40.2	0.6	43.6	0.5	43.9	0.5

R : Load Radius in meters
W : Rated Lifting Capacity in metric ton

GR-1000XL RATED LIFTING CAPACITIES (IN METRIC TON)

ON OUTRIGGERS MID EXTENDED 5.5m (18' 1/2") SPREAD 360° ROTATION

Load Radius (m)	Boom Length																									
	12m (39.4')		16.4m (53.7')		20.8m (68.1')				25.1m (82.4')				29.5m (96.8')				33.9m (111.1')				38.3m (125.5')				42.6m (139.8')				47m (154.2')	
	∠°		∠°		∠°		∠°		∠°		∠°		∠°		∠°		∠°		∠°		∠°		∠°		∠°		∠°	
2.4	73	86.9	78	46.6																						
3.0	70	75.4	76	46.6																						
3.5	68	67.2	75	46.6	79	40.9	78	18.2																		
4.0	65	59.7	73	46.6	77	40.9	76	18.2																		
4.5	61	52.5	70	46.6	75	40.8	75	18.2	78	19.3	78	16.1														
5.0	58	46.6	68	42.9	74	37.9	74	18.2	77	19.3	77	16.1														
5.5	56	41.0	66	38.5	73	34.5	72	18.2	76	19.3	76	16.1														
6.0	53	35.3	64	34.2	71	31.2	70	18.2	74	19.3	74	16.1	77	18.2	77	15.1										
6.5	49	30.9	62	30.1	70	27.9	69	18.2	73	19.3	73	16.1	76	18.2	76	15.1	78	16.1	78	14.6						
7.0	45	26.9	60	26.1	68	24.6	67	18.2	72	19.3	72	16.1	75	18.2	75	15.1	78	16.1	78	14.6						
7.5	42	22.8	58	22.2	66	21.4	65	18.2	71	19.3	70	16.1	74	18.2	74	15.1	77	16.1	77	14.6						
8.0	37	20.2	55	19.6	65	19.0	64	17.7	70	18.3	69	16.1	73	17.6	73	15.1	76	16.1	76	14.4	79	15.1	79	12.7		
9.0	26	16.0	51	15.4	61	14.9	60	16.3	67	15.6	67	16.1	71	16.0	71	15.1	74	16.1	74	13.8	77	15.1	77	12.0		
10.0			46	12.6	58	12.1	57	14.4	65	13.0	64	14.6	69	13.5	69	14.2	72	13.9	73	13.0	75	13.6	75	11.4	78	12.1	78	11.0		
11.0			40	10.3	54	9.8	54	12.5	62	10.7	61	12.8	67	11.2	67	13.0	70	11.6	71	12.1	73	11.8	74	10.7	76	11.6	77	10.7	78	9.5
12.0			34	8.5	51	8.1	51	10.7	59	9.0	59	11.0	65	9.4	65	11.1	68	9.8	69	11.1	71	10.0	72	10.1	74	10.1	75	10.2	77	9.5
14.0			13	5.9	43	5.6	42	8.0	53	6.4	53	8.3	60	6.9	60	8.5	64	7.2	64	8.6	68	7.4	69	8.7	72	7.6	72	8.2	75	7.8
16.0					32	3.8	32	6.2	47	4.6	47	6.5	55	5.1	55	6.7	61	5.4	61	6.8	65	5.7	66	6.9	69	5.8	69	6.4	72	6.0
18.0					15	2.6	15	4.8	39	3.3	39	5.1	50	3.8	50	5.3	56	4.1	57	5.4	61	4.3	62	5.5	65	4.5	66	5.0	68	4.6
20.0									31	2.3	31	4.1	44	2.7	44	4.2	52	3.0	52	4.4	58	3.3	58	4.4	62	3.5	63	4.0	66	3.6
22.0									16	1.5	15	3.3	38	1.9	38	3.4	47	2.2	47	3.5	54	2.5	54	3.6	59	2.7	59	3.2	63	2.8
24.0													31	1.3	30	2.7	42	1.6	42	2.9	50	1.8	50	2.9	56	2.0	56	2.5	60	2.1
26.0													20	0.7	20	2.2	36	1.0	36	2.3	45	1.3	46	2.4	52	1.4	52	1.9	57	1.6
28.0																	30	0.6	29	1.9	41	0.8	41	1.9	48	1.0	48	1.5	53	1.1
30.0																			19	1.5			35	1.5	44	0.6	44	1.1	50	0.7
32.0																							29	1.2			40	0.8		
34.0																							21	0.9						
A	0°																18°		0°		29°		0°		40°		27°		47°	

Telescoping conditions (%)

Telescoping mode	I, II	I	I	II	I	II	I	II	I	II	I	II	I	II	I, II
2nd boom	0	50	100	0	100	0	100	0	100	0	100	0	100	50	100
3rd boom	0	0	0	33	16	50	33	66	50	83	66	100	83	100	100
4th boom	0	0	0	33	16	50	33	66	50	83	66	100	83	100	100
Top boom	0	0	0	33	16	50	33	66	50	83	66	100	83	100	100

∠ : Loaded boom angle (°)

A : Minimum boom angle (°) for indicated length (no load)

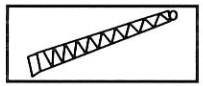
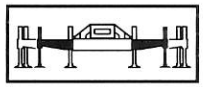
LIFTING CAPACITIES AT ZERO DEGREE BOOM ANGLE ON OUTRIGGERS MID EXTENDED 5.5m (18′ 1/2″) SPREAD 360° ROTATION

Boom Angle	Boom Length																							
	Load Radius (m)	12m (39.4′)	Load Radius (m)	16.4m (53.7′)	Load Radius (m)	20.8m (68.1′)	Load Radius (m)	20.8m (68.1′)	Load Radius (m)	25.1m (82.4′)	Load Radius (m)	25.1m (82.4′)	Load Radius (m)	29.5m (96.8′)	Load Radius (m)	29.5m (96.8′)		Load Radius (m)	33.9m (111.1′)		Load Radius (m)	38.3m (125.5′)			
O°	9.8	13.1	14.1	5.7	18.5	2.3	18.5	4.5	22.9	1.2	22.9	2.9	27.2	0.5	27.2	1.9		31.4	1.3		35.4	0.7			
Telescoping mode	Ⅰ, Ⅱ		Ⅰ		Ⅰ		Ⅱ		Ⅰ		Ⅱ		Ⅰ		Ⅱ			Ⅱ			Ⅱ				

NOTE : • The lifting capacity data stored in the LOAD MOMENT INDICATOR (AML−C) is based on the standard number of parts of line listed in the chart.
• Standard number of parts of line for each boom length should be according to the following table.

Boom Length	12m (39.4′)	12m to 20.8m (39.4′ to 68.1′)		20.8m to 47m (68.1′ to 154.2′)	Single top Jib
Telescoping mode	Ⅰ , Ⅱ	Ⅰ	Ⅱ	Ⅰ , Ⅱ	Ⅰ , Ⅱ
Number of parts of line	16	8	4	4	1

GR-1000XL RATED LIFTING CAPACITIES (IN METRIC TON)

ON OUTRIGGERS MID EXTENDED 5.5m (18' 1/2") SPREAD
360° ROTATION
10.1m (33.2') Jib

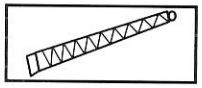
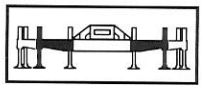
Boom Angle in Degree	Boom Length: 47.0m (154.2') Boom + 10.1m (33.2') Jib					
	3.5° Tilt		25° Tilt		45° Tilt	
	R	W	R	W	R	W
80°	11.5	4.9	15.7	4.9	17.9	4.3
79°	12.7	4.9	16.9	4.7	19.0	4.2
78°	13.8	4.9	17.9	4.6	20.0	4.1
77°	15.0	4.9	18.9	4.5	20.9	4.0
76°	16.0	4.9	19.9	4.4	21.8	3.9
75°	17.2	4.9	21.0	4.2	22.7	3.9
73°	19.3	4.6	22.7	3.8	24.4	3.4
70°	21.7	3.3	25.1	2.8	26.6	2.6
68°	23.4	2.7	26.6	2.3	28.0	2.2
65°	25.8	1.9	29.0	1.7	30.1	1.6
63°	27.4	1.5	30.5	1.3	31.4	1.3
60°	29.8	1.0	32.6	0.9	33.5	0.9
58°	31.4	0.8	34.1	0.6	35.1	0.6

Boom Angle in Degree	Boom Length: 42.6m (139.8') Boom (telescoping **mode II**) + 10.1m (33.2') Jib					
	3.5° Tilt		25° Tilt		45° Tilt	
	R	W	R	W	R	W
80°	10.0	5.3	14.0	5.2	16.2	4.6
79°	11.1	5.3	14.9	5.1	17.0	4.5
78°	12.1	5.3	15.9	5.0	18.0	4.4
77°	13.1	5.3	16.8	4.8	18.8	4.3
76°	14.1	5.3	17.6	4.7	19.5	4.2
75°	15.1	5.3	18.6	4.6	20.4	4.1
73°	17.0	5.2	20.4	4.3	22.1	4.0
70°	19.7	4.6	22.8	3.9	24.3	3.6
68°	21.1	3.9	24.3	3.3	25.6	3.1
65°	23.4	3.0	26.3	2.6	27.6	2.4
63°	24.9	2.5	27.8	2.2	28.9	2.1
60°	27.2	1.9	29.8	1.7	30.8	1.6
58°	28.5	1.6	31.1	1.5	32.0	1.4
55°	30.8	1.2	32.9	1.1	33.8	1.1
53°	32.0	1.0	34.4	0.9	35.1	0.9
50°	33.8	0.7	36.3	0.6	36.6	0.6
48°	35.4	0.5	37.2	0.5	37.8	0.5

Boom Angle in Degree	Boom Length: 38.3m (125.5') Boom (telescoping **mode I**) + 10.1m (33.2') Jib					
	3.5° Tilt		25° Tilt		45° Tilt	
	R	W	R	W	R	W
80°	9.3	6.6	13.3	6.4	15.3	4.9
79°	10.2	6.6	14.0	6.2	16.0	4.8
78°	11.0	6.6	15.0	6.0	16.8	4.7
77°	11.9	6.6	15.8	5.9	17.6	4.7
76°	13.0	6.6	16.5	5.7	18.3	4.6
75°	13.9	6.6	17.3	5.6	19.1	4.6
73°	15.6	6.6	19.0	5.4	20.6	4.5
70°	17.7	5.1	21.0	4.3	22.5	3.9
68°	19.2	4.3	22.3	3.7	23.7	3.4
65°	21.3	3.3	24.3	2.9	25.5	2.7
63°	22.7	2.8	25.5	2.5	26.7	2.3
60°	24.7	2.1	27.4	1.9	28.5	1.8
58°	26.0	1.8	28.6	1.6	29.6	1.5
55°	28.0	1.3	30.4	1.2	31.4	1.1
53°	29.2	1.0	31.7	1.0	32.3	0.9
50°	31.1	0.7	33.2	0.7	33.8	0.6
48°	32.0	0.5	34.4	0.5	34.8	0.5

R : Load Radius in meters
W : Rated Lifting Capacity in metric ton

GR-1000XL RATED LIFTING CAPACITIES (IN METRIC TON)

ON OUTRIGGERS MID EXTENDED 5.5m (18' 1/2") SPREAD
360° ROTATION
17.7m (58.1') Jib

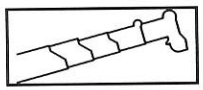
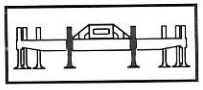
Boom Angle in Degree	Boom Length: 47.0m (154.2') Boom + 17.7m (58.1') Jib					
	3.5° Tilt		25° Tilt		45° Tilt	
	R	W	R	W	R	W
80°	14.0	3.1	21.9	2.9	25.5	2.3
79°	15.2	3.1	23.0	2.8	26.6	2.3
78°	16.5	3.1	24.1	2.7	27.5	2.3
77°	17.8	3.1	25.2	2.7	28.4	2.3
76°	19.1	3.1	26.3	2.6	29.3	2.2
75°	20.4	3.1	27.4	2.6	30.3	2.2
73°	22.7	3.1	29.5	2.5	32.0	2.2
70°	25.8	2.3	32.0	1.9	34.1	1.7
68°	27.5	1.8	33.2	1.5	35.7	1.4
65°	30.1	1.2	35.7	1.0	37.5	1.0
63°	32.0	0.9	37.2	0.8	39.0	0.7
60°	34.4	0.5				

