ROUGH TERRAIN CRANE

GR-250N

JAPANESE SPECIFICATIONS

OUTLINE	SPEC. NO.
4-section Boom, 2-stage Power-tilt Jib, H-type Outriggers	GR-250N-2-00102

GR-250N

1. Crane Specifications

O Crane

Crane Capacity

25,000 kg x 3.5 m (8-part line) 9.35 m boom 16.4 m boom 15,000 kg x 6.5 m (6-part line) 23.45 m boom 12,000 kg x 6.0 m (4-part line) x 8.0 m (4-part line) 30.5 m boom 8,000 kg 8.0 m jib 3,300 kg $x72^{\circ}$ (single-part line) (single-part line) 13.0 m jib $x78^{\circ}$ 2,000 kg (single-part line) Single top 4,000 kg

Max. Lifting Height Boom 31.3 m

Jib 44.2 m

Max. Working Radius

Boom 27.9 m 33.9 m **Boom Length** 9.35m to 30.5m

Boom Extension

21.15 m

Boom Extension Speed

21.15 m/80 s Jib Length 8.0 m, 13.0 m

Main Winch Single Line Winding Speed

120 m/min (4 layers)

Main Winch Hook Speed 15.0 m/min (8-part line)

Main Winch Single Line Unwinding Speed

<Reference>

120 m/min (4 layers) High-speed: 160 m/min (4 layers)

Auxiliary Winch Single Line Winding Speed

120 m/min (4 layers)

Auxiliary Winch Hook Speed

120 m/min (single-part line)

Auxiliary Winch Single Line Unwinding Speed

<Reference>

Standard: 120 m/min (4 layers) High-speed: 160 m/min (4 layers)

Boom Elevation Angle

0° to 84°

Boom Elevation Speed

0° to 84°/45 s

Swing Angle

360° continuous

Swing Speed 2.6 min⁻¹ (rpm)

Wire Rope

Main winch

16 mm dia. x 170 m long Spin-resistant wire rope

Auxiliary winch

16 mm dia. x 98 m long Spin-resistant wire rope

4-section box structure synchronously telescoping hydraulic hoom

Boom Extension

Single double-acting hydraulic cylinder 2 wire rope type telescoping devices

Jib

Quick-turn type (stored alongside and below boom)

2-stage (pull-out 2nd stage)

Offset 5° to 60° hydraulic non-stage inclined Single Top

Fixed on top boom section

Hoist

Hydraulic motor driven planetary gear reducer

Automatic brake

High-speed unwind function

2 single winches

With flow regulator valve with pressure compensation

Boom Elevation

Single double-acting hydraulic cylinder

With flow regulator valve with pressure compensation

Hydraulic motor driven planetary gear reducer

Swing bearing

Swing free/lock changeover type

Negative brake

Outriggers

Fully hydraulic H-type (floats mounted integrally)

Slides and jacks each provided with independent operation

device.

Fully extended width

Middle extended width 6.1 m, 5.0 m, 3.6 m

Minimum extended width 2.3 m

Operation Method

Hydraulic pilot valve operation

Max. Vertical Load Capacity of Outrigger

26.9 t

Power Take-Off

PTO wet multi-plate clutch

Hydraulic Pumps

2 variable piston pumps

3 gear pumps

Hydraulic Tank Capacity

380 L

Safety Devices

Automatic moment limiter (AML) Swing automatic stop device

Elevation slow down and stop device Over-winding cutout device

Working area control device

Outrigger extension width detector

Level gauge

Hook safety latch

Hydraulic safety valve

Telescoping cylinder check valve Extension cylinder check valve

Power tilt counterbalance valve

Jack pilot check valve

Swing lock

Equipment

Air-conditioner with dehumidifier

Hydraulic oil temperature indication lamp

Radio

Oil cooler

Visual-type winch drum rotation indicator

Operation pedals

ISO arrangement: for telescoping/auxiliary hoisting

Tadano arrangement: for elevating/telescoping

Satellite Communications Equipment (HELLO-NET Owner's Site)

Ancilliary Equipment

Wood blocks (x 4)

Aluminum deck plates (x 4)

Carrier

Manufacturer and Model

Tadano JDS-T003

Engine

Model Mitsubishi 6M60-TLE3A (with turbo and air cooler) Water-cooled 4-cycle, in-line 6 cylinder, direct-injection Type

Piston displacement 7.545 L

Max. output 200 kW (272PS)/2,600 min⁻¹ (rpm) Max. torque 785 N.m (80.0 kgf.m)/1,400 min⁻¹ (rpm)

Torque Converter

3-element, 1-stage unit (with automatic lock-up mechanism)

Transmission

Automatic and manual transmission Power shift type (wet multi-plate clutch)

4 forward gears, 1 reverse gear (with Hi and Lo)

Reducer

Axle dual-ratio reduction

Drive

2-wheel drive (4 x 2)/4-wheel drive (4 x 4) selection

Front Axle

Full floating type

Rear Axle

Full floating type

Suspension

Hydro-pneumatic suspension (with hydraulic lock Front

Rear Hydro-pneumatic suspension (with hydraulic lock

cylinder)

Steering

Fully hydraulic power steering

Brake System

Service Brake

Hydro-pneumatic disk brake

Parking Brake

Mechanically operated, internal expanding duo-servo shoe

type acting on drum at transmission case rear.

Auxiliary Brake

Permanent magnet retarder

Electro-pneumatic operated exhaust brake

Auxiliary braking device for operations

Frame

Welded box-shaped structure

Electric System

12 V/120 Ah x 2 (24 V)

Fuel Tank Capacity

300 L

Tires

385/95R25 170E Road Front

385/95R25 170E Road Rear

Cab

One-man type

With interior equipment

Sealed-fluid rubber mounted type

Fully adjustable folding seat

(with head rest, arm rest, seat belt)

Adjustable wheel (tilt, telescoping)

Intermittent windshield/roof wiper (with washer)

Power window

Side visor

Safety Devices

Emergency steering device

Suspension lock device

Rear wheel steering lock device Engine over-run alarm

Overshift prevention device

Parking brake alarm

Monitor television on left and right sides of boom

Equipment

Centralized oiling device

Electric mirror

O Dimensions

Overall length 11 410 mm Overall width 2.620 mm Overall height 3,470 mm Wheel base 3,880 mm Tread Front 2,170 mm Rear 2.170 mm

Weights

Gross vehicle weight 25,595 kg Front 12,800 kg Rear 12,795 kg

Performance

Max. traveling speed 49 km/h Gradeability (tanθ) 0.57

Min. turning radius 5.1 m (4-wheel steering)

8.5 m (2-wheel steering)

Optional equipment

Winch drum monitoring camera Rear view monitoring camera Loudspeaker

AML external warning lamp

Roadside lamp Identification lamp

* This crane has a compliance certificate ('Weight under basic transit conditions: A') under the new vehicle certification system, however in practice, conditions imposed for transit are in accordance with the assessment of each route by the road controller.

2. Total Rated Loads

2-(1) Outrigger Used [Boom]

Unit: ton Unit: ton

0.13	£.11	(0.5	\	2000
Outriggers	tully exter	nded (6.5	m)	-360°-
Boom length Working radius	9.35 m	16.4 m	23.45 m	30.5 m
2.5 m	25.0	15.0	12.0	
3.0 m	25.0	15.0	12.0	
3.5 m	25.0	15.0	12.0	8.0
4.0 m	23.5	15.0	12.0	8.0
4.5 m	21.5	15.0	12.0	8.0
5.0 m	19.6	15.0	12.0	8.0
5.5 m	17.8	15.0	12.0	8.0
6.0 m	16.3	15.0	12.0	8.0
6.5 m	15.1	15.0	11.5	8.0
7.0 m		14.0	10.8	8.0
8.0 m		11.3	9.6	8.0
9.0 m		9.2	8.6	7.6
10.0 m		7.5	7.6	6.9
11.0 m		6.3	6.5	6.3
12.0 m		5.35	5.5	5.6
13.0 m		4.6	4.75	4.9
13.5 m		4.25	4.45	4.55
14.0 m			4.15	4.25
15.0 m			3.65	3.8
16.0 m			3.2	3.4
17.0 m			2.85	3.0
18.0 m			2.5	2.65
19.0 m			2.2	2.4
20.0 m			2.0	2.15
20.5 m			1.9	2.0
21.0 m				1.9
22.0 m				1.7
24.0 m				1.35
26.0 m				1.1
27.9 m				0.9
A (°)		0-	84	

Outriggers middle	e extended	d (6.1 m)	-Over	sides-
Boom length Working radius	9.35 m	16.4 m	23.45 m	30.5 m
2.5 m	25.0	15.0	12.0	
3.0 m	25.0	15.0	12.0	
3.5 m	25.0	15.0	12.0	8.0
4.0 m	23.5	15.0	12.0	8.0
4.5 m	21.5	15.0	12.0	8.0
5.0 m	19.6	15.0	12.0	8.0
5.5 m	17.8	15.0	12.0	8.0
6.0 m	16.3	15.0	12.0	8.0
6.5 m	15.0	15.0	11.5	8.0
7.0 m		13.3	10.8	8.0
8.0 m		10.3	9.6	8.0
9.0 m		8.3	8.5	7.6
10.0 m		6.8	7.0	6.9
11.0 m		5.7	5.9	6.0
12.0 m		4.9	5.0	5.1
13.0 m		4.2	4.35	4.4
13.5 m		3.9	4.0	4.1
14.0 m			3.8	3.85
15.0 m			3.3	3.4
16.0 m			2.9	3.0
17.0 m			2.6	2.65
18.0 m			2.3	2.35
19.0 m			2.05	2.1
20.0 m			1.85	1.85
20.5 m			1.75	1.75
21.0 m				1.65
22.0 m				1.5
24.0 m				1.2
26.0 m				0.95
27.8 m				0.75
A (°)		0-	84	

[Boom]

Unit: ton Unit: ton

Outriggers middle extended (5.0 m) -Over sides-											
Boom	exterioe(a (3.0 III)	-Over	Sides-							
Working radius	9.35 m	16.4 m	23.45 m	30.5 m							
2.5 m	25.0	15.0	12.0								
3.0 m	25.0	15.0	12.0								
3.5 m	25.0	15.0	12.0	8.0							
4.0 m	23.5	15.0	12.0	8.0							
4.5 m	21.2	15.0	12.0	8.0							
5.0 m	17.2	15.0	12.0	8.0							
5.5 m	14.2	15.0	12.0	8.0							
6.0 m	12.0	12.7	12.0	8.0							
6.5 m	10.3	10.9	10.8	8.0							
7.0 m		9.5	9.7	8.0							
8.0 m		7.4	7.6	7.5							
9.0 m		6.0	6.2	6.2							
10.0 m		4.9	5.1	5.2							
11.0 m		4.1	4.3	4.35							
12.0 m		3.5	3.65	3.7							
13.0 m		3.0	3.15	3.2							
13.5 m		2.8	2.9	2.95							
14.0 m			2.7	2.75							
15.0 m			2.35	2.4							
16.0 m			2.05	2.1							
17.0 m			1.75	1.8							
18.0 m			1.55	1.6							
19.0 m			1.35	1.4							
20.0 m			1.2	1.2							
20.5 m			1.1	1.1							
21.0 m				1.05							
22.0 m				0.9							
24.0 m				0.65							
A (°)		0-84		32-84							

Outriggers middle	e extende	d (3.6 m)	-Over	sides-
Boom length Working radius	9.35 m	16.4 m	23.45 m	30.5 m
2.5 m	25.0	15.0	12.0	
3.0 m	25.0	15.0	12.0	
3.5 m	19.5	15.0	12.0	8.0
4.0 m	14.8	15.0	12.0	8.0
4.5 m	11.8	12.7	12.0	8.0
5.0 m	9.8	10.5	10.6	8.0
5.5 m	8.1	8.8	9.0	8.0
6.0 m	6.9	7.6	7.7	7.5
6.5 m	5.9	6.5	6.7	6.8
7.0 m		5.7	5.9	6.0
8.0 m		4.5	4.6	4.7
9.0 m		3.6	3.75	3.8
10.0 m		2.9	3.05	3.1
11.0 m		2.4	2.5	2.6
12.0 m		1.95	2.1	2.15
13.0 m		1.60	1.75	1.8
13.5 m		1.45	1.6	1.65
14.0 m			1.45	1.5
15.0 m			1.2	1.25
16.0 m			1.0	1.05
17.0 m			0.8	0.85
18.0 m			0.65	0.7
19.0 m			0.5	0.55
A (°)	0-	84	25-84	47-84

[Boom]

Unit: ton

Outriggers minimum extended (2.3 m) -Over sides-												
Boom length Working radius	9.35 m	16.4 m	23.45 m	30.5 m								
2.5 m	12.2	12.0	10.0									
3.0 m	12.2	12.0	10.0									
3.5 m	9.8	10.0	10.0	6.0								
4.0 m	7.6	8.0	8.5	6.0								
4.5 m	6.1	6.7	7.0	6.0								
5.0 m	5.0	5.5	5.8	5.8								
5.5 m	4.1	4.6	4.9	5.0								
6.0 m	3.4	4.0	4.25	4.4								
6.5 m	2.8	3.4	3.65	3.8								
7.0 m		2.95	3.15	3.3								
8.0 m		2.2	2.4	2.6								
9.0 m		1.65	1.85	2.0								
10.0 m		1.2	1.4	1.6								
11.0 m	·	0.9	1.1	1.25								
12.0 m		0.65	0.8	0.95								
A (°)	0-84	30-84	54-84	64-84								

[Jib (30.5 m Boom)]

		Outriggers fully extende)				-36	0°-	
Jib length			30.5 r	n boon	n + 8.0	m jib					30.5 m	boom	+ 13.0	0 m jib		
Offset	5	0	2	5°	4	5°	60)°	5	٥	2	5°	4	5°	6	0°
Boom angle (°)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)
84	4.2	3.3	6.8	2.3	8.8	1.7	9.7	1.05	5.2	2.0	9.6	1.25	12.8	0.85	14.4	0.55
80	7.4	3.3	9.8	2.3	11.6	1.7	12.2	1.05	9.0	2.0	13.0	1.25	15.8	0.85	16.9	0.55
78	8.9	3.3	11.2	2.3	12.8	1.7	13.3	1.05	10.6	2.0	14.5	1.2	17.2	0.85	18.2	0.55
76	10.4	3.3	12.5	2.3	14.1	1.7	14.5	1.05	12.3	1.9	15.9	1.15	18.4	0.85	19.4	0.55
74	11.8	3.3	13.9	2.3	15.2	1.65	15.6	1.05	13.9	1.8	17.3	1.1	19.7	0.85	20.5	0.55
72	13.2	3.3	15.1	2.3	16.4	1.65	16.7	1.05	15.3	1.65	18.7	1.1	20.9	0.85	21.6	0.55
70	14.6	3.25	16.4	2.3	17.5	1.6	17.7	1.05	16.8	1.6	20.0	1.05	22.1	0.85	22.7	0.55
68	15.8	3.0	17.6	2.25	18.6	1.55	18.7	1.0	18.2	1.5	21.2	1.0	23.3	0.85	23.7	0.55
65	17.4	2.55	19.2	2.05	20.1	1.55	20.2	1.0	20.3	1.4	23.1	1.0	24.9	0.84	25.1	0.55
60	20.2	1.85	21.9	1.65	22.7	1.5	22.7	1.0	23.6	1.25	26.2	0.95	27.6	0.81	27.5	0.54
55	22.7	1.35	24.2	1.2	24.9	1.2			26.7	1.1	28.9	0.91	29.9	0.79		
53	23.7	1.2	25.1	1.1	25.7	1.05			27.8	0.98	29.9	0.87	30.8	0.79		
50	25.1	1.0	26.5	0.92	26.9	0.92			29.3	0.81	31.3	0.72	32.0	0.7		
47	26.4	0.81	27.7	0.75	28.0	0.75			30.8	0.65	32.6	0.58	33.0	0.57		
45	27.3	0.7	28.4	0.65	28.6	0.65			31.7	0.56	33.4	0.5	33.7	0.49		
40	29.3	0.47	30.2	0.43					33.9	0.36						
A (°)	39-84				44	-84	59	-84	39-84 44				-84 59-84			-84

				0	utrigge	ers mid	dle ex	tended	(6.1 n	n)			-Over sides-				
Jib length			30.5 r	n boor	n + 8.0	m jib					30.5 m	boom	ı + 13.	0 m jib			
Offset	5	٥	2	5°	4	5°	60)°	5	٥	2	5°	45°		60)°	
Boom angle (°)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	
84	4.2	3.3	6.8	2.3	8.8	1.7	9.7	1.05	5.2	2.0	9.6	1.25	12.8	0.85	14.4	0.55	
80	7.4	3.3	9.8	2.3	11.6	1.7	12.2	1.05	9.0	2.0	13.0	1.25	15.8	0.85	16.9	0.55	
78	8.9	3.3	11.2	2.3	12.8	1.7	13.3	1.05	10.6	2.0	14.5	1.2	17.2	0.85	18.2	0.55	
76	10.4	3.3	12.5	2.3	14.1	1.7	14.5	1.05	12.3	1.9	15.9	1.15	18.4	0.85	19.4	0.55	
74	11.8	3.3	13.9	2.3	15.2	1.65	15.6	1.05	13.9	1.8	17.3	1.1	19.7	0.85	20.5	0.55	
72	13.2	3.3	15.1	2.3	16.4	1.65	16.7	1.05	15.3	1.65	18.7	1.1	20.9	0.85	21.6	0.55	
70	14.6	3.25	16.4	2.3	17.5	1.6	17.7	1.05	16.8	1.6	20.0	1.05	22.1	0.85	22.7	0.55	
68	15.8	3.0	17.6	2.25	18.6	1.55	18.7	1.0	18.2	1.5	21.2	1.0	23.3	0.85	23.7	0.55	
65	17.3	2.4	19.2	2.05	20.1	1.55	20.2	1.0	20.3	1.4	23.1	1.0	24.9	0.84	25.1	0.55	
60	20.0	1.7	21.8	1.5	22.7	1.45	22.7	1.0	23.6	1.25	26.2	0.95	27.6	0.81	27.5	0.54	
55	22.6	1.2	24.2	1.1	24.9	1.1			26.6	1.0	28.9	0.88	29.9	0.79			
53	23.6	1.05	25.1	0.99	25.7	0.98			27.7	0.88	29.9	0.78	30.8	0.75			
50	25.0	0.88	26.4	8.0	26.9	0.81			29.3	0.71	31.2	0.62	31.9	0.61			
47	26.4	0.69	27.6	0.63	27.9	0.64			30.7	0.55	32.5	0.48	32.9	0.48			
45	27.2	0.58	28.4	0.53	28.6	0.54			31.6	0.46	33.3	0.4	33.6	0.4			
40	29.2	0.36															
A (°)	39-84 44-84						59	-84	44-84						59-84		

[Jib (30.5 m Boom)]

				0	utrigge	rs mid	dle ex	tended	(5.0 n	1)				-Over	sides-	
Jib length			30.5 r	n boor	n + 8.0	m jib					30.5 m	boom	ı + 13.	0 m jib		
Offset	5	°	25° 45°				60°		5°		25°		45°		60	0°
Boom angle (°)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)
84	4.2	3.3	6.8	2.3	8.8	1.7	9.7	1.05	5.2	2.0	9.6	1.25	12.8	0.85	14.4	0.55
80	7.4	3.3	9.8	2.3	11.6	1.7	12.2	1.05	9.0	2.0	13.0	1.25	15.8	0.85	16.9	0.55
78	8.9	3.3	11.2	2.3	12.8	1.7	13.3	1.05	10.6	2.0	14.5	1.2	17.2	0.85	18.2	0.55
76	10.4	3.3	12.5	2.3	14.1	1.7	14.5	1.05	12.3	1.9	15.9	1.15	18.4	0.85	19.4	0.55
74	11.8	3.3	13.9	2.3	15.2	1.65	15.6	1.05	13.9	1.8	17.3	1.1	19.7	0.85	20.5	0.55
72	13.1	3.15	15.1	2.3	16.4	1.65	16.7	1.05	15.3	1.65	18.7	1.1	20.9	0.85	21.6	0.55
70	14.3	2.6	16.3	2.15	17.5	1.6	17.7	1.05	16.8	1.6	20.0	1.05	22.1	0.85	22.7	0.55
68	15.4	2.2	17.4	1.85	18.6	1.55	18.7	1.0	18.2	1.5	21.2	1.0	23.3	0.85	23.7	0.55
65	17.0	1.7	18.9	1.45	20.0	1.35	20.2	1.0	20.2	1.35	23.1	1.0	24.9	0.84	25.1	0.55
60	19.7	1.1	21.5	0.98	22.5	0.94	22.6	0.93	23.3	0.9	26.0	0.74	27.5	0.7	27.5	0.54
55	22.4	0.71	24.0	0.62	24.7	0.61			26.2	0.55	28.6	0.45	29.8	0.43		
53	23.3	0.56	24.9	0.49	25.5	0.48			27.3	0.43						
50	24.8	0.37														
A (°)	49	49-84 52-84						-84	52	-84		54	1-84 59-84			

				0	utrigge	rs mid	dle ex	tended	led (3.6 m) -Over sides-							
Jib length			30.5 r	n boor	n + 8.0	m jib					30.5 m	boom	+ 13.0	0 m jib		
Offset	5	5° 25° 45°					60°		5°		25°		45°		60	0°
Boom angle (°)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)
84	4.2	3.3	6.8	2.3	8.8	1.7	9.7	1.05	5.2	2.0	9.6	1.25	12.8	0.85	14.4	0.55
80	7.4	3.3	9.8	2.3	11.6	1.7	12.2	1.05	9.0	2.0	13.0	1.25	15.8	0.85	16.9	0.55
78	8.9	3.3	11.2	2.3	12.8	1.7	13.3	1.05	10.6	2.0	14.5	1.2	17.2	0.85	18.2	0.55
76	10.3	2.9	12.4	2.25	14.1	1.7	14.5	1.05	12.3	1.9	15.9	1.15	18.4	0.85	19.4	0.55
74	11.4	2.35	13.6	1.85	15.3	1.6	15.6	1.05	13.9	1.8	17.3	1.1	19.7	0.85	20.5	0.55
72	12.5	1.85	14.7	1.5	16.2	1.3	16.7	1.05	15.2	1.45	18.7	1.1	20.9	0.85	21.6	0.55
70	13.6	1.45	15.8	1.2	17.3	1.1	17.7	1.05	16.5	1.15	19.9	0.92	22.1	0.82	22.7	0.55
68	14.8	1.15	16.9	0.98	18.3	0.89	18.8	0.87	17.7	0.93	21.0	0.74	23.1	0.67	23.7	0.55
65	16.5	0.81	18.5	0.69	19.7	0.63	20.2	0.62	19.7	0.64	22.7	0.51	24.6	0.47	25.1	0.46
60	19.3	0.3 0.35														
A (°)	59-	-84		, and the second	64-	-84						64	-84			

[Jib (23.45 m Boom)]