Boom Angle in Degree	Boom Length: 42.6m (139.8') Boom (telescoping **mode II**) + 17.7m (58.1') Jib					
	3.5° Tilt		25° Tilt		45° Tilt	
	R	W	R	W	R	W
80°	12.4	3.3	19.7	3.0	23.6	2.4
79°	13.6	3.3	20.7	2.9	24.5	2.3
78°	14.8	3.3	21.9	2.8	25.5	2.3
77°	16.0	3.3	22.9	2.8	26.3	2.3
76°	17.2	3.3	23.8	2.7	27.2	2.3
75°	18.3	3.3	24.9	2.7	28.2	2.3
73°	20.4	3.3	26.9	2.6	29.8	2.2
70°	23.9	3.3	29.7	2.5	32.0	2.1
68°	25.5	2.8	31.4	2.3	33.5	2.0
65°	27.9	2.1	33.5	1.8	35.4	1.5
63°	29.6	1.7	34.8	1.5	36.6	1.3
60°	32.0	1.3	36.9	1.1	38.7	1.0
58°	33.5	1.0	38.4	0.9	39.9	0.8
55°	36.0	0.7	40.5	0.6	41.8	0.5
53°	37.5	0.5				

Boom Angle in Degree	Boom Length: 38.3m (125.5') Boom (telescoping **mode I**) + 17.7m (58.1') Jib					
	3.5° Tilt		25° Tilt		45° Tilt	
	R	W	R	W	R	W
80°	11.3	4.0	17.9	3.2	21.7	2.4
79°	12.6	4.0	18.7	3.1	22.5	2.3
78°	13.7	4.0	19.9	3.0	23.4	2.3
77°	14.6	4.0	20.9	3.0	24.2	2.3
76°	15.6	4.0	21.6	2.9	25.0	2.3
75°	16.7	4.0	22.7	2.9	25.9	2.3
73°	18.8	4.0	24.5	2.8	27.4	2.2
70°	21.7	3.8	27.1	2.6	29.7	2.1
68°	23.2	3.1	28.7	2.5	31.1	2.1
65°	25.6	2.4	30.8	1.9	32.9	1.8
63°	27.2	1.9	32.0	1.6	34.1	1.5
60°	29.4	1.4	34.1	1.2	36.0	1.1
58°	31.1	1.1	35.4	1.0	37.2	0.9
55°	32.9	0.8	37.5	0.7	39.0	0.6
53°	34.4	0.6	38.7	0.5	39.9	0.5

R : Load Radius in meters
W : Rated Lifting Capacity in metric ton

GR-1000XL RATED LIFTING CAPACITIES (IN METRIC TON)

ON OUTRIGGERS MIN EXTENDED 2.7m (8' 10 5/16") SPREAD 360° ROTATION

Load Radius (m)	Boom Length 12m		16.4m		20.8m (68.1')				25.1m (82.4')				29.5m (96.8')				33.9m (111.1')				38.3m (125.5')				42.6m (139.8')				47m (154.2')	
	∠°	(39.4')	∠°	(53.7')	∠°		∠°		∠°		∠°		∠°		∠°		∠°		∠°		∠°		∠°		∠°		∠°		∠°	
2.4	73	65.3	78	46.6																										
3.0	70	44.9	76	42.5																										
3.5	67	33.7	74	32.9	79	32.0	78	18.2																						
4.0	64	26.6	72	25.9	77	25.2	76	18.2																						
4.5	61	21.1	70	20.4	75	19.8	75	18.2	78	19.3	78	16.1																		
5.0	58	17.9	68	17.4	74	16.8	74	17.0	77	17.2	77	15.5																		
5.5	56	15.2	66	14.7	72	14.2	72	15.5	76	14.9	76	14.9																		
6.0	53	12.5	64	12.1	70	11.6	70	14.1	74	12.5	74	14.2	77	12.5	77	14.3														
6.5	49	10.8	62	10.4	69	10.0	69	12.7	73	10.9	73	12.9	76	11.4	76	13.1	78	11.7	78	13.2										
7.0	45	9.4	60	9.0	67	8.6	67	11.2	72	9.5	72	11.5	75	10.0	75	11.7	77	10.3	77	11.8										
7.5	42	8.1	58	7.6	65	7.3	65	9.8	70	8.1	70	10.1	74	8.6	74	10.3	76	8.9	76	10.4	78	8.8								
8.0	37	7.1	55	6.7	64	6.3	64	8.8	69	7.2	69	9.1	73	7.6	73	9.3	75	7.9	75	9.4	77	8.2	78	9.4						
9.0	26	5.4	51	5.0	60	4.6	60	7.0	66	5.5	66	7.3	70	5.9	70	7.5	73	6.2	73	7.6	75	6.5	76	7.7	78	6.4	78	7.0		
10.0			46	3.7	57	3.4	57	5.8	64	4.2	64	6.1	68	4.7	68	6.3	71	5.0	71	6.4	74	5.3	74	6.4	76	5.4	77	6.0	78	4.8
11.0			40	2.7	54	2.4	54	4.7	61	3.2	61	5.0	66	3.7	66	5.2	69	4.0	70	5.3	72	4.2	73	5.4	75	4.4	75	4.9	77	4.5
12.0			34	1.9	50	1.6	50	3.8	59	2.4	59	4.1	64	2.8	64	4.3	67	3.1	68	4.5	70	3.4	71	4.5	73	3.5	73	4.1	75	3.7
14.0			14	0.7			42	2.5	52	1.1	52	2.8	59	1.6	59	3.0	63	1.9	63	3.1	67	2.1	67	3.2	70	2.3	71	2.8	73	2.4
16.0							32	1.6			47	1.9	54	0.6	55	2.1	60	1.0	60	2.2	64	1.2	64	2.3	67	1.4	68	1.9	70	1.5
18.0							16	0.9			39	1.2			50	1.4			56	1.5	60	0.5	61	1.6	64	0.7	64	1.2	67	0.8
20.0											31	0.6			44	0.8			52	0.9			57	1.0			61	0.6		
A	0°				28°		0°		44°		5°		49°		35°		55°		45°		58°		52°		62°		57°		65°	

Telescoping conditions (%)

Telescoping mode	Ⅰ,Ⅱ	Ⅰ	Ⅰ	Ⅱ	Ⅰ	Ⅱ	Ⅰ	Ⅱ	Ⅰ	Ⅱ	Ⅰ	Ⅱ	Ⅰ	Ⅱ	Ⅰ,Ⅱ
2nd boom	0	50	100	0	100	0	100	0	100	0	100	0	100	50	100
3rd boom	0	0	0	33	16	50	33	66	50	83	66	100	83	100	100
4th boom	0	0	0	33	16	50	33	66	50	83	66	100	83	100	100
Top boom	0	0	0	33	16	50	33	66	50	83	66	100	83	100	100

∠ : Loaded boom angle (°)
A : Minimum boom angle (°) for indicated length (no load)

LIFTING CAPACITIES AT ZERO DEGREE BOOM ANGLE ON OUTRIGGERS MIN EXTENDED 2.7m (8′ 10 5/16″) SPREAD 360° ROTATION

Boom Angle	Boom Length																	
	Load Radius (m)	12m (39.4′)	Load Radius (m)	16.4m (53.7′)		Load Radius (m)	20.8m (68.1′)											
0°	9.8	4.1	14.1	0.6		18.5	0.8											
Telescoping mode	Ⅰ , Ⅱ		Ⅰ			Ⅱ												

NOTE : • The lifting capacity data stored in the LOAD MOMENT INDICATOR (AML-C) is based on the standard number of parts of line listed in the chart.
• Standard number of parts of line for each boom length should be according to the following table.

Boom Length	12m (39.4′)	12m to 20.8m (39.4′ to 68.1′)		20.8m to 47m (68.1′ to 154.2′)	Single top Jib
Telescoping mode	Ⅰ , Ⅱ	Ⅰ	Ⅱ	Ⅰ , Ⅱ	Ⅰ , Ⅱ
Number of parts of line	16	8	4	4	1

GR-1000XL RATED LIFTING CAPACITIES (IN METRIC TON)

ON RUBBER STATIONARY

Over Front

Load Radius (m)	Boom Length 12m (39.4')		Boom Length 20.8m (68.1')		Boom Length 29.5m (96.8')	
	∠°		∠°		∠°	
4.0	64	25.5				
4.5	61	22.9				
5.0	58	21.0				
5.5	56	19.2				
6.0	53	17.4				
6.5	49	15.9	69	15.2		
7.0	45	14.6	67	14.4		
7.5	42	13.2	65	13.6		
8.0	37	12.1	64	12.8	73	10.2
9.0	26	10.0	60	11.1	71	9.8
10.0			57	9.7	69	9.2
11.0			54	8.4	66	8.5
12.0			50	7.1	65	7.5
14.0			42	5.3	60	5.7
16.0			32	4.0	55	4.4
18.0			16	3.1	50	3.5
20.0					45	2.7
22.0					38	2.1
24.0					30	1.6
26.0					19	1.2
A	0°					

Telescoping conditions (%)

Telescoping mode	Ⅰ, Ⅱ	Ⅱ	Ⅲ
2nd boom	0	0	0
3rd boom	0	33	66
4th boom	0	33	66
Top boom	0	33	66

360° Rotation

Load Radius (m)	Boom Length 12m (39.4')		Boom Length 20.8m (68.1')		Boom Length 29.5m (96.8')	
	∠°		∠°		∠°	
4.0	64	15.6				
4.5	61	13.3				
5.0	58	11.5				
5.5	56	9.9				
6.0	53	8.3				
6.5	49	7.1	69	8.4		
7.0	45	6.0	67	7.5		
7.5	41	5.0	65	6.6		
8.0	36	4.3	64	5.8	72	5.9
9.0	26	3.1	60	4.5	70	4.7
10.0			57	3.5	68	3.9
11.0			54	2.8	66	3.2
12.0			50	2.2	64	2.6
14.0			42	1.3	59	1.7
16.0			32	0.6	55	1.0
18.0						
20.0						
22.0						
24.0						
26.0						
A	0°		28°		45°	

Telescoping conditions (%)

Telescoping mode	Ⅰ, Ⅱ	Ⅱ	Ⅲ
2nd boom	0	0	0
3rd boom	0	33	66
4th boom	0	33	66
Top boom	0	33	66

ON RUBBER CREEP

Over Front

Load Radius (m)	Boom Length 12m (39.4')		Boom Length 20.8m (68.1')		Boom Length 29.5m (96.8')	
	∠°		∠°		∠°	
4.0	64	19.0				
4.5	61	16.9				
5.0	58	15.4				
5.5	56	13.9				
6.0	53	12.4				
6.5	49	11.4	69	12.5		
7.0	45	10.5	67	11.6		
7.5	41	9.5	65	10.6		
8.0	36	8.7	64	9.8	73	9.9
9.0	26	7.3	60	8.4	71	8.7
10.0			57	7.4	69	7.7
11.0			54	6.4	66	6.8
12.0			50	5.6	64	6.0
14.0			42	4.3	59	4.7
16.0			32	3.3	55	3.7
18.0			16	2.5	50	2.9
20.0					44	2.2
22.0					37	1.7
24.0					30	1.2
26.0					19	0.8
A	0°					

Telescoping conditions (%)

Telescoping mode	Ⅰ, Ⅱ	Ⅱ	Ⅲ
2nd boom	0	0	0
3rd boom	0	33	66
4th boom	0	33	66
Top boom	0	33	66

∠° : Loaded boom angle (°)

A : Minimum boom angle (°) for indicated length (no load)

LIFTING CAPACITIES AT ZERO DEGREE BOOM ANGLE ON RUBBER STATIONARY

Over Front						
Boom Length						
Boom Angle	Load Radius (m)	12m	Load Radius (m)	20.8m	Load Radius (m)	29.5m
0°	9.8	8.7	18.5	2.8	27.2	1.0

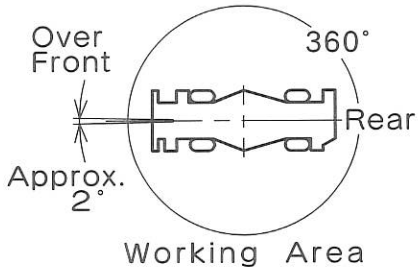
360° Rotation				
Boom Length				
Boom Angle	Load Radius (m)	12m		
0°	9.8	2.3		

LIFTING CAPACITIES AT ZERO DEGREE BOOM ANGLE ON RUBBER CREEP

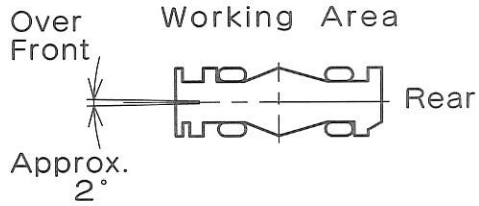
Over Front						
Boom Length						
Boom Angle	Load Radius (m)	12m	Load Radius (m)	20.8m	Load Radius (m)	29.5m
0°	9.8	6.4	18.5	2.3	27.2	0.6

NOTE : • The lifting capacity data stored in the LOAD MOMENT INDICATOR (AML−C) is based on the standard number of parts of line listed in the chart.
• Standard number of parts of line for rubber operation should be according to the following table.