		Outriggers fully extende)				-36	60°-	
Jib length			23.45	m boo	m + 8.0	0 m jib				2	23.45 r	n boor	n + 13.	.0 m jil	5	
Offset	5	٥	2	5°	4	5°	60)°	5	0	2	5°	4	5°	60	0°
Boom angle (°)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)
84	3.0	3.3	5.6	2.3	7.6	1.7	8.6	1.05	4.2	2.0	8.5	1.25	11.6	0.85	13.2	0.55
80	5.4	3.3	7.8	2.3	9.7	1.7	10.5	1.05	7.0	2.0	11.1	1.25	13.9	0.85	15.3	0.55
78	6.5	3.3	8.9	2.3	10.7	1.7	11.4	1.05	8.3	2.0	12.2	1.2	15.0	0.85	16.2	0.55
76	7.6	3.3	9.9	2.3	11.6	1.7	12.3	1.05	9.6	1.9	13.4	1.15	16.0	0.85	17.1	0.55
74	8.7	3.3	11.0	2.3	12.5	1.65	13.2	1.05	10.9	1.8	14.5	1.1	17.0	0.85	18.1	0.55
72	9.8	3.3	12.0	2.3	13.4	1.65	14.0	1.05	12.1	1.65	15.6	1.1	18.0	0.85	18.9	0.55
70	10.9	3.3	13.0	2.3	14.3	1.6	14.8	1.05	13.3	1.6	16.7	1.05	19.0	0.85	19.8	0.55
68	11.9	3.3	13.9	2.3	15.2	1.55	15.6	1.0	14.4	1.5	17.8	1.0	19.9	0.85	20.5	0.55
65	13.4	3.3	15.4	2.3	16.4	1.55	16.7	1.0	16.1	1.4	19.3	1.0	21.2	0.84	21.7	0.55
60	15.9	2.9	17.6	2.3	18.4	1.5	18.5	1.0	18.9	1.25	21.8	0.95	23.3	0.81	23.5	0.54
55	18.1	2.6	19.7	2.15	20.2	1.45			21.5	1.15	24.0	0.91	25.2	0.79		
53	18.9	2.35	20.4	2.1	20.9	1.45			22.5	1.1	24.9	0.9	25.9	0.79		
50	20.2	2.05	21.5	1.85	21.9	1.45			23.9	1.05	26.1	0.88	26.8	0.78		
47	21.3	1.8	22.5	1.65	22.7	1.45			25.2	1.0	27.2	0.87	27.7	0.78		
45	22.0	1.65	23.1	1.55	23.2	1.45			26.0	1.0	27.9	0.87	28.2	0.78		
40	23.6	1.35	24.5	1.3					28.0	0.95	29.4	0.86				
35	25.1	1.15	25.7	1.1					29.6	0.91	30.6	0.85				
30	26.3	1.0	26.8	0.97					31.0	0.81	31.7	0.76				
25	27.3	0.88	27.6	0.86					32.2	0.71	32.4	0.67				
20	28.1	0.79							33.0	0.63						
15	28.7	0.73							33.6	0.59						
10	29.0	0.7							33.9	0.56						
5	29.0	0.7							33.9	0.56						
A (°)	4-	84	24	-84	44	84	59	-84	4-	84	24	-84	44	-84	59	-84

				0	utrigge	rs mid	dle ex	tended	nded (6.1 m) -Over sides-							
Jib length			23.45		m + 8.0						23.45 r	n boor	n + 13	.0 m jil)	
Offset	5	0	2	5°	4	5°	60)°	5	٥	2	5°	4:	5°	60)°
Boom angle (°)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)
84	3.0	3.3	5.6	2.3	7.6	1.7	8.6	1.05	4.2	2.0	8.5	1.25	11.6	0.85	13.2	0.55
80	5.4	3.3	7.8	2.3	9.7	1.7	10.5	1.05	7.0	2.0	11.1	1.25	13.9	0.85	15.3	0.55
78	6.5	3.3	8.9	2.3	10.7	1.7	11.4	1.05	8.3	2.0	12.2	1.2	15.0	0.85	16.2	0.55
76	7.6	3.3	9.9	2.3	11.6	1.7	12.3	1.05	9.6	1.9	13.4	1.15	16.0	0.85	17.1	0.55
74	8.7	3.3	11.0	2.3	12.5	1.65	13.2	1.05	10.9	1.8	14.5	1.1	17.0	0.85	18.1	0.55
72	9.8	3.3	12.0	2.3	13.4	1.65	14.0	1.05	12.1	1.65	15.6	1.1	18.0	0.85	18.9	0.55
70	10.9	3.3	13.0	2.3	14.3	1.6	14.8	1.05	13.3	1.6	16.7	1.05	19.0	0.85	19.8	0.55
68	11.9	3.3	13.9	2.3	15.2	1.55	15.6	1.0	14.4	1.5	17.8	1.0	19.9	0.85	20.5	0.55
65	13.4	3.3	15.4	2.3	16.4	1.55	16.7	1.0	16.1	1.4	19.3	1.0	21.2	0.84	21.7	0.55
60	15.9	2.9	17.6	2.3	18.4	1.5	18.5	1.0	18.9	1.25	21.8	0.95	23.3	0.81	23.5	0.54
55	18.1	2.4	19.6	2.1	20.2	1.45			21.5	1.15	24.0	0.91	25.2	0.79		
53	18.9	2.15	20.4	1.9	20.9	1.45			22.5	1.1	24.9	0.9	25.9	0.79		
50	20.0	1.85	21.4	1.7	21.9	1.45			23.9	1.05	26.1	0.88	26.8	0.78		
47	21.2	1.65	22.4	1.5	22.7	1.45			25.2	1.0	27.2	0.87	27.7	0.78		
45	22.0	1.5	23.0	1.35	23.3	1.37			26.0	1.0	27.9	0.87	28.2	0.78		
40	23.6	1.2	24.5	1.15					28.0	0.95	29.4	0.86				
35	25.0	1.0	25.7	0.97					29.6	0.82	30.7	0.76				
30	26.3	0.87	26.8	0.83					31.0	0.69	31.7	0.65				
25	27.3		27.6	0.72					32.2	0.59	32.4	0.57				
20	28.1	0.66							33.0	0.52						
15	28.6	0.59							33.6	0.46						
10	28.9	0.55							33.9	0.43						
5	29.0	0.55							33.9	0.43						
A (°)	4-	84	24	-84	44-	-84	59	-84	4-	84	24	-84	44	-84	59	-84

[Jib (23.45 m Boom)]

				0	utrigge	rs mid	dle ext	ended	ed (5.0 m)				-Over sides-				
Jib length			23.45	m boo	m + 8.0 m jib				2	23.45 m boom + 13.0 m jib							
Offset	5	0	25	5°	45° 60°		5° 2		2	5° 45°		5°	60	0°			
Boom angle (°)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	
84	3.0	3.3	5.6	2.3	7.6	1.7	8.6	1.05	4.2	2.0	8.5	1.25	11.6	0.85	13.2	0.55	
80	5.4	3.3	7.8	2.3	9.7	1.7	10.5	1.05	7.0	2.0	11.1	1.25	13.9	0.85	15.3	0.55	
78	6.5	3.3	8.9	2.3	10.7	1.7	11.4	1.05	8.3	2.0	12.2	1.2	15.0	0.85	16.2	0.55	
76	7.6	3.3	9.9	2.3	11.6	1.7	12.3	1.05	9.6	1.9	13.4	1.15	16.0	0.85	17.1	0.55	
74	8.7	3.3	11.0	2.3	12.5	1.65	13.2	1.05	10.9	1.8	14.5	1.1	17.0	0.85	18.1	0.55	
72	9.8	3.3	12.0	2.3	13.4	1.65	14.0	1.05	12.1	1.65	15.6	1.1	18.0	0.85	18.9	0.55	
70	10.9	3.3	13.0	2.3	14.3	1.6	14.8	1.05	13.3	1.6	16.7	1.05	19.0	0.85	19.8	0.55	
68	11.9	3.3	13.9	2.3	15.2	1.55	15.6	1.0	14.4	1.5	17.8	1.0	19.9	0.85	20.5	0.55	
65	13.4	3.1	15.4	2.3	16.4	1.55	16.7	1.0	16.1	1.4	19.3	1.0	21.2	0.84	21.7	0.55	
60	15.7	2.2	17.5	1.9	18.4	1.5	18.5	1.0	18.9	1.25	21.8	0.95	23.3	0.81	23.5	0.54	
55	17.8	1.65	19.5	1.45	20.2	1.35			21.5	1.15	24.0	0.91	25.2	0.79			
53	18.6	1.45	20.2	1.3	20.9	1.2			22.5	1.1	24.9	0.9	25.9	0.79			
50	19.8	1.2	21.3	1.1	21.8	1.05			23.9	0.98	26.0	0.84	26.8	0.78			
47	21.0	1.0	22.3	0.94	22.7	0.92			25.1	0.83	27.1	0.71	27.7	0.69			
45	21.8	0.93	22.9	0.85	23.2	0.83			25.9	0.74	27.8	0.64	28.2	0.63			
40	23.4	0.71	24.4	0.65					27.8	0.55	29.3	0.49					
35	24.8	0.53	25.7	0.5					29.5	0.41	30.6	0.36					
30	26.1	0.39	26.7	0.36													
A (°)	29-84				44-	-84	59	-84		34	-84		44-84		59	59-84	

	Outriggers middle								extended (3.6 m) -Over sides-							
Jib length			23.45	m boo	m + 8.0	0 m jib		23.45 m boom + 13.0 m jib								
Offset	5	0	2	5°	45	45° 60°		5° 25		5° 45°		60°				
Boom angle (°)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)	R(m)	W(t)
84	3.0	3.3	5.6	2.3	7.6	1.7	8.6	1.05	4.2	2.0	8.5	1.25	11.6	0.85	13.2	0.55
80	5.4	3.3	7.8	2.3	9.7	1.7	10.5	1.05	7.0	2.0	11.1	1.25	13.9	0.85	15.3	0.55
78	6.5	3.3	8.9	2.3	10.7	1.7	11.4	1.05	8.3	2.0	12.2	1.2	15.0	0.85	16.2	0.55
76	7.6	3.3	9.9	2.3	11.6	1.7	12.3	1.05	9.6	1.9	13.4	1.15	16.0	0.85	17.1	0.55
74	8.7	3.3	11.0	2.3	12.5	1.65	13.2	1.05	10.9	1.8	14.5	1.1	17.0	0.85	18.1	0.55
72	9.8	3.3	12.0	2.3	13.4	1.65	14.0	1.05	12.1	1.65	15.6	1.1	18.0	0.85	18.9	0.55
70	10.8	2.8	12.9	2.2	14.3	1.6	14.8	1.05	13.3	1.6	16.7	1.05	19.0	0.85	19.8	0.55
68	11.7	2.3	13.8	1.85	15.2	1.55	15.6	1.0	14.4	1.5	17.8	1.0	19.9	0.85	20.5	0.55
65	13.1	1.8	15.2	1.45	16.4	1.3	16.7	1.0	16.1	1.35	19.3	1.0	21.2	0.84	21.7	0.55
60	15.4	1.15	17.3	0.99	18.3	0.91	18.5	0.9	18.8	0.9	21.7	0.74	23.3	0.67	23.5	0.54
55	17.6	0.75	19.3	0.65	20.1	0.61			21.2	0.57	23.9	0.48	25.1	0.44		
53	18.4	0.62	20.1	0.54	20.8	0.5			22.2	0.46	24.7	0.39	25.8	0.37		
50	19.6	0.45	21.2	0.39	21.7	0.37										
A (°)	49-84					59	-84	·	•	52	-84			59	-84	

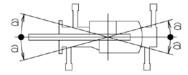
PRECAUTIONS TO BE TAKEN WHEN THE OUTRIGGERS ARE EXTENDED:

- 1 The total rated loads shown are for the case where the crane is set horizontally on firm level ground. They include the weights of the slings and main winch hook (220 kg) when using the boom, and the weights of the slings and auxiliary winch hook (60 kg) when using the jib. The values above the bold lines are based on the crane strength while those below are based on the crane stability.
- 2 Since the working radii are based on the actual values including deflection of the boom, boom operations should be performed in accordance with the working radii.
- 3 The total rated load for the jib differs for boom lengths of 23.45 m or less and more than 23.45 m.
- 4 Use the boom angle as a reference when using the jib. The working radii are reference values for the case where a jib is mounted to a 23.45 m or a 30.5 m boom.
- 5 The total rated load for the single top is obtained by subtracting 160 kg from total rated load of the boom. It includes the weight of the sling and auxiliary hook (60 kg), and must not exceed 4.0 t.
- 6 High-speed unwind should be performed only when lowering the hook alone, and sudden braking operations must be avoided.
- 7 The table below shows the standard number of part lines for each boom length.
 When using with other than this number of part lines, the load per line should not exceed 3.6 t for the main winch, and 4.0 t for the auxiliary winch.

Boom length	9.35 m	16.4 m	23.45 m	30.5 m	Jib/Single top	
Number of part lines	8	6	4	4	1	

- 8 A single-part line is used for the hook on the jib.
- 9 The hoisting performance for the "Over sides" range will differ according to the extended width of the outriggers. Operations should be performed in accordance with the performance corresponding to the extended width. Also, although the hoisting performances for the "Over front" and "Over rear" ranges are equivalent to those of the outriggers fully extended condition, the front and rear ranges (angle a) will differ according to the width to which the outriggers are extended in the left and right directions.