ON RUBBER STATIONARY



ON RUBBER CREEP



Boom Length	12m	12m to 29.5m	Single top
Number of parts of line	6	4	1

WEIGHT REDUCTIONS FOR AUXILIARY LOAD HANDLING EQUIPMENT

Load Handling Equipment	
90.7ton, 8Sheave Hook Block (See Hook Block for actual weight)	0.86 (ton)
Aux. Hook (See Hook for actual weight)	0.16 (ton)

Lifting from Main Boom with																
Base and/or Top Jib stowed on base boom															O (ton)	
#1 Single Top stowed on top boom															O (ton)	
Single Top erected but not used															O (ton)	Fig. 1
10.1m Base Jib erected but not used															(ton)	Fig. 2
Boom Length	12m	16.4m	20.8m		25.1m		29.5m		33.9m		38.3m		42.6m		47m	
Telescoping Mode	I, II	I	I	II	I	II	I	II	I	II	I	II	I	II	I, II	
	10.50	6.22	5.67	3.28	3.45	2.99	3.28	2.85	3.06	2.80	2.91	2.61	2.58	2.43	2.30	
10.1m Base Jib erected but not used + Aux. Hook on Top Jib															(ton)	Fig. 3
Boom Length	12m	16.4m	20.8m		25.1m		29.5m		33.9m		38.3m		42.6m		47m	
Telescoping Mode	I, II	I	I	II	I	II	I	II	I	II	I	II	I	II	I, II	
	10.88	6.60	6.02	3.63	3.77	3.30	3.56	3.13	3.34	3.08	3.18	2.87	2.83	2.68	2.54	
17.7m Base and Top Jib erected but not used															(ton)	Fig. 4
Boom Length	12m	16.4m	20.8m		25.1m		29.5m		33.9m		38.3m		42.6m		47m	
Telescoping Mode	I, II	I	I	II	I	II	I	II	I	II	I	II	I	II	I, II	
	11.51	7.23	6.59	4.22	4.25	3.79	3.99	3.56	3.76	3.51	3.56	3.25	3.19	3.03	2.87	
17.7m Base and Top Jib erected but not used + Aux. Hook on Top Jib															(ton)	Fig. 5
Boom Length	12m	16.4m	20.8m		25.1m		29.5m		33.9m		38.3m		42.6m		47m	
Telescoping Mode	I, II	I	I	II	I	II	I	II	I	II	I	II	I	II	I, II	
	12.09	7.80	7.11	4.75	4.70	4.24	4.39	3.95	4.16	3.90	3.93	3.62	3.53	3.37	3.19	
Lifting from 10.1m Base Jib with																
7.6m Top Jib erected but not used															Prohibited	
7.6m Top Jib stowed on 10.1m Base Jib															Prohibited	

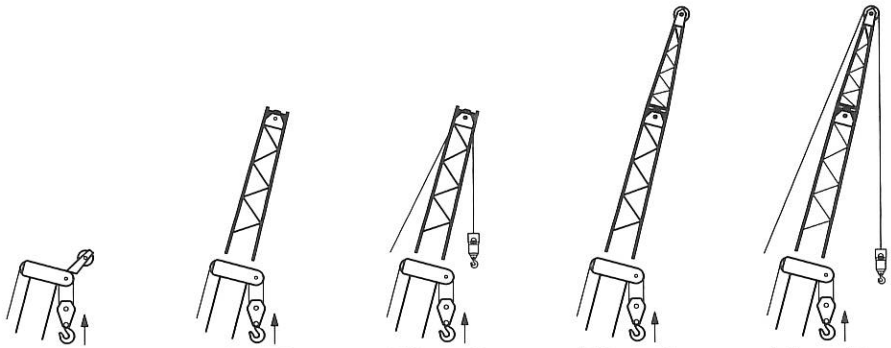


Fig. 1 Fig. 2 Fig. 3 Fig. 4 Fig. 5

Note
- * Capacity deductions are for TADANO supplied equipment only.
- * When lifting from Jib, deduct total weight of all load handling devices reeved on Main Boom nose directly from Jib capacity. (#2)
- #1. Correct state of Jib, equipped or removed, should be inputted into the LOAD MOMENT INDICATOR (AML-C) by Jib state key switch.
- #2. The winch which is lifting load should be defined in the LOAD MOMENT INDICATOR (AML-C) by main winch/auxiliary winch selector switch.

HOISTING PERFORMANCE

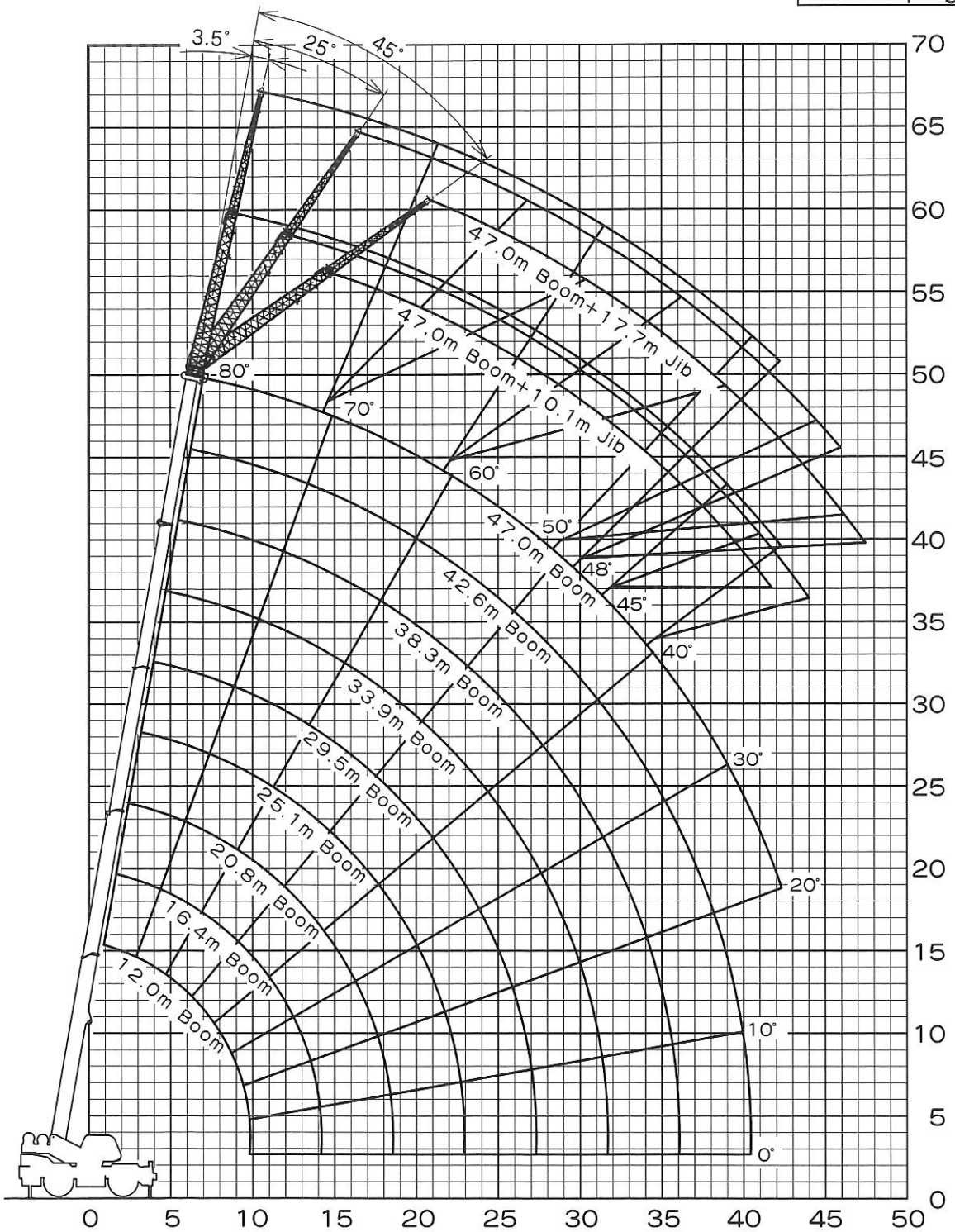
Main or auxiliary hoist
0.362m (14 1/4") drum
19mm (3/4") wire rope

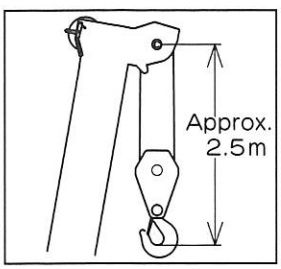
Layer	Line pulls				drum grooved lagging	
	Available				Total wire rope	
	Low		High			
	kgf	Lbs.	kgf	Lbs.	Meters	Feet
1st	9,090	20,000	6,520	14,400	34.2	112.2
2nd	8,230	18,100	5,900	13,000	71.5	234.5
3rd	7,520	16,600	5,390	11,900	111.8	366.8
4th	6,920	15,300	4,960	10,900	155.2	509.1
5th	6,410	14,100	4,600	10,100	201.6	661.4
6th	5,970	13,200	4,280	9,400	251.1	823.8
7th[1]	5,590	12,300	4,010	8,800	303.7	996.4

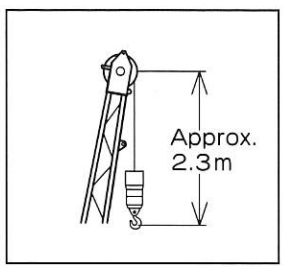
[1] 7th layer of wire rope is not recommended for hoisting operations.