Extended width	Middle extended (6.1 m)	Middle extended (5.0 m)	Middle extended (3.6 m)	Minimum extended (2.3 m)
Angle a°	35	25	10	5



2-(2) Outrigger Not Used

Unit: ton

			Statio	onary			Vehicle moving (at 1.6 km/h or less)						
Boom length	9.3	5 m	16.	4 m	23.4	15 m	9.3	5 m	16.	4 m	23.4	15 m	
Working radius	Front	Front -360°-		-360°-	Front -360°-		Front	-360°-	Front -360°-		Front	-360°-	
3.0 m	14.0	8.3	9.0	7.3			10.0	6.5	7.5	5.1			
3.5 m	14.0	6.8	9.0	7.3	6.5	4.5	10.0	5.2	7.5	5.1	5.5	3.2	
4.0 m	12.5	5.3	9.0	5.85	6.5	4.5	9.0	4.2	7.5	4.4	5.5	3.2	
4.5 m	10.9	4.3	9.0	4.75	6.5	4.5	8.2	3.4	7.5	3.7	5.5	3.2	
5.0 m	9.55	3.5	8.2	4.0	6.5	4.0	7.4	2.8	7.0	3.1	5.5	3.2	
5.5 m	8.3	2.8	7.4	3.3	6.1	3.4	6.7	2.4	6.2	2.7	5.15	2.8	
6.0 m	7.2	2.3	6.6	2.8	5.65	2.9	5.9	1.9	5.5	2.3	4.8	2.4	
6.5 m	6.25	1.8	5.9	2.35	5.25	2.5	5.1	1.5	4.9	1.9	4.45	2.05	
7.0 m			5.25	1.95	4.85	2.15			4.35	1.6	4.15	1.8	
8.0 m			4.1	1.4	4.1	1.6			3.4	1.1	3.5	1.4	
9.0 m			3.25	0.95	3.5	1.2			2.7	0.7	2.95	1.0	
10.0 m			2.6	0.6	3.0	0.85			2.15		2.45	0.65	
11.0 m			2.1		2.55	0.55			1.7		2.05		
12.0 m			1.7		2.2				1.35		1.7		
13.0 m			1.35		1.85				1.1		1.45		
13.5 m			1.15		1.7				1.0		1.3		
14.0 m					1.55						1.2		
15.0 m					1.3						1.0		
16.0 m					1.05						0.85		
17.0 m					0.85						0.7		
18.0 m					0.65						0.55		
19.0 m					0.5								
A (°)		0-80		42-80	25-80 56-80		0-80		48-80	30-80	59-80		

PRECAUTIONS TO BE TAKEN WHEN THE OUTRIGGERS ARE NOT USED:

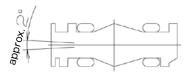
- 1 The total rated loads shown are for the case where the tire pressure on firm level ground is as specified (900 kPa (9.00 kgf/cm²)) and the crane is completely spring-locked (minimum telescoped length). They include the weights of the sling and main hook (220 kg).
 - The values above the bold lines are based on the crane strength while those below are based on the crane stability. The foundation, working conditions, etc. should be taken into consideration for actual work.
- 2 Since the working radii are based on the actual values including the deflection of the boom and the tires, operations should be performed in accordance with the working radii.
- 3 The table below shows the standard number of part lines for each boom length.

 When using with other than this number of part lines, the load per line should not exceed 3.6 t for the main winch, and 4.0 t for the auxiliary winch.

Boom length	9.35 m	16.4 m	23.45 m	Single top	
Number of part lines	4	4	4	1	

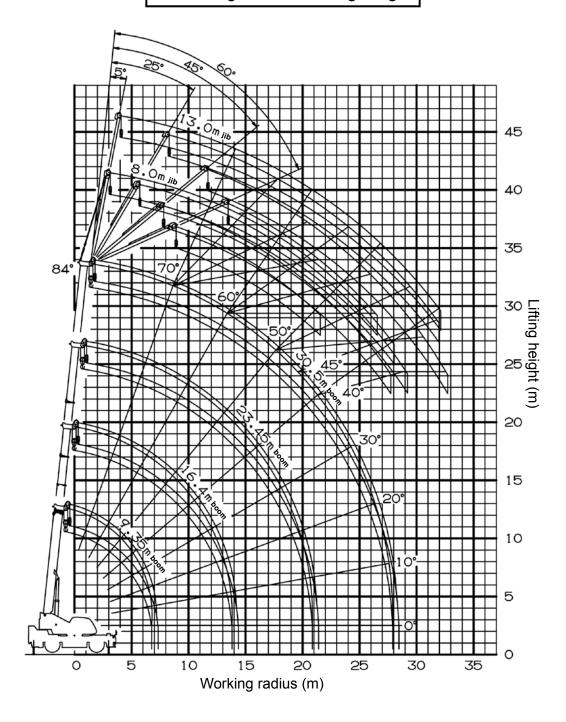
- 4 High-speed lowering, work with booms exceeding 23.45 m, and work using jibs, should not be performed without outriggers.
- 5 "Over front" crane operations should be performed only when the AML "over-front area indicator lamp" is lit.

 The boom must be kept inside a 2° area over front of the carrier when performing "Over front" crane operations without the outriggers.



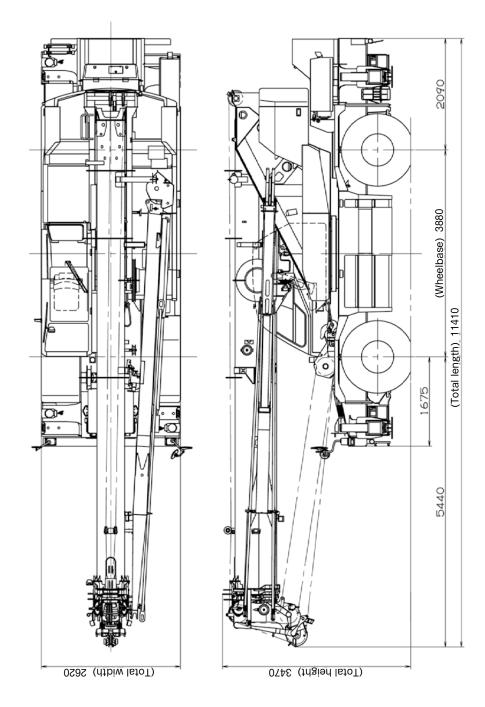
- 6 The total rated load for the single top is obtained by subtracting 160 kg from total rated load of the boom. It includes the weight of the sling and auxiliary hook (60 kg), and must not exceed 4.0 t.
- 7 The "Drive Mode Selection" switch should be set to "4-wheel / Lo" for travelling while hoisting a load and the shift lever should be set to first.
- 8 When travelling while hoisting a load, the swing brake should be applied, the load should be kept as close to the ground as possible but not touching the ground and the speed should be kept at 1.6 km/h or less. In particular, any abrupt steering, starting or braking must be avoided.
- 9 Crane operations should not be performed when travelling while hoisting a load.

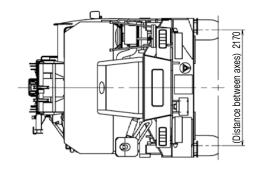
3. Working Radius - Lifting Height

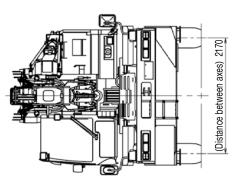


Note:

- 1. The deflection of the boom is not incorporated in the figure above.
- 2. The figure above shows the crane with the maximum outrigger extension (6.5 m).







* The AML external indicator lamp, loudspeaker, rear view monitoring camera, identification lamp, and roadside lamp are optional equipment.



TADANO ROUGH TERRAIN CRANE

MODEL: GR-300EX

(Left-hand steering)

GENERAL DATA

CRANE CAPACITY 30,00	00 kg at 3.0 m
----------------------	----------------

BOOM 4-section, 9.7 m - 31.0 m

DIMENSION

Overall length	approx.	11,245 mm
Overall width	approx.	2,620 mm
Overall height	approx.	3,535 mm

MASS

Gross vehicle mass	approx.	26,920 kg
-front axle	approx.	13,170 kg
-rear axle	approx.	13,750 kg

<u>PERFORMANCE</u>

Max. traveling speed	computed	50 km/h
Gradeability (tan θ)	computed	78% (at stall)
		*57%

^{*}Machine should be operated within the limit of engine crankcase design (30°:Cummins QSB6.7).

CRANE SPECIFICATIONS

GR-300EX MODEL

30,000kg at 3.0m **CAPACITY**

Four section full power partially synchronized telescoping BOOM

> boom of round hexagonal box construction with 3 sheaves at boom head. The synchronization system consists of 2 telescope

cylinders, extension cables and retraction cables. Hydraulic cylinders fitted with holding valves.

Fully retracted length...... 9.7m Fully extended length..... 31.0m

Extension speed...... 21.3m in 91s

<u>JI</u>B Two staged swingaround boom extension. Triple offset (5°/25°/45°)

type. Box type top section telescopes from lattice type

base section which stows alongside base boom section.

Single sheave at jib head.

Length...... 7.2m and 12.8m

SINGLE TOP (AUXILIARY

BOOM SHEAVE)

Single sheave. Mounted to main boom head for single line

work.

By a double-acting hydraulic cylinder, fitted with **ELEVATION**

holding valve.

Automatic speed reduction and soft stop function.

Boom raising speed...... 20° to 60° in 22s

Variable speed type with grooved drum driven by hydraulic **HOIST** - Main winch

axial piston motor through winch speed reducer. Power load

lowering and hoisting.

Equipped with automatic brake (Neutral brake) and

counterbalance valve.

Controlled independently of auxiliary winch.

Single line pull......39.2kN {4,000kgf}

Single line speed......125m/min (at the 4th layer)

Wire rope...... Spin-resistant type Diameter x length......16mm x 170m

HOOK BLOCK(Optional) -

30 t capacity

4 sheaves, swivel type hook with safety latch.

HOIST -

Auxiliary winch

Variable speed type with grooved drum driven by hydraulic axial piston motor through winch speed reducer. Power load lowering and hoisting.

Equipped with automatic brake (Neutral brake) and counterbalance valve.

Controlled independently of main winch.

Single line pull...... 39.2kN {4,000kgf}

Single line speed......125m/min (at the 4th layer)

Wire rope...... Spin-resistant type

Diameter x length......16mm x 98m

HOOK BLOCK-4.0 t capacity Swivel hook with safety latch for single line use.

SWING

Hydraulic axial piston motor driven through planetary speed reducer. Continuous 360° full circle swing on ball bearing slew ring.

Equipped with manually locked/released swing brake.

Swing speed.............3.2min⁻¹ {rpm}

HYDRAULIC SYSTEM

Pumps.....2 variable piston pumps for telescoping,

elevating and winches.

Tandem gear pump for steering, swing and

optional equipment.

Control valves..... Multiple valves actuated by pilot pressure

with integral pressure relief valves.

Circuit..... Equipped with air cooled type oil cooler.

Oil pressure appears on AML display for

main circuit.

Hydraulic oil tank capacity...

approx. 380 liters

Filters..... Return line filter

CRANE CONTROL

By 4 control levers for swing, boom hoist, main winch, boom telescoping or auxiliary winch with 2 control pedals for boom hoist and boom telescoping based on ISO standard layout. Control lever stands can change neutral positions and tilt for easy access to cab.

CAB

Both crane and drive operations can be performed from one cab mounted on rotating superstructure. One sided one-man type, steel construction with sliding door access and tinted safety glass windows opening at side. Door window is powered control. Operator's 3 way adjustable seat with headrest and armrest. Hot water cab heater and air conditioning.

TADANO Automatic Moment Limiter (Model:AML-C)

Main unit in crane cab gives audible and visual warning of approach to overload. Automatically cuts out crane motions before overload. With working range (load radius and/or boom angle and/or tip height and/or swing range) limit function.

Automatic Speed Reduction and Soft Stop function on boom elevation and swing.

Following functions are displayed.

Load as percentage

Number of parts of line of rope

Boom angle Boom length Load radius

Outriggers position
On-tire indicator
Actual hook load
Permissible load

Boom position indicator Potential hook height

Swing angle

Main hydraulic oil pressure

Jib length and jib offset angle (only when jib operation)

OUTRIGGERS

Hydraulically operated H-type outriggers. Each outrigger controlled simultaneously or independently from the cab. Equipped with sight level gauge. Floats mounted integrally with the jacks retract to within vehicle width.