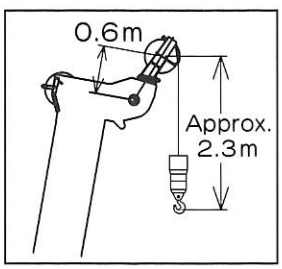
GR-1000XL WORKING RANGE CHART

Telescoping mode I

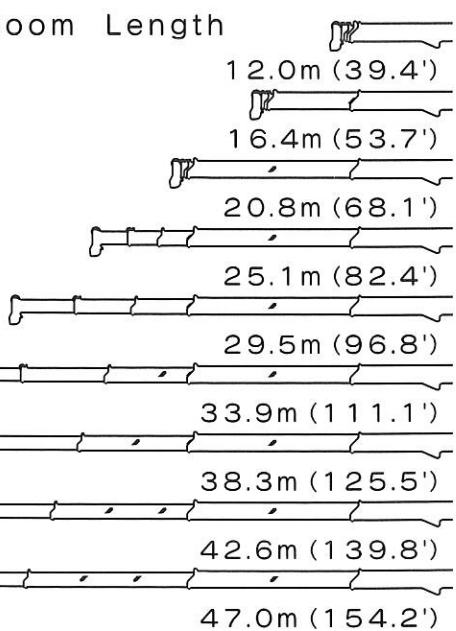








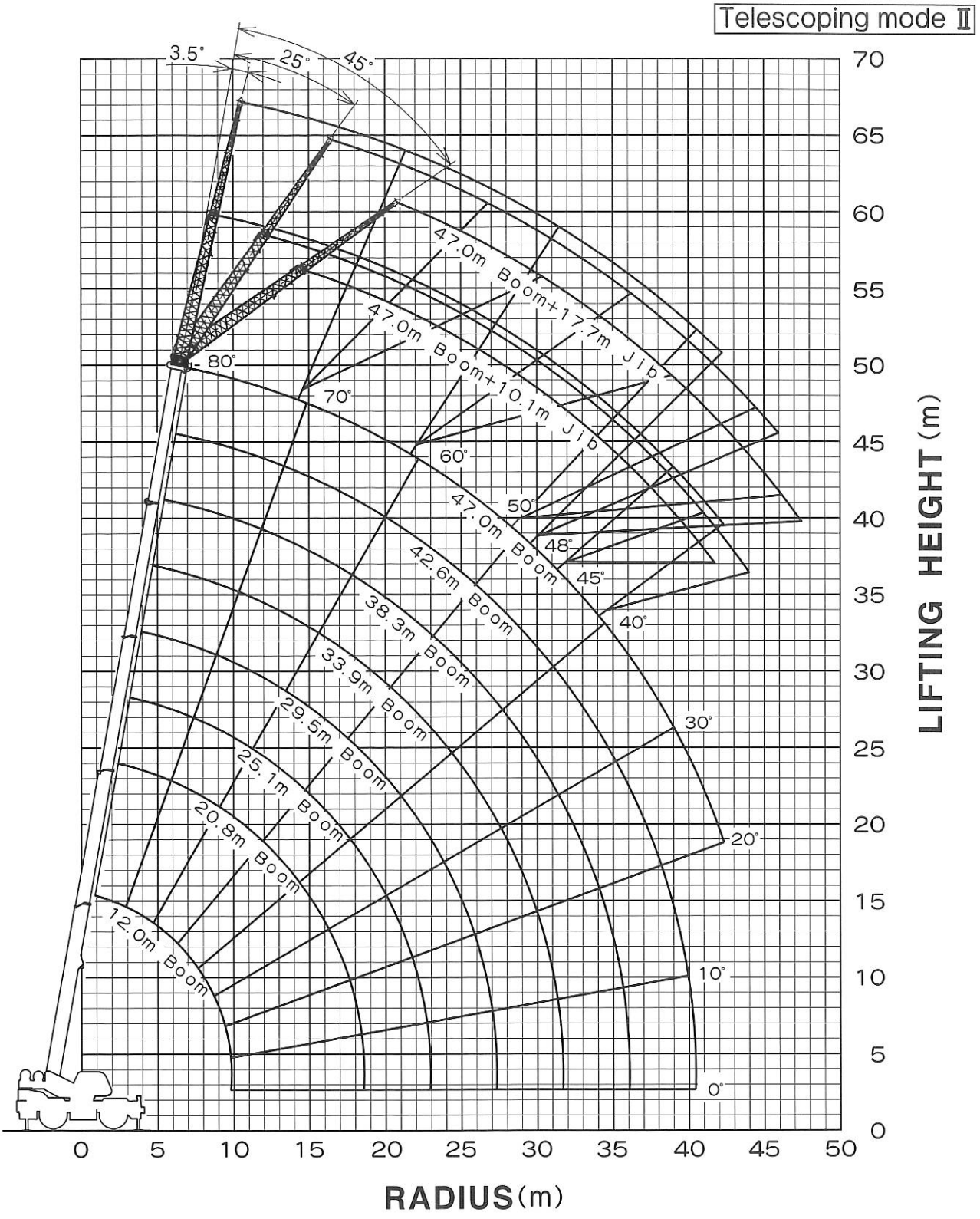
Boom Length

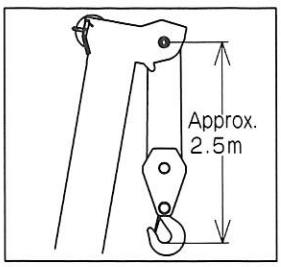


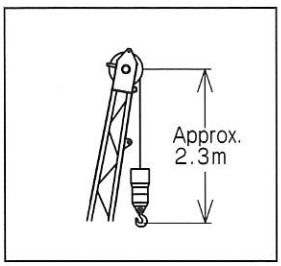
NOTE : 1. Boom and jib geometry shown are for unloaded condition and machine standing level on firm supporting surface.
Boom deflection and subsequent radius and boom angle change must be accounted for when applying load to hook.

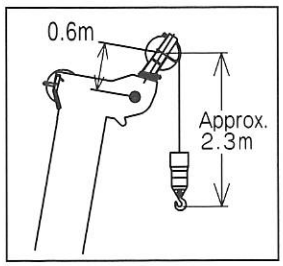
GR-1000XL WORKING RANGE CHART

Telescoping mode Ⅱ









NOTE : 1. Boom and jib geometry shown are for unloaded condition and machine standing level on firm supporting surface.
Boom deflection and subsequent radius and boom angle change must be accounted for when applying load to hook.

Boom Length

WARNING AND OPERATING INSTRUCTIONS (I)

NOTES FOR LIFTING CAPACITIES

GENERAL

1. RATED LIFTING CAPACITIES apply only to the machine as originally manufactured and normally equipped by TADANO LTD.
   Modifications to the machine or use of optional equipment other than that specified can result in a reduction of capacity.
2. Hydraulic cranes can be hazardous if improperly operated or maintained. Operation and maintenance of this machine must be in compliance with information, in the Operation and Maintenance Manual supplied with the crane. If this manual is missing, order a replacement through the distributor.
3. The operator and other personnel associated with this machine shall fully acquaint themselves with the latest American National Standards Institute (ANSI) safety standards for cranes.

SET UP

1. Rated lifting capacities on the chart are the maximum allowable crane capacities and are based on the machine standing level on firm supporting surface under ideal job conditions. Depending on the nature of the supporting surface, it may be necessary to have structural supports under the outrigger floats or tires to spread the loads to a larger bearing surface.
2. For outrigger operation, outriggers shall be properly extended with tires free of supporting surface before operating crane.

OPERATION

1. Rated lifting capacities have been tested to and meet minimum requirements of SAE J1063-Cantilevered Boom Crane Structures Method of Test.
2. Rated lifting capacities do not exceed 85% of the tipping load on outriggers fully extended as determined by SAE J765-Crane Stability Test Code.
   Rated lifting capacities for partially extended outriggers are determined from the formula, Rated Lifting Capacities= (Tipping Load−0.1×Tip Reaction) ／1.25.
3. Rated lifting capacities above thick lines in the chart are based on crane strength and those below, on its stability. They are based on actual load radius increased by boom deflection.
4. The weight of handling device such as hook blocks, slings, etc., must be considered as part of the load and must be deducted from the lifting capacities.
5. Rated lifting capacities are based on freely suspended loads and make no allowance for such factors as the effect of wind, sudden stopping of loads, supporting surface conditions, inflation of tires, operating speeds, side loads, etc. Side pull on boom or jib is extremely dangerous. Such action can damage the boom, jib or swing mechanism, and lead to overturning of the crane.
6. Rated lifting capacities do not account for wind on lifted load or boom. We recommend against working under the condition that the load is out of control due to a strong wind. During boom lift, consider that the rated lifting capacity is reduced by 50% when the wind speed is 9m／s (20mph) to 12m／s (27mph) ; reduced by 70% when the wind speed is 12m／s (27mph) to 14m／s (31mph). If the wind speed is 14m／s (31mph) or over, stop operation. During jib lift, stop operation if the wind speed is 9m／s (20mph) or over.
7. Rated lifting capacities at load radius shall not be exceeded. Do not tip the crane to determine allowable loads.
8. Do not operate at boom lengths, radii, or boom angle, where no capacities are shown. Crane may overturn without any load on the hook.
9. When boom length is between values listed, refer to the rated lifting capacities of the next longer and next shorter booms for the same radius. The lesser of the two rated lifting capacities shall be used.
10. When making lifts at a load radius not shown, use the next longer radius to determine allowable capacity.
11. Load per line should not exceed 6,600kg (14,600lbs.) for main winch and auxiliary winch.
12. Check the actual number of parts of line with LOAD MOMENT INDICATOR (AML−C) before operation.
    Maximum lifting capacity is restricted by the number of parts of line of LOAD MOMENT INDICATOR (AML−C). Limited capacity is as determined from the formula, Single line pull for main winch 6,600kg (14,600lbs.) × number of parts of line.
13. The boom angle before loading should be greater to account for deflection.
    For rated lifting capacities, the loaded boom angle and the load radius is for reference only.
14. The 12.0m (39.4') boom length capacities are based on boom fully retracted. If not fully retracted (less than 16.4m (53.7') boom length), use the rated lifting capacities for the 16.4m (53.7') boom length.
15. Extension or retraction of the boom with loads may be attempted within the limits of the RATED LIFTING CAPACITIES. The ability to telescope loads is limited by hydraulic pressure, boom angle, boom length, crane maintenance, etc.
16. For lifting capacity of single top, deduct the weight of the load handling equipment from the rated lifting capacity of the boom. For the lifting capacity of single top, the net capacity shall not exceed 6,600kg (14,600 lbs.) including the main boom hook mass attached to the boom.
17. When the base jib or top jib or both jibs are removed, set the jib state switch to the REMOVED position.
18. When erecting and stowing jib, be sure to retain it by hand or by other means to prevent its free movement.
19. Use "ANTI−TWOBLOCK" disable switch when erecting and stowing jib and when stowing hook block. While the switch is pushed, the hoist does not stop, even when overwind condition occurs.
20. For boom length 47.0m (154.2') or less and 38.3m (125.5') or longer with jib, rated lifting capacities are determined by loaded boom angle only in the column headed "47.0m (154.2') boom+jib".
    For boom length 38.3m (125.5') or less with jib, rated lifting capacities are determined by loaded boom angle only in the column headed "38.3m (125.5') boom+jib" . For angles not shown, use the next lower loaded boom angle to determine allowable capacity. (telescoping MODE Ⅰ)
    For boom length 47.0m (154.2') or less and 42.6m (139.8') or longer with jib, rated lifting capacities are determined by loaded boom angle only in the column headed "47.0m (154.2') boom+jib".
    For boom length 42.6m (139.8') or less with jib, rated lifting capacities are determined by loaded boom angle only in the column headed "42.6m (139.8') boom+jib". For angles not shown, use the next lower loaded boom angle to determine allowable capacity. (telescoping MODE Ⅱ)
21. When lifting a load by using jib (aux. winch) and boom (main winch) simultaneously, do the following :
    • Enter the operation status as jib operation, not as boom operation.
    • Before starting operation, make sure that mass of load is within rated lifting capacity for jib.
22. Before telescoping the boom, set the telescoping mode selector switch to MODE Ⅰ or MODE Ⅱ with the boom fully retracted. A change of the telescoping mode is not permissible when the boom has been partially or fully extended.
23. Crane operation is prohibited without full counterweight 10ton (22,000lbs.) installed. Outriggers shall be extended 7.3m (23' 11 3／8") spread when installing or removing removable counterweight.

DEFINITIONS

1. Load Radius : Horizontal distance from a projection of the axis of rotation to supporting surface before loading to the center of the vertical hoist line or tackle with load applied.
2. Loaded Boom Angle : The angle between the boom base section and the horizontal, after lifting the rated lifting capacity at the load radius.
3. Working Area : Area measured in a circular arc about the centerline of rotation.
4. Freely Suspended Load : Load hanging free with no direct external force applied except by the hoist line.
5. Side Load : Horizontal side force applied to the lifted load either on the ground or in the air.

WARNING AND OPERATING INSTRUCTIONS (Ⅱ)

NOTES FOR ON RUBBER LIFTING CAPACITIES

1. Rated lifting capacities on rubber are in metric ton and do not exceed 75% of tipping loads as determined by SAE J765-Crane Stability Test Code.
2. Rated lifting capacities shown in the chart are based on condition that crane is set on firm level surfaces with suspention-lock applied. Those above thick lines are based on tire capacity and those below, on crane stability. They are based on actual load radius increased by tire deformation and boom deflection.
3. If the suspention-lock cylinders contain air, the axle will not be locked completely and rated lifting capacities may not be obtainable. Bleed the cylinders according to the operation safety and maintenance manual.
4. Rated lifting capacities are based on proper tire inflation, capacity and condition. Damaged tires are hazardous to safe operation of crane.
5. Tires shall be inflated to correct air pressure.

Tires	Air Pressure
29.5-25 34PR	400kPa (57psi.)

6. Over front operation shall be performed within 2 degrees in front of chassis.
7. On rubber lifting with "jib" is not permitted. Maximum permissible boom length is 29.5m (96.8ft.).
8. When making lift on rubber stationary, set parking brake.
9. For creep operation, boom must be centered over front of machine, swing lock engaged, and load restrained from swinging. Travel slowly and keep the lifted load as close to the ground as possible, and especially avoid any abrupt steering, accelerating or braking.
10. Do not operate the crane while carrying the load.
11. Creep is motion for crane not to travel more than 60m (200 ft.) in any 30 minute period and to travel at the speed of less than 1.6km/h (1 mph).
12. For creep operation,choose the drive mode and proper gear according to the road or working condition.