All cylinders fitted with pilot check valves.

Crane operation with different extended length of each outrigger. Equipped with extension width detector for each outrigger.

Extended width

COUNTERWEIGHT

Integral with swing frame

Mass 2,380kg

NOTE: Each crane motion speed is based on unladen conditions.

CARRIER SPECIFICATIONS

TYPE Rear engine, left hand steering, driving axle 2-way

selected type (by manual switch).

4 x 2 front drive

4 x 4 front and rear drive

FRAME High-tensile steel, all welded mono-box construction.

ENGINE Model..... Cummins QSB6.7 [EUROMOT Stage III A]

Type...... 4 cycle, turbo charged and after cooled, 6 cylinder in line, direct injection, water cooled

diesel engine.

Piston displacement.....6,700cm³

Bore x stroke......107mm x 124mm

<u>TRANSMISSION</u> Electronically controlled full automatic transmission.

Torque converter driving full powershift with driving axle

selector. 6 forward and 2 reverse speeds.

2 speeds - High range - 2 wheel drive; 4 wheel drive

4 speeds - Low range - 4 wheel drive

AXLES FrontFull floating type, steering and driving axle with planetary

reduction.

Rear..... Full floating type, steering and driving axle with planetary

reduction.

Non-spin differential.

<u>STEERING</u> Hydraulic power steering controlled by steering wheel.

Three steering modes available:

2-wheel front

4-wheel coordinated

4-wheel crab

<u>SUSPENSION</u> Front......Semi-elliptic leaf springs with hydraulic lockout device.

RearSemi-elliptic leaf springs with hydraulic lockout device.

BRAKE SYSTEM Service.....Air over hydraulic disc brakes on all 4 wheels.

Parking / Emergency.....

Spring applied-air released brake acting on input shaft

of front axle.

Auxiliary...Electro-pneumatic operated exhaust brake.

<u>ELECTRIC SYSTEM</u> 24 V DC. 2 batteries of 12 V - 120 Ah capacity.

FUEL TANK CAPACITY 300 liters

TIRES Front......445 / 95 R 25(OR), Single x 2 Air pressure: 900kPa

Rear445 / 95 R 25(OR), Single x 2 Air pressure: 900kPa

<u>TURN RADIUS</u> Min. turning radius (at center of extreme outer tire)

2-wheel steering......9.8m 4-wheel steering......5.8m

EQUIPMENT

STANDARD EQUIPMENT Automatic moment limiter(AML)

External lamp (AML)

Pendant type over-winding cutout Winch automatic fail-safe brake

Hook safety latch Pilot check valves Holding valves

Counterbalance valves

Hydraulic pressure relief valves

Swing brake Swing lock

Boom angle indicator
Boom elevation foot pedal
Boom telescoping foot pedal

Outrigger extension width detector

Hot water cab heater, air conditioner and defroster

Sight level gauge Hydraulic oil cooler

Electric windshield wiper and washer

Roof window wiper and washer

Power window (Cab door) Tachometer/Speedometer

3 way adjustable cloth seat with seat belt, headrest and armrest

Cab floor mat

Sun visor (Front and roof) Automatic drive system

Transmission neutral position engine start

Overshift prevention

Parking braked travel warning Tilt-telescope steering wheel

Back-up alarm

Air cleaner dust indicator

Air dryer

Water separator with filter Engine over-run alarm Hydraulic lockout suspension

Non-spin differential (Rear)
Towing eyes - front and rear

Winch drum rotation indicator (Audible and visual type)

Fuel consumption monitor

Positive control

OPTIONAL EQUIPMENT Over-unwinding prevention

Cable follower
Tire inflation kit
Emergency steering

Red warning lamp (Top boom)

Hook block - 30t capacity (4 sheaves, swivel type with

safety latch. Mass: approx. 270 kg)

ISO 4305

	ON OL	JTRIGGE	RS FU	LLY EXT	ENDED	6.3m SF	PREAD						
		360° I	ROTAT	ION (U	nit: ×10	00kg)							
A	9.	.7m	16	5.8m	24	.4m	<u>31</u> .0m						
В	С		С		C		С						
3.0	60.6	30.0	74.4	19.2	79.7	12.5							
3.5	57.0	27.2	72.5	19.2	78.5	12.5							
4.0	53.1	23.4	70.9	19.2	77.5	12.5	80.8	8.4					
4.5	49.2	21.3	68.9	18.3	76.3	12.5	80.0	8.4					
5.0	44.7	19.6	67.1	17.0	75.0	12.5	79.1	8.4					
5.5	40.3	18.1	65.1	15.8	74.0	12.5	78.3	8.4					
6.0	34.9	16.6	63.3	14.7	72.8	12.5	77.3	8.4					
6.5	28.7	15.2	61.4	13.6	71.5	11.7	76.6	8.4					
7.0	18.3	14.1	59.4	12.9	70.3	11.0	75.6	8.1					
8.0			54.9	10.9	67.7	9.75	73.7	7.5					
9.0			50.5	9.0	65.0	8.75	71.8	6.8					
10.0			45.8	7.05	62.4	7.9	69.8	6.2					
11.0			40.3	5.8	59.5	6.6	67.6	5.8					
12.0			34.3	4.8	56.5	5.6	65.6	5.4					
13.0			27.0	4.05	53.6	4.75	63.5	5.0					
14.0			15.7	3.4	50.4	4.15	61.3	4.4					
15.0					47.0	3.6	59.0	3.85					
16.0					43.4	3.2	56.6	3.45					
17.0					39.6	2.75	54.2	3.05					
18.0					35.5	2.45	51.8	2.65					
19.0					30.7	2.05	49.2	2.4					
20.0					25.6	1.8	46.6	2.1					
22.0							40.8	1.7					
24.0							34.4	1.3					
26.0	.0						26.2	1.0					
28.0							13.4	0.5					
D		0°											

Unit: ×1000ka

							Oriit.	x TOOOKY			
LIFTING CAPACITIES AT ZERO DEGREE BOOM ANGLE											
NO.	ROTATIO	ON									
A	9.7m		16.8m		24	.4m	31.0m				
C	В		В		В		В				
0°	7.2	13.4	14.3	3.2	21.9	1.2	28.5	0.5			

A:Boom length (m)

B:Load radius (m)

C:Loaded boom angle (°)

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

ISO 4305

		(ON OU	ITRIGO		FULLY 860° RO			6.3m S	PREA	D		
		31.0	m Boor	n + 7.2ı		,		71 1	31.0n	n Boom	1 + 12.8	m Jib	
С	5°	Tilt		Tilt	Ī	°Tilt	С	5°	Tilt		Tilt		Tilt
	R	w	R	W	R	W		R	w	R	W	R	W
80°	5.9	3.5	8.1	2.4	9.8	1.7	80°	7.7	2.2	11.7	1.2	14.6	0.8
77.5°	7.7	3.5	9.8	2.3	11.4	1.65	77.5°	9.8	2.15	13.5	1.15	16.3	0.78
75°	9.4	3.5	11.4	2.2	12.9	1.6	75°	11.8	2.1	15.3	1.1	17.9	0.75
72.5°	11.2	3.23	13.0	2.1	14.4	1.55	72.5°	13.6	1.93	17.1	1.05	19.4	0.73
70°	12.7	2.95	14.6	2.0	15.8	1.5	70°	15.5	1.75	18.8	1.0	21.0	0.7
67.5°	14.3	2.75	16.1	1.93	17.2	1.45	67.5°	17.2	1.63	20.5	0.95	22.5	0.68
65°	15.8	2.55	17.5	1.85	18.6	1.4	65°	18.9	1.5	22.0	0.9	23.9	0.65
62.5°	17.3	2.35	19.0	1.8	19.9	1.38	62.5°	20.6	1.4	23.6	0.88	25.2	0.65
60°	18.7	2.15	20.4	1.75	21.2	1.35	60°	22.3	1.3	25.1	0.85	26.6	0.65
57.5°	20.0	1.95	21.6	1.65	22.4	1.33	57.5°	23.8	1.23	26.4	0.8	27.8	0.65
55°	21.4	1.75	22.9	1.55	23.6	1.3	55°	25.4	1.15	27.9	0.75	29.0	0.65
52.5°	22.6	1.55	24.0	1.38	24.7	1.23	52.5°	26.8	1.1	29.2	0.73	30.2	0.63
50°	23.9	1.35	25.2	1.2	25.7	1.15	50°	28.3	1.05	30.5	0.7	31.4	0.6
47.5°	25.0	1.18	26.3	1.1	26.7	1.1	47.5°	29.6	0.9	31.7	0.68	32.5	0.6
45°	26.0	1.0	27.3	1.0	27.7	1.0	45°	30.8	0.75	32.8	0.65	33.5	0.6
42.5°	27.1	0.9	28.2	0.9			42.5°	32.0	0.68	33.8	0.6		
40°	28.1	0.8	29.1	0.8			40°	33.1	0.6	34.8	0.55		
37.5°	29.0	0.7	30.0	0.7			37.5°	34.2	0.53	35.7	0.48		
35°	30.0	0.6	30.8	0.6			35°	35.2	0.45	36.5	0.4		
32.5°	30.8	0.53	31.5	0.53			32.5°	36.1	0.4				
30°	31.6	0.45	32.2	0.45			30°	37.0	0.35				
27.5°	32.3	0.4	32.8	0.38									
25°	33.0	0.35	33.4	0.3									

C :Boom angle (°)
R :Load radius (m)
W :Rated lifting capacity (Unit:×1000kg)

ISO 4305

	ON OUTRIGGERS MID EXTENDED 5.9m SPREAD											
		360° I	ROTAT	ION (Ui	nit: ×100	O0kg)						
A		7m		5.8m		.4m		.0m				
В	С		С		С		С					
3.0	60.6	30.0	74.4	19.2	79.7	12.5						
3.5	57.0	27.2	72.5	19.2	78.5	12.5						
4.0	53.1	23.4	70.9	19.2	77.5	12.5	80.8	8.4				
4.5	49.2	21.3	68.9	18.3	76.3	12.5	80.0	8.4				
5.0	44.7	19.6	67.1	17.0	75.0	12.5	79.1	8.4				
5.5	40.3	18.1	65.1	15.8	74.0	12.5	78.3	8.4				
6.0	34.9	16.6	63.3	14.7	72.8	12.5	77.3	8.4				
6.5 28.7 15.2 61.4 13.6 71.5 11.7 76.6 8.4												
7.0	18.3	12.9	59.4	12.6	70.3	11.0	75.6	8.1				
8.0			54.9	9.65	67.7	9.75	73.7	7.5				
9.0			50.5	7.7	65.0	8.75	71.8	6.8				
10.0			45.8	6.25	62.1	7.05	69.8	6.2				
11.0			40.3	5.15	59.4	5.95	67.6	5.8				
12.0			34.3	4.2	56.5	4.95	65.5	5.3				
13.0			27.0	3.5	53.4	4.2	63.2	4.5				
14.0			15.7	2.9	50.2	3.55	61.1	3.85				
15.0					46.9	3.05	58.8	3.35				
16.0					43.3	2.6	56.5	2.85				
17.0					39.5	2.25	54.0	2.5				
18.0					35.2	1.85	51.6	2.2				
19.0					30.6	1.6	49.1	1.85				
20.0					25.1	1.35	46.4	1.6				
22.0							40.4	1.15				
24.0							33.6	0.8				
26.0							25.6	0.55				
D				()°							

Unit: ×1000kg

	Onit: X1000kg												
	LIFTING CAPACITIES AT ZERO DEGREE BOOM ANGLE												
	ON OUTRIGGERS MID EXTENDED 5.9m SPREAD 360° ROTATION												
A	9.	7m	16	5.8m	24	.4m	31.0m						
C	В		В		В		В						
0°	0° 7.2 12.0 14.3 2.7 21.9 0.9 28.5 0.3												

A:Boom length (m)

B:Load radius (m)

C:Loaded boom angle (°)