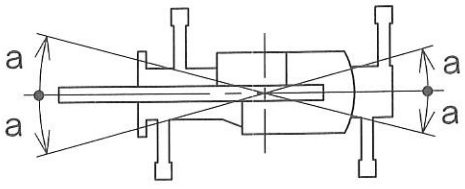
NOTES FOR LOAD MOMENT INDICATOR (AML-C)

1. Set AML select keys in accordance with the actually operating crane conditions and don't fail to make sure, before crane operation, that the displays on front panel are correct.
2. When operating crane on outriggers :
   - Set "P. T. O. "switch to "ON".
   - Press the outrigger state select key to register for the outrigger operation. If the display agrees with the actual state, press the set key to register. After the completion of the registration, the pop-up window closes.
   - Press the lift state select key to register the lift state to be used (single top/jib/boom).
   - Each time the lift state select key is pressed, the display changes. If the display agrees with the actual state, press the set key to register. After the completion of the registration, the pop-up window closes.
   - When erecting and stowing jib,select the status of jib set (Jib state indicative symbol flicker).
3. When operating crane on rubber :
   - Set "P. T. O. " switch to "ON" .
   - Press the outrigger state select key to register for the on-rubber operation. Each time the outrigger state select key is pressed, the display changes. Select the creep operation, the on-rubber state indicator symbol flickers.
   - Press the lift state select key to register the lift state.

   However, pay attention to the following.
   (1) For stationary operation.
   - The front capacities are attainable only when the over front position symbol comes on. When the boom is more than 2 degrees from centered over front of chassis, 360° capacities are in effect.
   - When a load is lifted in the front position and then swung to the side area,make sure the value of the LOAD MOMENT INDICATOR (AML-C) is below the 360° lifting capacity.

   (2) For creep operation.
   - The creep capacities are attainable only when boom is in the straight forward position of chassis and the over front position symbol is on. If boom is not in the straight forward position of chassis, never lift load.
4. This machine is equipped with an automatic swing stopping device. (For the details,see Operation and Maintenance Manual.) But, operate very carefully because the automatic swing stop does not work in the following cases.
   - During on-rubber operation.
   - When the "P. T. O. " switch is set to "OVERRIDE" and the "OVERRIDE" key switch outside the cab is on.
5. During crane operation, make sure that the displays on front panel are in accordance with actual operating conditions.
6. The displayed values of LOAD MOMENT INDICATOR (AML-C) are based on freely suspended loads and make no allowance for such factors as the effect of wind,sudden stopping of loads, supporting surface conditions,inflation of tire,operating speed, side loads, etc.
   For safe operation,it is recommended when extending and lowering boom or swinging,lifting loads shall be appropriately reduced.
7. LOAD MOMENT INDICATOR (AML-C) is intended as an aid to the operator. Under no condition should it be relied upon to replace use of capacity charts and operating instruction. Sole reliance upon LOAD MOMENT INDICATOR (AML-C) aids in place of good operating practice can cause an accident. The operator must exercise caution to assure safety.
8. The lifting capacity for over-side area differs depending on the outrigger extension width. Work with the capacity corresponding to the extension width. The lifting capacities for over-front and over-rear areas are for "outriggers fully extended". However,the areas (angle a) differ depending on the outrigger extension width.

Extended Width	6.7m (21' 11 3/4")	5.5m (18' 1/2")	2.7m (8' 10 5/16")
Angle a°	45(middle)	25 (middle)	5 (minimum)



JIB HANDLING INSTRUCTIONS (I)

NOTES FOR MOUNTING THE BASE JIB

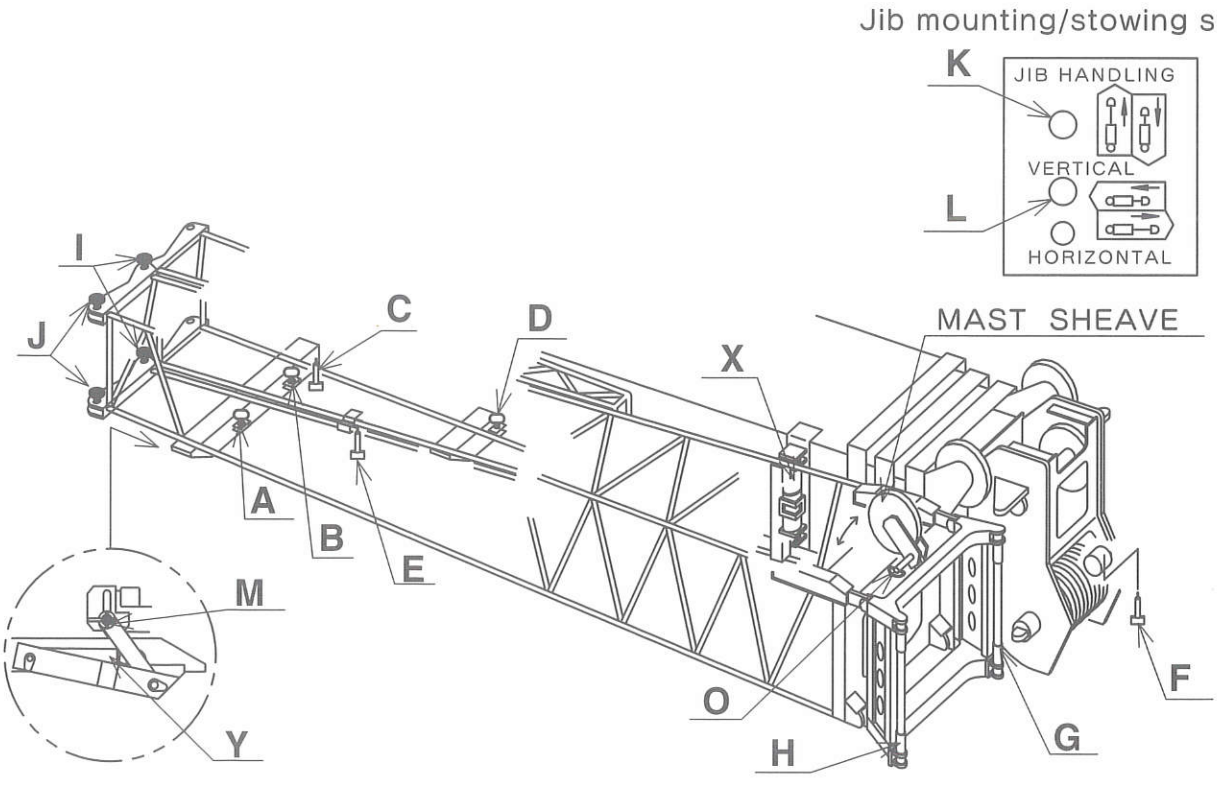
1. Fully retract the boom and raise the boom to a 1.5~2° angle.
   WARNING : Keep the boom fully retracted while mounting the jib. Don't lower the boom to angle below 1°, or this action could cause the boom and jib to disengage and drop off.
   NOTICE : Hydraulic cylinder (X) (Y) can't be operated unless the boom is fully retracted.
2. Select the JIB SET status on the load moment indicator.
   WARNING : Never forget to select JIB SET status. The load moment indicator's control functions is deactivated when the JIB SET status is selected on the load moment indicator. Mount the jib carefully with no load on the crane.
3. Attach the tagline to the base jib head.
4. Remove the connecting pin (I), stowing pin (A) and set pin (E).
   WARNING : Make sure that either the stowing pin or pivot pin (G) is in position before starting any operation. Without these pins in position,the jib will drop off when an operation is started.
5. Swing the jib out away from the boom until it hits the stopper.
6. Insert the pivot pin (G).
7. Retract jib fixing cylinder (X) completely by operating switch (K).
   NOTICE : Jib offsetting cylinder (Y) can't be operated unless jib fixing cylinde r (X) is fully retracted.
8. Fully extend the jib offsetting cylinder by operating switch (L).
9. Remove the connecting pin (M) and swing the jib forward with tagline.
10. Insert the connecting pin (H) after making sure the pin (F) is locked.
11. Remove the tagline from the base jib.
12. Erect the mast sheave to upright position and insert the pin (O).
13. Connect the leads of the anti-two block device.

NOTES FOR MOUNTING THE BASE AND TOP JIB

1. Perform the steps 1-3 described in the "MOUNTING THE BASE JIB" section.
   NOTICE : Strictly follow the warnings and notices in the "MOUNTING THE BASE JIB" section.
2. Remove the stowing pin (A), (B), (D) and set pin (C).
   WARNING : Make sure the connecting pin (I) is inserted,or the jib will drop off when the stowing pin (A), (B) and (D) are removed.
   Make sure that either the stowing pin or pivot pin (G) is in position before starting any operation. Without these pins in position, the jib will drop off when an operation is started.
3. Swing the jib out away from the boom until it hits the stopper.
4. Perform the steps 6-12 described in the "MOUNTING THE BASE JIB" section.
5. Attach the tagline to the top jib head.
6. Hold the tagline and remove the set pin (E) with the jib handle.
7. Swing the top jib forward and insert the connecting pin (J).
8. Connect the leads of the anti-twoblock device.

NOTES FOR CHANGING THE JIB OFFSET ANGLE

1. Select the JIB SET status on the load moment indicator.
2. Remove the auxiliary hook block and attach the rope socket to the proper jib bracket.
3. Raise the jib to a point where the offset pin can be removed by hoisting up with the winch.
4. Reinsert the offset pin in the pin hole of desired offset angle.
5. Lower the jib slowly by hoisting down with the winch until the jib is held in place by the offset pin.



JIB HANDLING INSTRUCTIONS (Ⅱ)

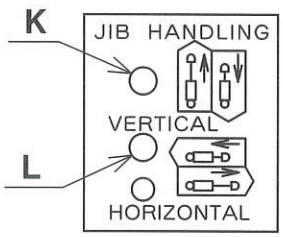
NOTES FOR STOWING THE BASE JIB

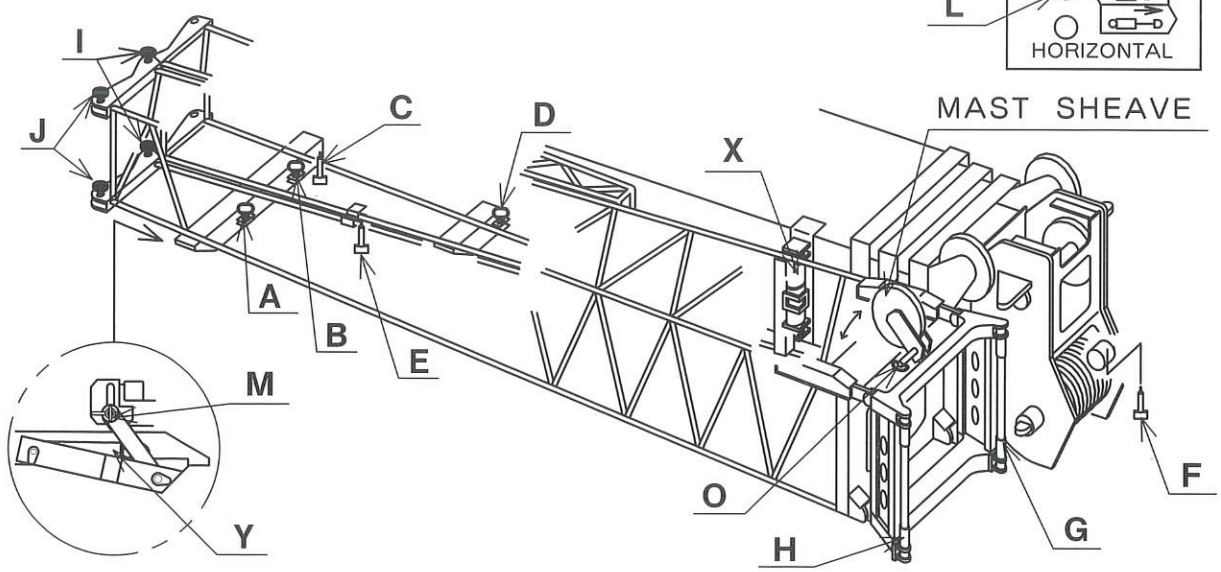
1. Fully retract the boom and raise the boom to a 1.5~2° angle. If the jib offset angle is other than 3.5°, change its offset to 3.5° beforehand.
   WARNING : Keep the boom fully retracted while stowing the jib. Don't lower the boom to angle below 1°, or this action could cause the boom and jib to disengage and drop off.
   NOTICE : Hydraulic cylinder (X) (Y) can't be operated unless the boom is fully retracted.
2. Select the JIB SET status on the load moment indicator.
   WARNING : Never forget to select JIB SET status. The load moment indicator's control functions is deactivated when the JIB SET status is selected on the load moment indicator. Stow the jib carefully with no load on the crane.
3. Lay the mast sheave to stowed position.
4. Free the set pin (E) so that it can fix the base jib when the jib is stowed.
5. Attach the tagline to the base jib head.
6. Remove the connecting pin (H) using the jib handle.
7. Use the jib handle to pull the set pin (F) down. Lock the set pin (F) in place by turning clockwise.
8. Swing the jib toward the boom until pin (M) connects the base jib.
9. Fully retract the jib offsetting cylinder by operating switch (L).
10. Extend jib fixing cylinder (X) completely by operating switch (K).
11. Remove the pivot pin (G).
    WARNING : Make sure that either the stowing pin or pivot pin (G) is in position before starting any operation.Without these pins in position, the jib will drop off when an operation is started.
12. Remove the tagline from the base jib.
13. Push the jib toward the boom until the set pin (E) connects the base jib and top jib.
14. Insert the stowing pin (A) for the base jib. Insert the connecting pin (I) to connect the base jib and top jib.