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

ISO 4305

	ON OUTRIGGERS MID EXTENDED 5.9m SPREAD												
			ON O	INI UI					.9m SF	'KEAD	1		
		31 Or	m Boor	n + 7.2ı		60° RC	TATIC	אוע	31 On	n Boom	1 + 12.8	m lib	
	-0) 		-0					
С	_	Tilt		Tilt		Tilt	C		Tilt		Tilt		Tilt
	R	W	R	W	R	W		R	W	R	W	R	W
80°	5.9	3.5	8.1	2.4	9.8	1.7	80°	7.7	2.2	11.7	1.2	14.6	0.8
77.5°	7.7	3.5	9.8	2.3	11.4	1.65	77.5°	9.8	2.15	13.5	1.15	16.3	0.78
75°	9.4	3.5	11.4	2.2	12.9	1.6	75°	11.8	2.1	15.3	1.1	17.9	0.75
72.5°	11.2	3.23	13.0	2.1	14.4	1.55	72.5°	13.6	1.93	17.1	1.05	19.4	0.73
70°	12.7	2.95	14.6	2.0	15.8	1.5	70°	15.5	1.75	18.8	1.0	21.0	0.7
67.5°	14.3	2.75	16.1	1.93	17.2	1.45	67.5°	17.2	1.63	20.5	0.95	22.5	0.68
65°	15.8	2.55	17.5	1.85	18.6	1.4	65°	18.9	1.5	22.0	0.9	23.9	0.65
62.5°	17.3	2.35	19.0	1.8	19.9	1.38	62.5°	20.6	1.4	23.6	0.88	25.2	0.65
60°	18.7	2.15	20.4	1.75	21.2	1.35	60°	22.3	1.3	25.1	0.85	26.6	0.65
57.5°	20.0	1.88	21.6	1.6	22.4	1.33	57.5°	23.8	1.23	26.4	0.8	27.8	0.65
55°	21.4	1.6	22.9	1.45	23.6	1.3	55°	25.4	1.15	27.9	0.75	29.0	0.65
52.5°	22.6	1.35	24.0	1.25	24.7	1.15	52.5°	26.8	1.0	29.2	0.73	30.2	0.63
50°	23.9	1.1	25.1	1.05	25.7	1.0	50°	28.2	0.85	30.4	0.7	31.3	0.6
47.5°	25.0	0.95	26.1	0.9	26.7	0.88	47.5°	29.5	0.73	31.6	0.63	32.3	0.55
45°	26.0	0.8	27.1	0.75	27.7	0.75	45°	30.7	0.6	32.7	0.55	33.3	0.5
42.5°	27.1	0.68	28.1	0.63			42.5°	31.9	0.48	33.7	0.45		
40°	28.1	0.55	29.0	0.5			40°	33.1	0.35	34.7	0.35		
37.5°	29.0	0.48	29.8	0.43									
35°	30.0	0.4	30.7	0.35									

C :Boom angle (°)
R :Load radius (m)
W :Rated lifting capacity (Unit:×1000kg)

ISO 4305

	ON OUTRIGGERS MID EXTENDED 5.0m SPREAD										
		360° I	ROTAT	ION (U	nit: × 10	00kg)					
A	9.	.7m	16	5.8m	24	.4m	31	.0m			
В	С		С		С		С				
3.0	60.6	30.0	74.4	19.2	79.7	12.5					
3.5	57.0	27.2	72.5	19.2	78.5	12.5					
4.0	53.1	23.4	70.9	19.2	77.5	12.5	80.8	8.4			
4.5	49.2	21.3	68.9	18.3	76.3	12.5	80.0	8.4			
5.0	44.7	19.6	67.1	17.0	75.0	12.5	79.1	8.4			
5.5	40.3	15.7	65.1	15.0	74.0	12.5	78.3	8.4			
6.0	34.9	12.5	77.3	8.4							
6.5	28.7	11.3	61.4	10.85	71.5	11.7	76.6	8.4			
7.0	18.2	9.65	59.4	9.5	70.1	10.4	75.6	8.1			
8.0			54.9	7.3	67.5	8.2	73.7	7.5			
9.0			50.5	5.8	64.8	6.7	71.8	6.8			
10.0			45.8	4.7	62.0	5.5	69.5	5.8			
11.0			40.3	3.8	59.3	4.65	67.3	4.9			
12.0			34.3	3.1	56.3	3.9	65.2	4.25			
13.0			27.0	2.55	53.0	3.25	63.0	3.6			
14.0			15.7	1.9	49.9	2.75	60.8	3.1			
15.0					46.6	2.3	58.5	2.65			
16.0					43.0	1.9	56.1	2.25			
17.0					39.4	1.6	53.8	1.95			
18.0					35.2	1.35	51.3	1.65			
19.0					30.5	1.1	48.7	1.4			
20.0					24.9	0.75	46.0	1.2			
22.0							40.3	0.8			
D				0°			2	26°			

Unit: ×1000kg

							Ornit.	~ rooong						
	LIFT	TING CAPA	CITIES A	T ZERO D	EGREE E	BOOM ANG	SLE							
С	ON OUTRIGGERS MID EXTENDED 5.0m SPREAD 360° ROTATION													
A	9.	.7m	16	6.8m	24	4m								
C	В		В		В									
0°	0° 7.2 9.0 14.3 1.8 21.9 0.5													

A:Boom length (m)

B:Load radius (m)

C:Loaded boom angle (°)

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

ISO 4305

			ON O	UTRIC	GERS	MID E	XTE	N	DED 5	.0m SF	PREAD)		
					3	60° RC	TAT	IO	N					
		31.0r	n Boor	n + 7.2ı	m Jib					31.0n	n Boom	12.8	m Jib	
С	5°	Tilt	25°	Tilt	45°	Tilt	C		5°	Tilt	25°	Tilt	45°	Tilt
	R	W	R	W	R	W			R	W	R	W	R	W
80°	5.9	3.5	8.1	2.4	9.8	1.7	80°		7.7	2.2	11.7	1.2	14.6	0.8
77.5°	7.7	3.5	9.8	2.3	11.4	1.65	77.5	5°	9.8	2.15	13.5	1.15	16.3	0.78
75°	9.4	3.5	11.4	2.2	12.9	1.6	75°		11.8	2.1	15.3	1.1	17.9	0.75
72.5°	11.2	3.23	13.0	2.1	14.4	1.55	72.5	5°	13.6	1.93	17.1	1.05	19.4	0.73
70°	12.7	2.95	14.6	2.0	15.8	1.5	70°		15.5	1.75	18.8	1.0	21.0	0.7
67.5°	14.3	2.7	16.1	1.93	17.2	1.45	67.5	5°	17.2	1.63	20.5	0.95	22.5	0.68
65°	15.8	2.45	17.5	1.85	18.6	1.4	65°		18.9	1.5	22.0	0.9	23.9	0.65
62.5°	17.1	2.05	18.9	1.65	19.9	1.38	62.5	o	20.6	1.38	23.6	0.88	25.2	0.65
60°	18.6	1.65	20.2	1.45	21.1	1.35	60°		22.2	1.25	25.1	0.85	26.6	0.65
57.5°	19.8	1.38	21.5	1.23	22.3	1.15	57.5	5 °	23.7	1.03	26.5	0.75	27.8	0.65
55°	21.1	1.1	22.7	1.0	23.4	0.95	55°		25.1	0.8	27.7	0.65	29.0	0.65
52.5°	22.4	0.93	23.9	0.83	24.5	8.0	52.5	5°	26.5	0.65	29.0	0.55	30.2	0.55
50°	23.6	0.75	25.0	0.65	25.5	0.65	50°		27.9	0.5	30.3	0.45	31.2	0.45
47.5°	24.8	0.6	26.1	0.5	26.6	0.5								
45°	25.9	0.45	27.1	0.35	27.5	0.35								

C :Boom angle (°)
R :Load radius (m)
W :Rated lifting capacity (Unit:×1000kg)

ISO 4305

	ONC	OUTRIGG	ERS M	IN EXTE	NDED 2	2.2m SPF	READ						
		360° I	ROTAT	ION (U	nit: ×10	00kg)							
A	9.	.7m	16	5.8m	24	.4m	31	.0m					
В	С		С		С		C						
3.0	60.6	13.2	74.2	13.0	79.5	12.5							
3.5	57.0	10.25	72.2	9.8	78.4	10.9							
4.0	4.0 53.1 8.0 70.5 7.8 77.2 8.8												
4.5													
5.0	44.7	5.7	66.8	5.3	74.6	6.2	77.9	6.05					
5.5	40.3	4.7	64.6	4.4	73.3	5.2	77.0	5.45					
6.0	34.9	3.85	62.8	3.65	72.0	4.4	76.1	4.8					
6.5	28.7	3.3	60.9	3.05	70.6	3.8	75.1	4.25					
7.0	18.3	2.7	58.7	2.6	69.5	3.3	74.1	3.65					
8.0			54.6	1.85	66.7	2.4	72.3	2.75					
9.0			50.2	1.2	64.1	1.75	70.3	2.05					
10.0			45.1	0.55	61.3	1.35	68.3	1.5					
11.0					58.7	0.95	66.2	1.2					
12.0					55.9	0.55	64.3	0.9					
13.0							62.2	0.5					
D		0°	4	40°	5	53°	(50°					

Unit: ×1000kg

	Crit. ×1000kg												
		LIFT	TING CAPA	CITIES A	AT ZERO D	EGREE E	BOOM AND	SLE					
	ON OUTRIGGERS MIN EXTENDED 2.2m SPREAD 360° ROTATION												
	Α	9	.7m										
C		В											
0	0	7.2	2.5										

A:Boom length (m)

B:Load radius (m)

C:Loaded boom angle (°)

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

NOTES FOR "ON OUTRIGGERS" TABLE

- Rated lifting capacities shown in the table are based on condition that crane is set on firm level surface. Those above thick lines are based on crane strength and those below, on its stability.
- 2. Rated lifting capacities based on crane stability are according to ISO 4305.
- 3. The mass of the hook (270kg for 30t capacity,100kg for 4.0t capacity),slings and all similarly used load handling devices must be considered as part of the load and must be deducted from the lifting capacities.
- 4. For rated lifting capacity of single top, reduce the rated lifting capacities of relevant boom according to a weight reduction for auxiliary load handling equipment. Capacities of single top shall not exceed 4,000kg including main boom hook mass and the net capacity must be so reduced.
- 5. Standard number of parts of line for each boom length is as shown below. Load per line should not surpass 39.2kN {4,000kgf} for main winch and auxiliary winch.

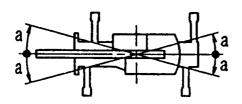
Boom length	9.7m	9.7m to 16.8m	16.8m to 31.0m	Single top Jib
Number of parts of line	8	6	4	1

The lifting capacity data stored in the AUTOMATIC MOMENT LIMITER (AML) is based on the standard number of parts of line listed in the chart.

Maximum lifting capacity is restricted by the number of parts of line of AUTOMATIC MOMENT LIMITER (AML).

6. 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.

Outriggers extended width	5.9m (middle)	5.0m (middle)	2.2m (minimum)
Angle a °	45	40	15



ISO 4305

			ON R	UBBER	STAT	IONAR'	Y (Un	it: ×100	0kg)			
			Over	Front					360° F	Rotation		
A		7m		.8m		.4m		7m		.8m		.4m
В	С		С		С		C		С		С	
3.0	60.6	18.0					60.6	11.0				
3.5	56.8	17.0					57.1	9.0				
4.0	53.0	15.0					53.5	7.3				
4.5	49.2	12.7	68.8	11.0			49.7	5.7	68.5	5.5		
5.0	44.9	10.6	66.9	9.5			45.4	4.9	66.3	4.5		
5.5	39.9						40.8	4.0	64.6	3.7		
6.0	34.6 7.7 63.1 7.0		7.0			35.3	3.2	62.5	3.1			
6.5	27.7	6.6	61.1	6.1			28.9	2.75	60.9	2.5		
7.0	17.7	5.7	59.0	5.3			20.5	2.27	58.6	2.1		
8.0			54.6	4.25	67.2	5.0			54.6	1.4	66.9	2.2
9.0			50.0	3.45	64.3	3.9			49.9	0.85	64.3	1.6
10.0			45.2	2.65	61.6	3.15					61.6	1.1
11.0			40.1	2.1	58.8	2.55					58.7	0.8
12.0			33.8	1.6	55.9	2.1						
13.0			26.5	1.2	52.9	1.75						
14.0			15.7	0.75	49.7	1.4						
15.0					46.7	1.1						
16.0					43.1 39.4	0.85						
17.0						0.6						
D		C) ⁰		2	28°	(0°	4	14°	5	56°

Unit: ×1000ka

Shit: X1000kg												
LIFTING CAPACITY AT ZERO DEGREE BOOM ANGLE												
ON RUBBER STATIONARY												
		Over Front					360° Rotation					
\ A	9.	9.7m 16.8m				9.7m						
c \	В		В				В					
0°	7.2	5.4	14.3	0.7			7.2	2.1				

A:Boom length (m)
B:Load radius (m)

C:Loaded boom angle (°)

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

ISO 4305

ON RUBBER CREEP (Unit: ×1000kg)												
	Over Front					360° Rotation						
\ A	9.	7m	16	.8m	24	.4m	9.	7m	16	.8m	24	.4m
В	С		С		С		С		С		С	
3.0	60.6	18.0					60.6	10.0				
3.5	56.8	15.45					57.0	8.0				
4.0	53.0	13.0					53.3	6.5				
4.5	49.0	11.1	68.6	9.7			49.2	5.1	68.6	5.1		
5.0	44.7	9.3	66.6	8.4			44.4	4.3	66.6	4.2		
5.5	39.8	7.95	64.6	7.0			39.6	3.7	64.7	3.5		
6.0	34.7	6.7	62.8	6.0			34.0	3.0	62.7	2.7		
6.5	28.0	5.75	60.8	5.3			27.0	2.5	60.7	2.35		
7.0	18.2	5.0	58.7	4.65			18.1	1.95	58.9	1.85		
8.0			54.4	3.6	67.0	4.3			54.5	1.3	67.0	1.9
9.0			49.9	2.8	64.3	3.4			50.2	0.75	64.3	1.35
10.0			45.1	2.3	61.7	2.8					61.7	0.9
11.0			39.6	1.8	58.8	2.25					58.8	0.6
12.0			33.3	1.35	56.0	1.8						
13.0			26.0	1.0	52.9	1.5						
14.0			14.6	0.6	49.7	1.2						
15.0					46.4	0.95						
16.0					42.9	0.6						
D		0°		3	31° 0°		0°	44°		56°		

Unit: ×1000kg LIFTING CAPACITY AT ZERO DEGREE BOOM ANGLE ON RUBBER CREEP Over Front 360° Rotation 9.7m 16.8m 9.7m В C В В 0° 7.2 4.7 14.3 0.5 7.2 1.8

A:Boom length (m)

B:Load radius (m)

C:Loaded boom angle (°)

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

NOTES FOR "ON RUBBER" TABLES

- 1. Rated lifting capacities shown in the table are based on condition that crane is set on firm level surface, with suspension 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.
- 2. Rated lifting capacities based on crane stability are according to ISO 4305.
- 3. The mass of the hook (270kg for 30t capacity,100kg for 4.0t capacity), slings and all similarly used load handling devices must be considered as part of the load and must be deducted from the lifting capacities.
- 4. For rated lifting capacity of single top, reduce the rated lifting capacities of relevant boom according to a weight reductions for auxiliary load handling equipment. Capacities of single top shall not exceed 4,000kg including main hook.
- 5. On rubber lifting with "jib" is not permitted. Maximum permissible boom length is 24.4 m.
- 6. CREEP is motion for crane not to travel more than 60 m in any 30 minute period and to travel at the speed of less than 1.6km/h.
- 7. During "CREEP" duties travel slowly and keep the lifting load as close to the ground as possible, and especially avoid any abrupt steering, accelerating or braking.
- 8. Do not operate the crane while carrying the load.
- 9. Tires should be inflated to their correct air pressure of 900kPa.
- 10. For CREEP operation, choose the drive mode and proper gear according to the road or working condition.
- 11. Standard number of parts of line for on rubber operation should be according to the following table.

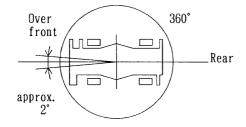
Load per line should not surpass 39.2kN {4,000kgf} for main winch and auxiliary winch.

Boom length	9.7m	9.7m to 24.4m	Single top
Number of parts of line	6	4	1

The lifting capacity data stored in the AUTOMATIC MOMENT LIMITER (AML) is based on the standard number of parts of line listed in the chart.

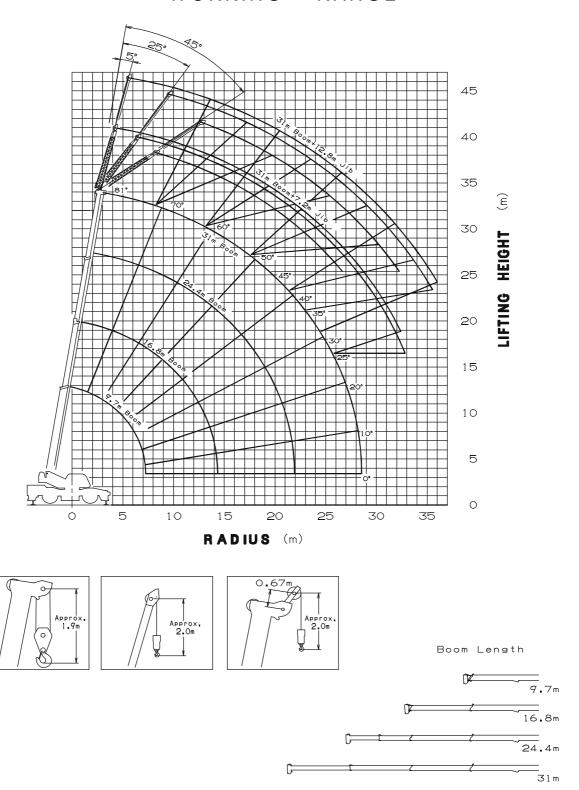
Maximum lifting capacity is restricted by the number of parts of line of AUTOMATIC MOMENT LIMITER (AML).

WORKING AREA



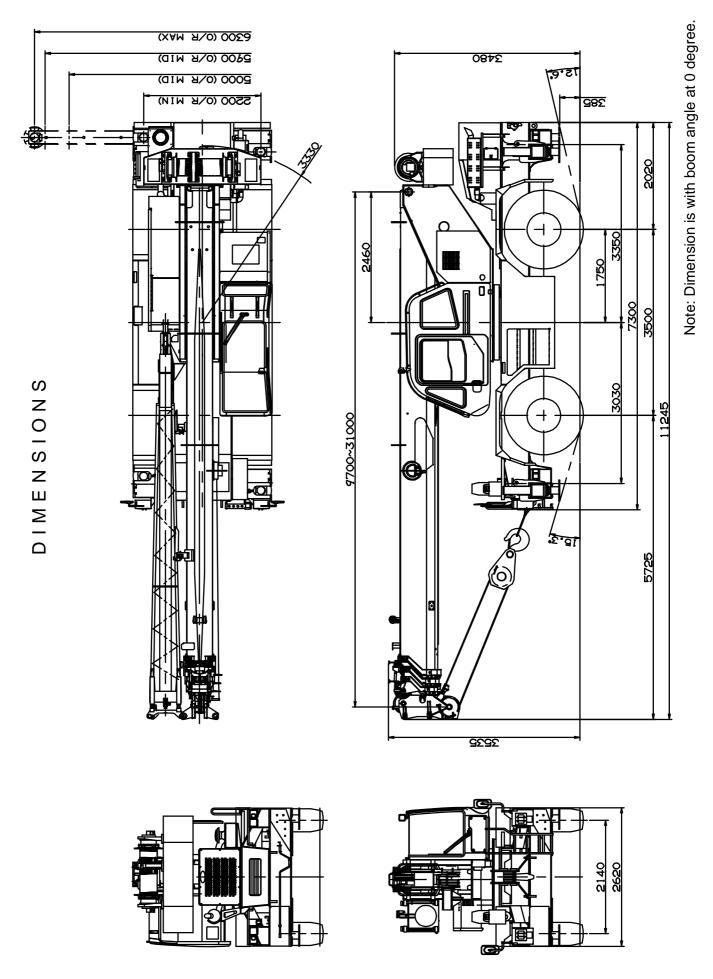
Without outriggers "Over front" operation should be performed within 2 degrees in front of chassis.

WORKING RANGE



NOTE: The above lifting height and boom angle are based on a straight (unladen) boom, and allowance should be made for boom deflection obtained under laden conditions.

The above working range is shown on condition with outriggers fully(6.3m) extended.



GR-300EX Axle Weight Distribution Chart

UNIT : kg

			Ortir : itg
	GVW	Front	Rear
Basic standard machine includes: 4-section boom (9.7m - 31.0m) 2-stage jib (7.2m, 12.8m) Cummins QSB6.7 445 / 95 R 25 tires Single top 4.0ton hook ball	26,920	13,170	13,750
Add: 1. 30ton 4 sheaves hook block	+270	+480	-210
Remove: 1. 2-stage jib (7.2m, 12.8m) 2. 4.0ton hook ball	-630 -100	-1,085 -140	+455 +40



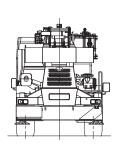
GR-500EX

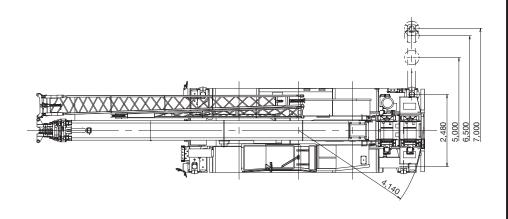
(Left-hand drive)
50 Ton Capacity

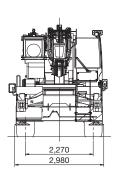
SPEC. SHEET NO. GR-500E-3-00104/R-02

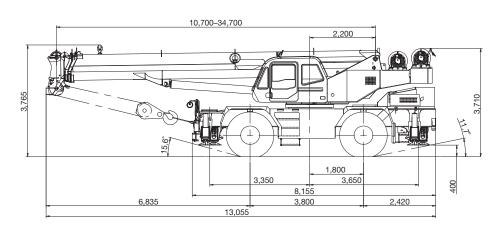
HYDRAULIC ROUGH TERRAIN CRANE

DIMENSIONS









Note: Dimension is with boom angle at 0 degree.

GENERAL DIMENSIONS

Turning radius (23.5 - 25 Tires)	
4 wheel steer	6.7 m
2 wheel steer	11.7 m

Overall length	approx.	13,055 mm
Overall width	approx.	2,980 mm
Overall height	approx.	3,765 mm

CRANE SPECIFICATIONS

BOOM

4 section full power partially synchronized telescoping boom of round box construction with 4 sheaves at boom head. The synchronization system consists of a telescope cylinder, 2 extension cables and retraction cables. Hydraulic cylinder fitted with holding valve. 2 easily removable wire rope guards, rope dead end provided on both sides of boom head. Boom telescope sections are supported by wear pads both vertically and horizontally.

Fully retracted length...... 10.7 m Fully extended length...... 34.7 m Extension speed........ 24.0 m in 72 s Root diameter...... 0.44 m

BOOM ELEVATION

By a double acting hydraulic cylinder with holding valve. Combination controls for hand or foot operation. Boom angle indicator.

Automatic speed reduction and slow stop function.

Boom angle -0.8°- 81° Boom raising speed 20° to 60° in 27 s

JIB

 $2\ stage$ swing around boom extention swing around type with triple offset (tilt type). Single sheave at jib head.

Stows alongside base boom section.

AUXILIARY LIFTING SHEAVE (SINGLE TOP)

Single sheave mounted to main boom head for single line work(stowable).

Root diameter..... 0.396 m

ANTI-TWO-BLOCK DEVICE

Pendant type over-winding cut out device with audio-visual (FAILURE lamp/BUZZER) warning system.

SLEWING

Hydraulic axial piston motor driven through planetary slewing speed reducer. Continuous 360° full circle slewing on ball bearing.

Equipped with manually locked/released slewing brake. A positive slewing lock for pick and carry and travel modes, manually engaged in cab. Twin slewing system: Free slewing or lock slewing controlled by selector switch on front console.

Slewing speed 2.7 min⁻¹ {rpm}

WINCH

MAIN WINCH

Variable speed type with grooved drum driven by hydraulic axial piston motor through speed reducer. Power load lowering and raising.

Equipped with automatic brake (neutral brake) and counterbalance valve. Controlled independently of auxiliary winch. Equipped with cable follower and drum rotation indicator.