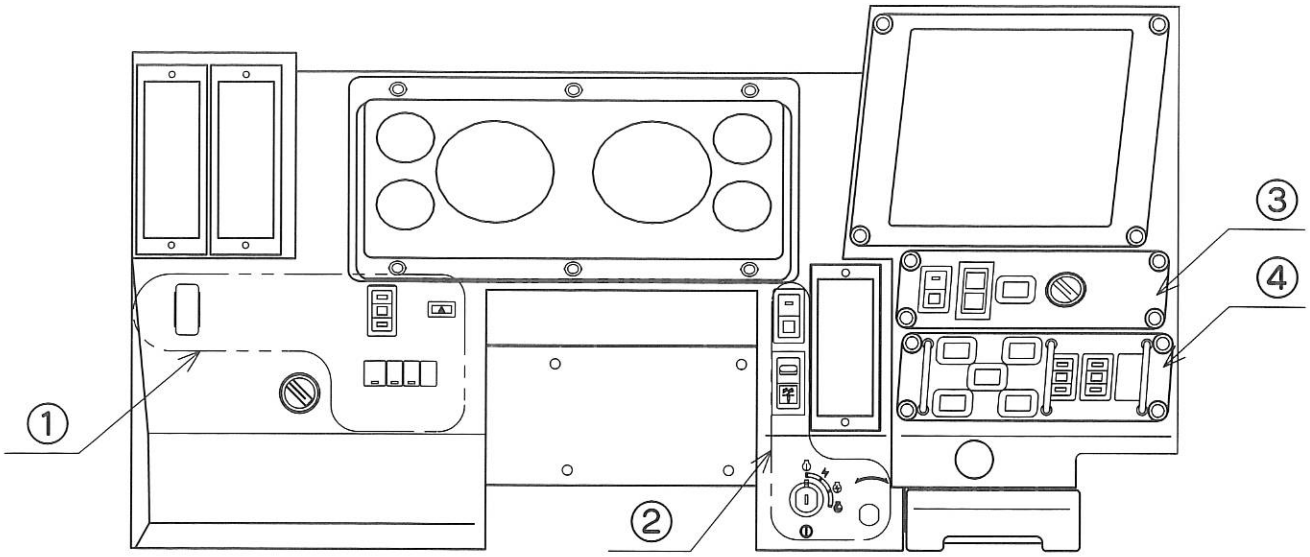
NOTES FOR STOWING THE BASE AND TOP JIB

1. Perform the steps 1–3 described in the "STOWING THE BASE JIB" section.
   NOTICE : Strictly follow the warnings and notices in the "STOWING THE BASE JIB" section.
2. Free the set pin (E) so that it can fix the top jib to the base jib. Also free the set pin (C) so that it can fix the top jib to the boom.
3. Remove the connecting pin (J) that connects the base jib and the top jib. Then stow it onto the stowage support.
4. Attach the tagline to the top jib head.
5. Pull the tagline to stow the top jib onto the base jib. Then make sure that the set pin (E) connects the top jib and the base jib.
6. Remove the tagline from the top jib and attach the tagline to the base jib head.
7. Perform the steps 7–12 described in the "STOWING THE BASE JIB" section.
   NOTICE : Strictly follow the warnings and notices in the "STOWING THE BASE JIB" section.
8. Push the jib toward the boom until the set pin (C) connects the jib and the boom.
9. Insert the stowing pin (A) for the base jib. Insert the connecting pin (B) (D) to connect the base jib and top jib.

Jib mounting/stowing switch







INSTRUMENT PANEL

①

CLOSE

POWER WINDOW

OPEN

4-WHEEL (Hi)

2-WHEEL (Hi)

H/4D

L/4D

4-WHEEL (Lo)

DRIVE MODE SELECT

HAZARD LAMP

②

FREE

ON

FREE

SWING FREE/LOCK SELECTOR

LOCK

STEERING MODE SELECT

2M2D

TELESCOPING

BOOM TELESCOPING/ AUXILIARY HOIST CONTROL SELECTOR SWITCH

AUX.

OFF

BATTERY

ON

START

STARTER SWITCH

SLOW

FAST

FUEL CONTROL KNOB

④

LEFT FRONT

RIGHT FRONT

ALL

LEFT REAR

RIGHT REAR

SLIDER EXT.

O/R

JACK

RET.

OUTRIGGER CONTROL

③

ON

ON

OFF

SWING BRAKE

REAR

COUNTERWEIGHT MOUNT/DISMOUNT POSITION INDICATOR

AML OVERRIDE

ON

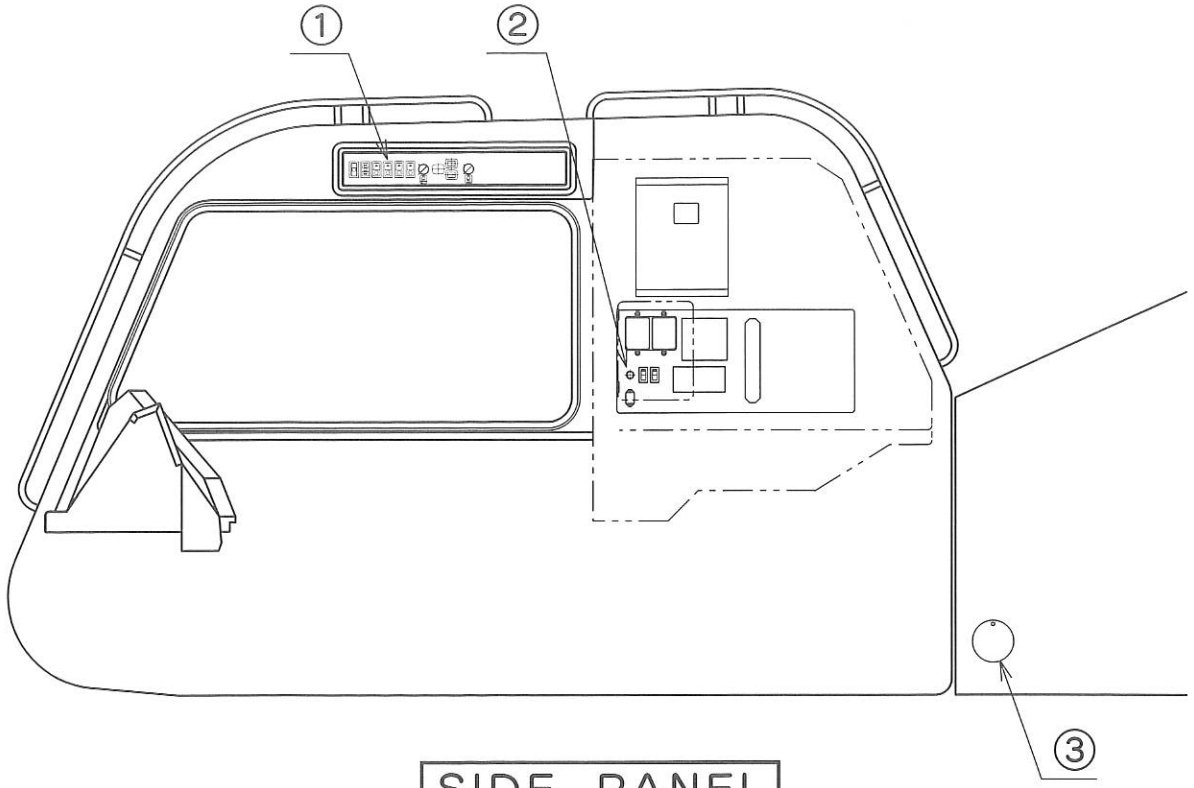
OFF

AML

ANTI-TWOBLOCK DISABLE SWITCH

P.T.O.

P.T.O.



SIDE PANEL

①

ROOF WASHER

ON
INT
ROOF WIPER

ON
OFF
FLOOD LAMP

ON
OFF
HIGH SPEED HOIST (AUX.)

ON
OFF
HIGH SPEED HOIST (MAIN)

ON
OFF
ECO MODE

ON
OFF
OUTRIGGER STATE EMERGENCY REGISTER SWITCH

2nd
2B
3B
3rd~
EMERGENCY TELESCOPING

REMOVED
EQUIPPED
JIB STATE SWITCH

②

PULL STOP
EMERGENCY ENGINE STOP

ON
OFF
OFF
EMERGENCY ACCELERATOR

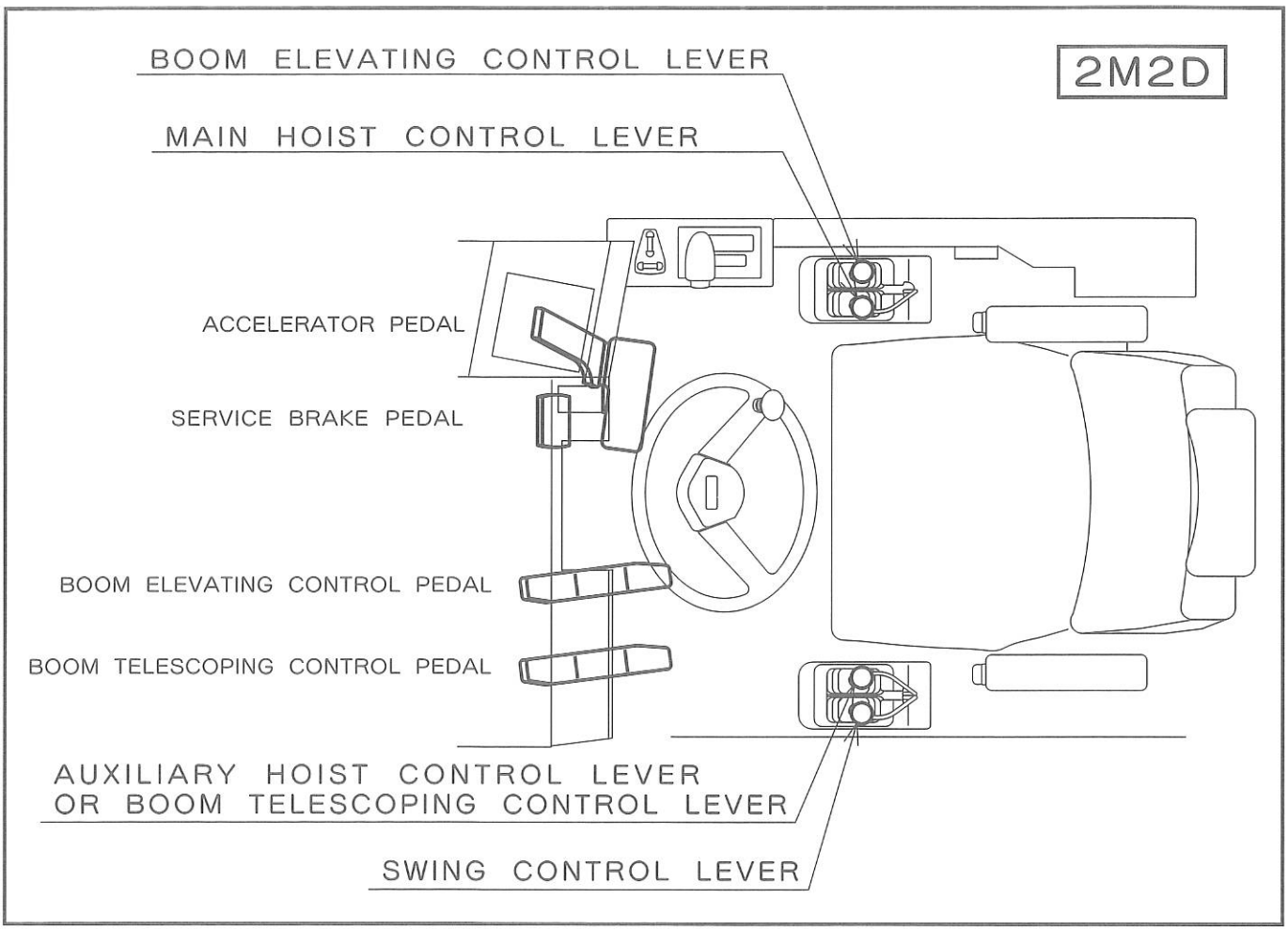
ON
OFF
OFF
EMERGENCY TRANSMISSION

③

ON
AML
OFF
AML OVERRIDE

DISPOSITION OF CONTROL LEVER AND PEDAL

=ISO FORM=

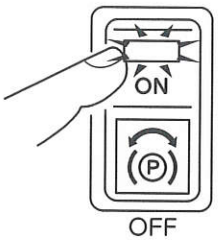


COUNTERWEIGHT HANDLING INSTRUCTIONS (I)

NOTES FOR DISMOUNTING THE COUNTERWEIGHT

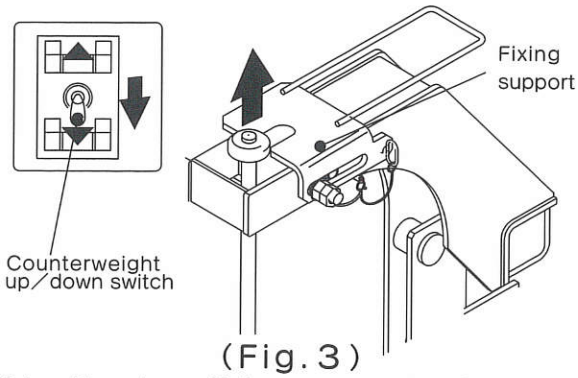
1. Swing the boom to the position where the counterweight mount/dismount position indicator lights up. (Fig.1)
2. Set the swing brake switch to ON. (Fig.2)

(Fig.1)



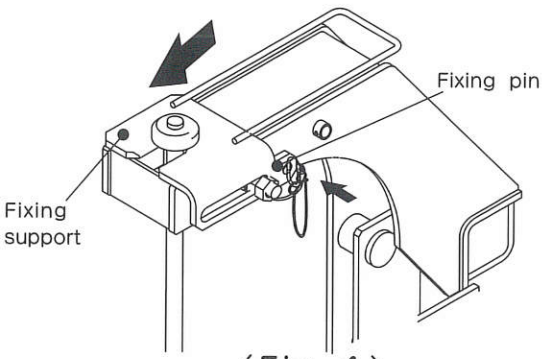
(Fig.2)

3. Make sure that the fixing support is opened. Turn the counterweight up/down switch downward to extend the counterweight cylinders. (Fig.3)



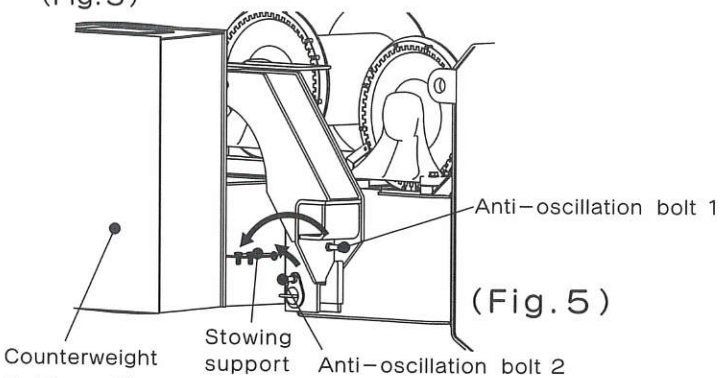
(Fig.3)

4. Slide the two fixing supports for counterweight cylinders and fix them with the fixing pins. (Fig.4)



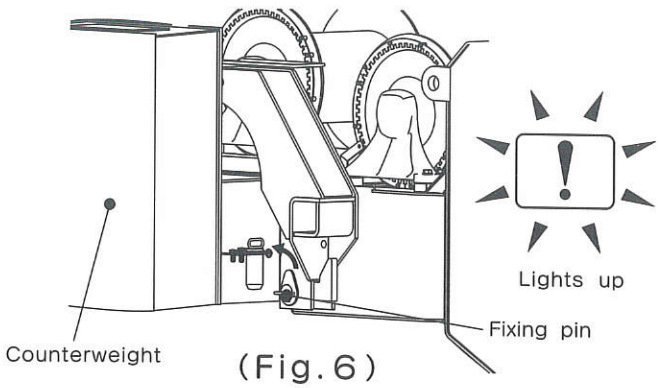
(Fig.4)

5. Loosen the anti-oscillation bolt 1, 2, and fix them on the stowing support. (Fig.5)



(Fig.5)

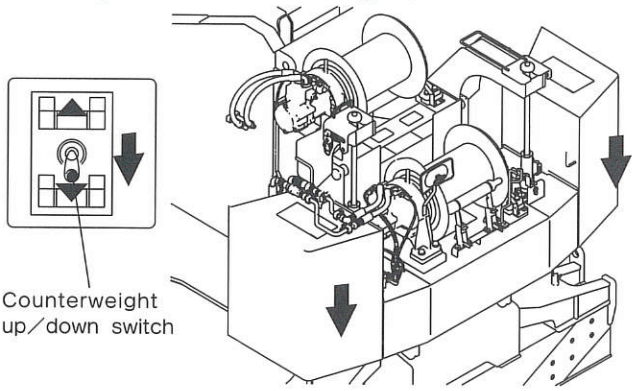
6. Turn the counterweight up/down switch upward until the counterweight moves a little.
7. Remove the two fixing pins equipped in right and left of counterweight, and fix them on the stowing support. The engine overrun warning lights up and the warning alarm sounds. (Fig.6)



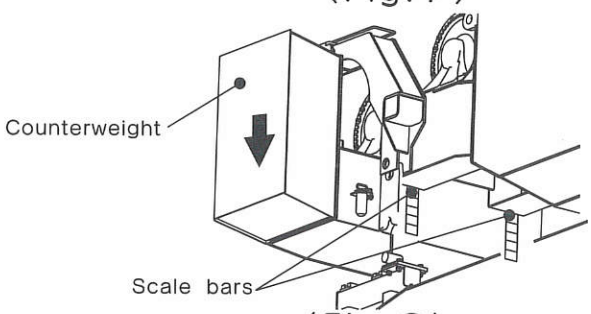
(Fig.6)

8. Turn the counterweight up/down switch downward to dismount the counterweight. (Fig.7)
   Operate carefully, watching that same numbers are visible on the right and left scale bars just under the counterweight. (Fig.8)

WARNING : Stop operation immediately if the visible numbers are different (tilting of counterweight).

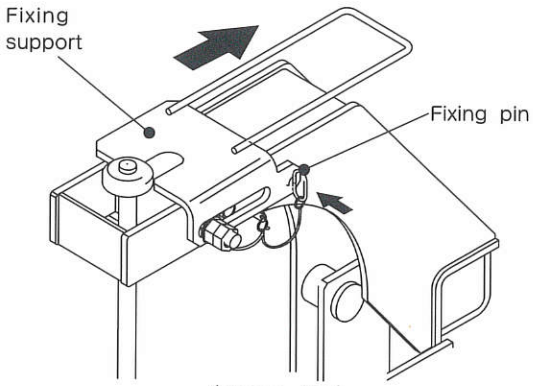


(Fig.7)



(Fig.8)

9. Slide the two fixing supports and fix them with the fixing pins. (Fig.9)

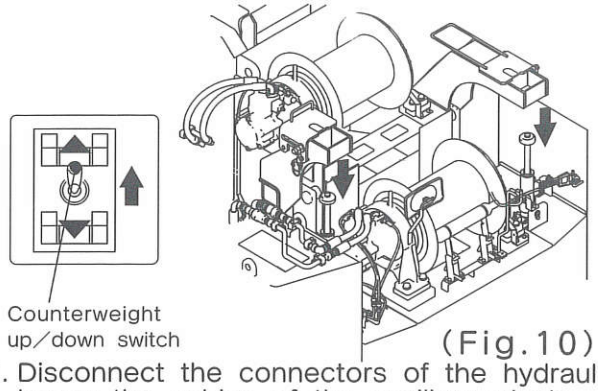


(Fig.9)

COUNTERWEIGHT HANDLING INSTRUCTIONS (I)

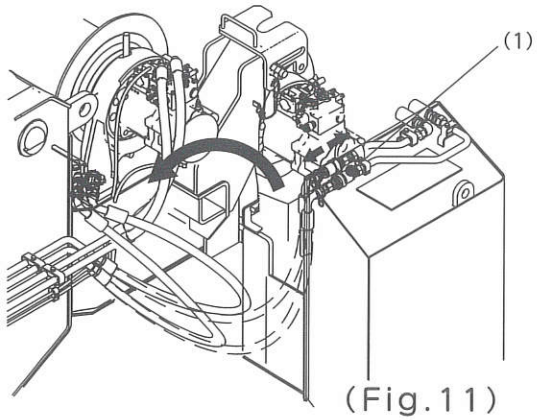
NOTES FOR DISMOUNTING THE COUNTERWEIGHT

10. Turn the counterweight up/down switch upward to fully retract the counterweight cylinders. (Fig.10) And then extend the cylinders approx. 10mm (0.4in).

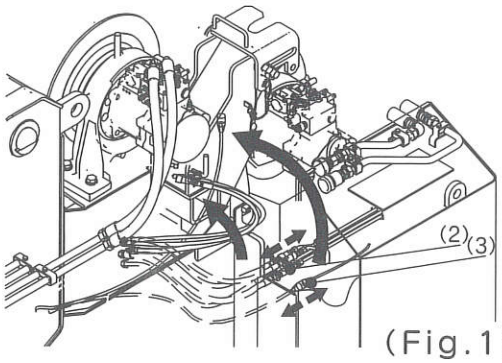


(Fig.10)

11. Disconnect the connectors of the hydraulic hoses, the cables of the auxiliary winch in the order of (1) (2) (3). Attach the waterproof caps on the removed connectors and stow them in the stowing position. (Fig.11, Fig.12)

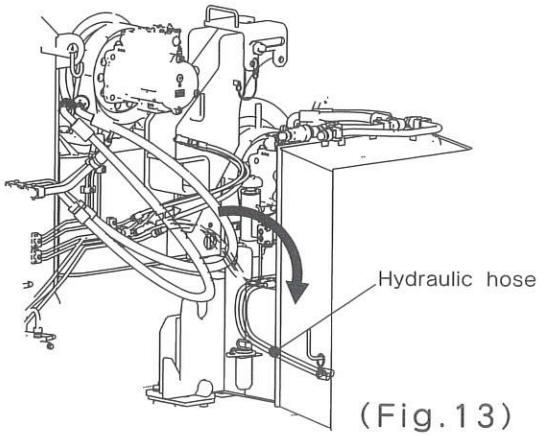


(Fig.11)



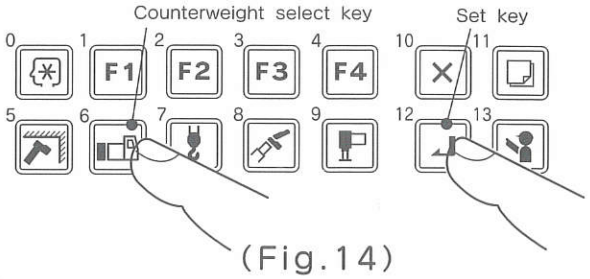
(Fig.12)

12. Disconnect the hydraulic hose connectors for the removed counterweight. Attach the waterproof caps on the removed connectors and stow them in the stowing position. (Fig.13)



(Fig.13)

13. Press the counterweight select key. (Fig.13)
14. Make sure that the displayed mass of counterweight corresponds with the actual crane condition.
15. Press the set key to register the crane condition. (Fig.14)



(Fig.14)

16. Put the counterweight on a handing truck for transportation using. The crane performance without counterweight is as shown in the table below.
WARNING : Operate the crane carefully. Crane is unstable without counterweight.

RATED LIFTING CAPACITIES
WITHOUT COUNTERWEIGHT (IN METRIC TON)

ON OUTRIGGERS FULLY EXTENDED
7.3m (23' 11 3/8") SPREAD 360° ROTATION

Load Radius (m)	Boom Length			
	∠°	12m (39.4')	∠°	20.8m (68.1')
2.4	73	12.0		
3.0	70	12.0		
3.5	67	12.0	79	12.0
4.0	64	12.0	75	12.0
5.0	58	12.0	67	12.0
6.0	53	12.0	62	12.0
7.0	45	12.0	62	12.0
8.0	37	12.0	66	12.0
10.0			59	12.0
12.0			52	10.1
14.0			44	7.4
16.0			34	5.5
18.0			18	4.2
A	0°			

Telescoping condition (%)

Telescoping mode	I, II	II
2nd boom	0	0
3rd boom	0	33
4th boom	0	33
Top boom	0	33

∠: Loaded boom angle (°)
A: Minimum boom angle (°) for indicated length (no load)

Boom length	12m (39.4')	20.8m (68.1')
Number of parts of line	4	

17. Load the crane onto the trailer. If you cannot see the road surface due to the boom while travelling, resister the "On-rubber Creep operation" to the load monent indicator and set the boom in the state below.
- Boom length : 12m (39.4ft) fully retracted
- boom angle : 40° or under
- swing angle : Front (the front position symbol on the load moment indicator lights up)

WARNING :
- Don't travel the crane while the counterweight is on the holding support.
- Don't drive the crane at a speed of 4km/h(2.5mph) or over.

COUNTERWEIGHT HANDLING INSTRUCTIONS (Ⅱ)

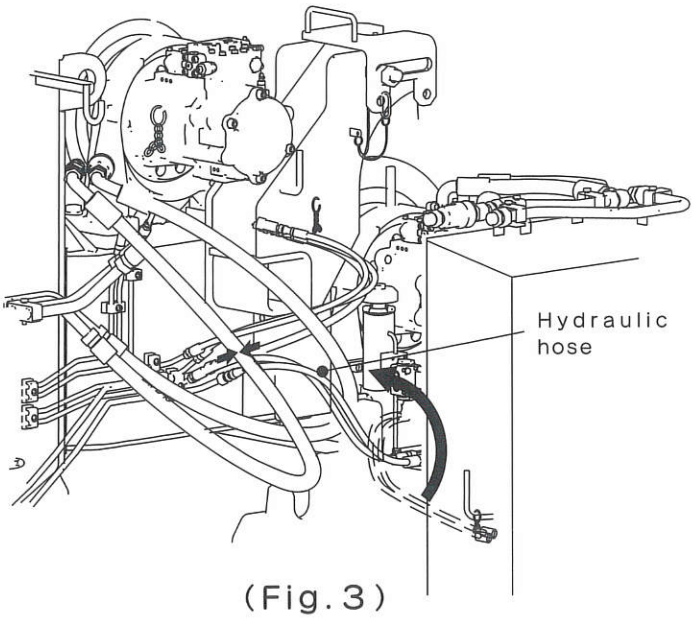
NOTES FOR MOUNTING THE COUNTERWEIGHT

1. Lift the counterweight with the crane to put the counterweight on the holding support. The crane performance without counterweight is as shown in the table in previous page.
2. Swing the boom to the position where the counterweight mount/dismount position indicator lights up. (Fig.1)
3. Set the swing brake switch to ON. (Fig.2)

(Fig.1)

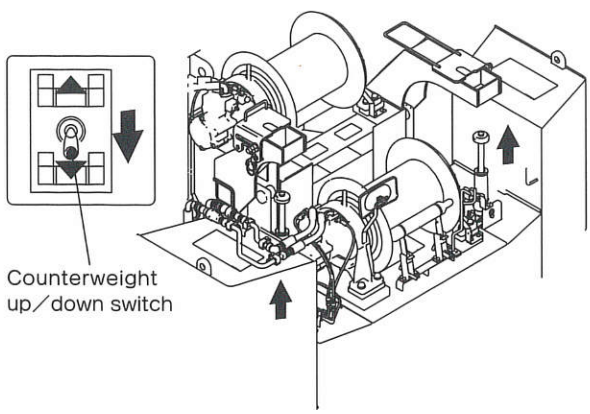
(Fig.2)

4. Connect the hydraulic hose connectors for the removed counterweight. (Fig.3)



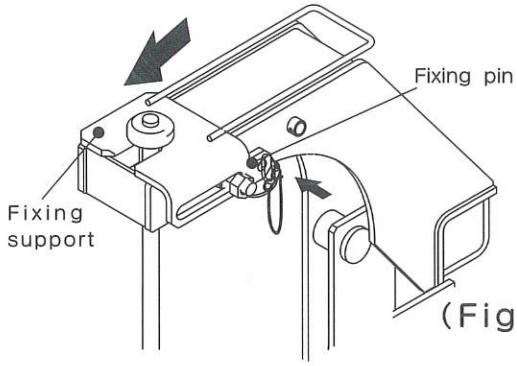
(Fig.3)

5. Make sure that the fixing support is opened. Turn the counterweight up/down switch downward to extend the counterweight cylinders. (Fig.4)



(Fig.4)

6. Slide the two fixing supports for counterweight cylinders and fix them with the fixing pins. (Fig.5)

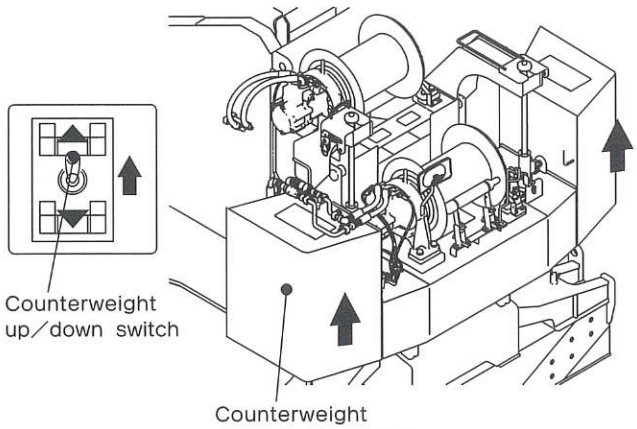


(Fig.5)

7. Turn the counterweight up/down switch upward to mount the counterweight. (Fig.6)

   Operate carefully, watching that same numbers are visible on the right and left scale bars just under the counterweight.

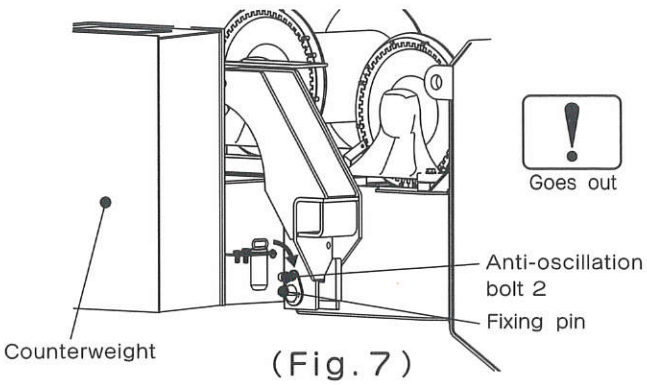
   WARNING : Stop operation immediately if the visible numbers are different (tilting of counterweight).



(Fig.6)

8. Attach two fixing pins equipped in right and left of counterweight, and fix them temporarily with the anti-oscillation bolt 2.

   The engine overrun warning goes out, and the warning alarm sounds. (Fig.7)



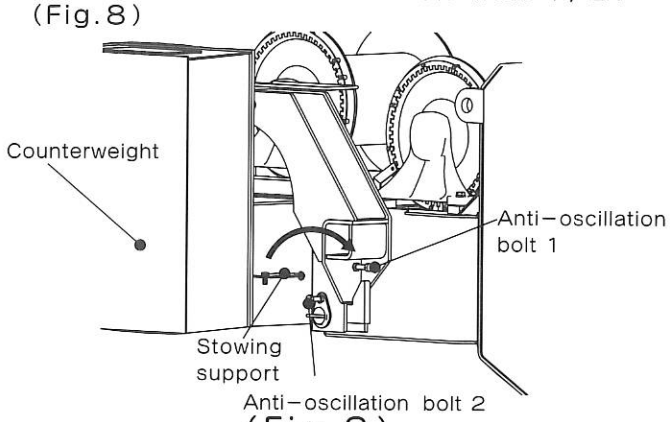
(Fig.7)

COUNTERWEIGHT HANDLING INSTRUCTIONS (Ⅱ)

NOTES FOR MOUNTING THE COUNTERWEIGHT

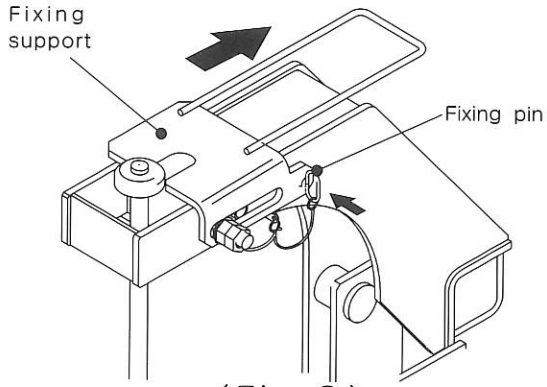
9. Turn the counterweight up/down switch downward until the counterweight is supported by the fixing pins.

10. Fasten the anti-oscillation bolt 1, 2. (Fig.8)



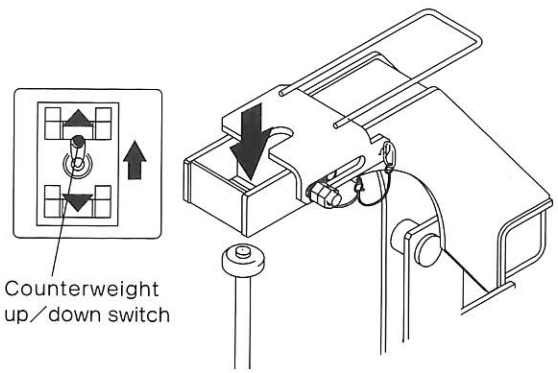
(Fig.8)

11. Slide the two fixing supports and fix them with the fixing pins. (Fig.9)



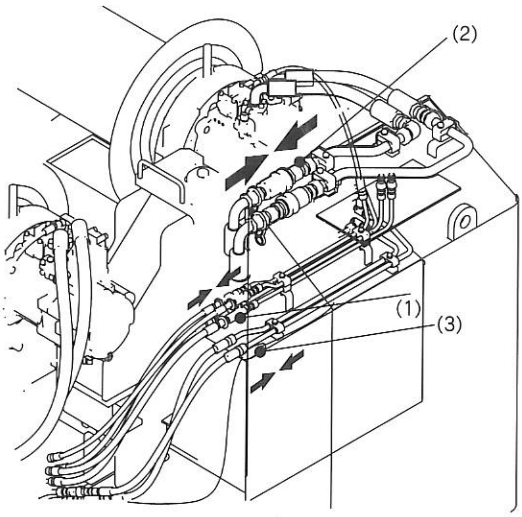
(Fig.9)

12. Turn the counterweight up/down switch upward to fully retruct the counterweight cylinders. (Fig.10) And then extend the cylinders approx. 10mm (0.4in).



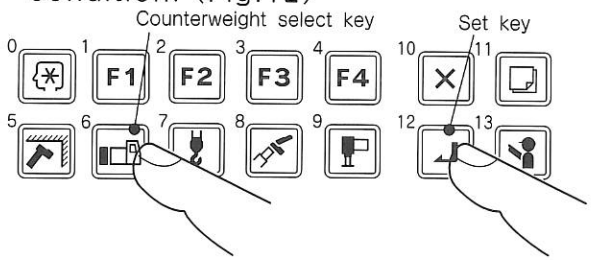
(Fig.10)

13. Connect the connectors of the hydraulic hoses, the cables of the auxiliary winch in the order of (1) (2) (3). (Fig.11)



(Fig.11)

14. Press the counterweight select key. (Fig.12)
15. Make sure that the displayed mass of counterweight corresponds with the actual crane condition.
16. Press the set key to register the crane condition. (Fig.12)



(Fig.12)