MAIN DRUM

Root diameter x wide	0.362 m x 0.6 m
Wire rope diameter x length	. 19 mm x 193 m
Drum capacity	. 304 m, 7 layers
Maximum single line pull (1st layer) 75	3.3 kN (7,480 kgf)
Maximum permissible linepull wire strength 69	9.4 kN (7,085 kgf)

AUXILIARY WINCH

Variable speed type with grooved drum driven by hydraulic axial piston motor through speed reducer. Power load lowering and raising.

Equipped with automatic brake (neutral brake) and counterbalance valve. Controlled independently of main winch. Equipped with cable follower and drum rotation indicator.

AUXILIARY DRUM

Root diameter x wide	. 0.362 m x 0.6 m
Wire rope diameter x length	19 mm x 110 m
Drum capacity	304 m, 7 layers
Maximum single line pull (1st layer)	73.3 kN (7,480 kgf)
Maximum permissible linepull wire strength 6	69.4 kN (7,085 kgf)

WIRE ROPE

Non-rotating wire (no-spin), extra improved plow steel, preformed, independent wire rope core, right regular lay.

Main & Auxillary 19 mm 6 x 31 class

HOOK BLOCKS

50 ton (option)

5 sheaves with swivel hook and safety latch 20 ton (option)

3 sheaves with swivel hook and safety latch 5.6 ton

Weighted hook with swivel and safety latch

HYDRAULIC SYSTEM

PUMPS

2 variable piston pumps for crane functions.

Tandem gear pump for steering, slewing and optional equipment. Powered by carrier engine. Pump disconnect for crane is engaged/disengaged by rotary switch from operator's cab.

CONTROL VALVES

Multiple valves actuated by pilot pressure with integral pressure relief valves.

RESERVOIR

560 liters capacity. External sight level gauge.

FILTRATION

BETA10=10 return filter, full flow with bypass protection, located inside of hydraulic reservoir. Accessible for easy replacement.

OIL COOLER - Air cooled fan type.

CAB AND CONTROLS

Both crane and drive operations can be performed from one cab mounted on rotating superstructure.

Left side, 1 man type, steel construction with sliding door access and safety glass windows opening at side. Door window is powered control. Windshield glass window and roof glass window are shatter-resistant. Wiper and washer (front indshield and roof window). Tinted safety glass and sun visor. Tilt-telescoping steering wheel. Adjustable control lever stands for slewing, boom elevating, boom telescoping, auxiliary winch and main winch. Control lever stands can change neutral positions and tilt for easy access to cab. Foot operated controls: boom elevating, boom telescoping, service brake and engine throttle. 3 way adjustable operator's seat with high back, headrest and armrest. Cab floor mat. Engine throttle knob. Hot water cab heater and air conditioning.

Dash-mounted engine start/stop, monitor lamps, cigarette lighter, drive selector switch, parking brake switch, steering mode select switch, power window switch, pump engaged/disengaged switch, slewing brake switch, telescoping/auxiliary winch select switch, outrigger controls, free slewing/ lock slewing selector switch, eco mode switch, and ashtray.

Instruments - Torque converter oil temperature, engine water temperature, air pressure, fuel, speedometer, tachometer, hour meter and odometer / tripmeter. Engin over-run alarm. Back-up alarm. Low oil pressure/high water temp. Warning device (visual). Rear steer centering light. Hydraulic oil pressure is monitored and displayed on the AML-C display panel.

CRANE SPECIFICATIONS

TADANO Automatic Moment Limiter

(AML-C) including:

- Control lever lockout function with audible and visual pre-warning
- Number of parts of line
- · Boom position indicator
- Outrigger state indicator
- · Slewing angle
- Boom angle / boom length / jib offset angle / jib length / load radius / rated lifting capacities / actual loads read out
- Potential lifting height
- Ratio of actual load moment to rated load moment indication
- Permissible load
- Automatic Speed Reduction and Slow Stop function on boom elevation and slewing
- Working condition register switch
- Load radius / boom angle / tip height / slewing range preset function
- · External warning lamp
- Tare function
- · Main hydraulic oil pressure

- Fuel consumption monitor
- Main winch / auxiliarly winch select
- Drum rotation indicator (audible and visible type) main and auxiliary winch
- · On-rubber indicator

TADANO AML-C monitors outrigger extended length and automatically programs the corresponding "RATED LIFTING CAPACITIES" table

Operator's right hand console includes transmission gear selector, slewing lock lever and sight level bubble.

Upper console includes working light switch, roof washer and wiper switch, emergency outrigger set up key switch, jib equipped/removed select switch, eco mode switch, boom emergency telescoping switch (2nd and 3rd-top) and air conditioning control switch.

NOTE: Each crane motion speed is based on unladen conditions.

CARRIER SPECIFICATIONS

TYPE

Rear engine, left hand steering, driving axle 2-way selected type by manual switch, 4x2 front drive, 4x4 front and rear drive.

FRAME

High tensile steel, all welded mono-box construction.

ENGINE

Model MITSUBISHI 6M60-TL Type Direct injection diesel

No. of cylinders 6

Combustion 4 cycle, turbo charged and after cooled

Bore x Stroke, mm 118 x 115 Displacement, liters 7.54 Air inlet heater 24 volt preheat

Air cleaner Dry type, replaceable element
Oil filter Full flow with replaceable element
Fuel filter Full flow with replaceable element

Fuel tank, liters 300, right side of carrier

Cooling Liquid pressurized, recirculating by-pass Radiator Fin and tube core, thermostat controlled

Fan, mm Suction type, 6-blade, 600 dia.

Starting 24 volt

Charging 24 volt system, negative ground

Battery 2-120 amp. Hour Compressor, air, I /min 830 at 2,600 min⁻¹

Output, Max. kW (HP) Gross 200 (267) at 2,600 min⁻¹

Torque, Max. N·m 785 at 1,400 min⁻¹

Capacity, liters

Cooling water 13 Lubrication 13–15 Fuel 300

TRANSMISSION

Electronically controlled full automatic transmission.

Torque converter driving full powershift with driving axle selector. 6 forward and 2 reverse speeds, constant mesh.

4 speeds - high range - 2-wheel drive; 4-wheel drive

4 speeds - low range - 4-wheel drive

TRAVEL SPEED - 50 km/h

GRADE ABILITY (tan θ **)** - 69% (at stall), 30% *

 * Machine should be operated within the limit of engine crankcase design (17°: MITSUBISHI 6M60-TL)

AXLE

Front: Full floating type, steering and driving axle with planetary reduction.

Rear: Full floating type, steering and driving axle with planetary reduction and non-spin rear differential.

STEERING

Hydraulic power steering controlled by steering wheel. 3 steering modes available: 2 wheel front, 4 wheel coordinated and 4 wheel crab.

SUSPENSION

Front: Semi-elliptic leaf springs with hydraulic lockout device. Rear: Semi-elliptic leaf springs with hydraulic lockout device.

BRAKE SYSTEMS

Service: Air over hydraulic disc brakes on all 4 wheels. Parking/Emergency: Spring applied-air released brake acting on input shaft of front axle.

Auxiliary: Electro-pneumatic operated exhaust brake.

TIRES - 23.5-25 (OR) Air pressure: 450 kPa

OUTRIGGERS

4 hydraulic, beam and jack outriggers.

Vertical jack cylinders equipped with integral holding valve.

Each outrigger beam and jack is controlled independently from cab.

Beams extend to 7.0 m center-line and retract to within 2.98 m overall width with floats. Outrigger jack floats

are attached thus eliminating the need of manually attaching and detaching them. Controls and sight bubble located in

superstructure cab. 4 outrigger extension lengths are provided with corresponding "RATED LIFTING CAPACITIES" for crane duty in confined areas.

Min. Extension

Mid. Extension

Mid. Extension

Mid. Extension

Max. Extension

Float size (Diameter)

2.48 m center to center

5.0 m center to center

7.0 m center to center

7.0 m center to center

7.0 m center to center

COUNTERWEIGHT

Integral with slewing frame Mass... 2,900 kg

STANDARD EQUIPMENT

- Telematics (machine data logging and monitoring system) with - HELLO-NET via internet (availability depends on countries)
- Eco mode system
- Positive control
- Over unwinding prevention
- Emergency steering system
- Transmission neutral position engine start
- Overshift prevention
- Parking braked travel warning
- Tilt-telescope steering wheel
- Halogen head lamp
- Fenders

- Air dryer
- Water separator with filter (high filtration)
- Air cleaner dust indicator
- Full instrumentation package
- Complete highway light package
- Tire inflation kit
- Towing hooks-Front and rear
- Lifting eyes
- Hook block tie down (front bumper)
- Weighted hook storage compartment
- Winch drum mirror
- Tool storage compartment
- Beacon lamp

OPTIONAL EQUIPMENT

- Wind speed indicator
- Hook block-50t capacity (5 sheaves with swivel hook and safety latch)
- Hook block-20t capacity (3 sheaves with swivel hook and safety latch)

- Radiator cover
- Outrigger control box (Both side of carrier)
- Engine coolant heater
- Air heater
- Fuel filter heater

HOISTING PERFORMANCE

LINE SPEEDS AND PULLS

	Main or auxiliary winch - 0.362 m drum						
Layer	Line speeds ¹	Line pulls Available²					
	m/min	kN (kgf)					
1st	101	77.3 (7,480)					
2nd	110	70.4 (6,900)					
3rd	119	63.9 (6,260)					
4th	128	58.8 (5,760)					
5th	137	55.1 (5,400)					
6th	146	50.9 (4,990)					
7th³	155	47.7 (4,670)					

- Maximum permissible line pull wire strength.

 Main & Auxiliary: 72.3 kN (7,085 kgf) with 6 x 31 class rope.
- ¹ Line speed based only on hook block, not loaded.
- ² Developed by machinery with each layer of wire rope, but not based on rope strength or other limitations in machinery or equipment.
- ³ Seventh layer of wire rope are not recommended for hoisting operations.

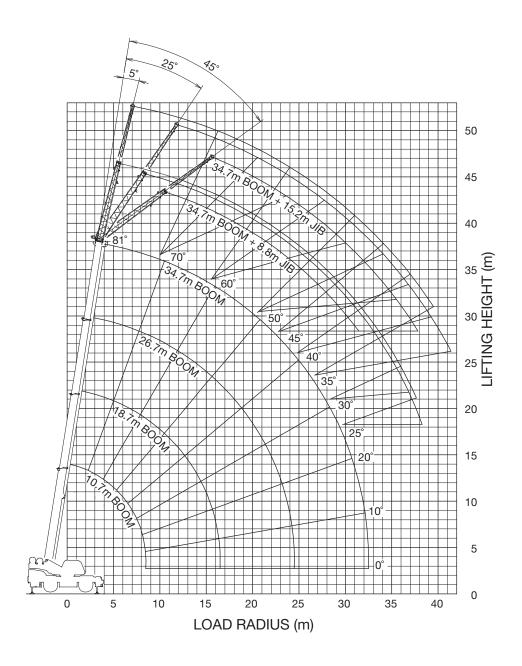
DRUM WIRE ROPE CAPACITIES

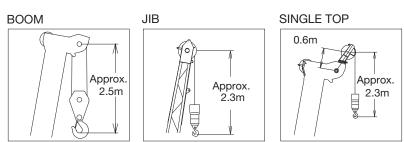
	Main and auxiliary d	rum grooved lagging				
Wire	19 mm wire rope					
rope	Rope per layer	Total wire rope				
layer	m	m				
1	34.2	34.2				
2	37.3	71.5				
3	40.3	111.8				
4	43.4	155.2				
5	46.4	201.6				
6	49.5	251.1				
7	52.6	303.7				

DRUM DIMENSIONS

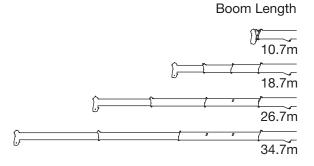
Root diameter	362 mm
Length	600 mm
Flange diameter	657 mm

GR-500EX WORKING RANGE CHART





The above lifting height and boom angle are based on a straight (unloaded) boom and machine standing level on firm supporting surface. Allowance should be made for boom deflection obtained under loaded conditions. The above working range is shown on condition with outriggers fully (7.0 m) extended.



ON OUTRIGGERS FULLY EXTENDED 7.0 m SPREAD									
		011 001		O ROTATION		(1000 kg)	(D		
A		10.7 m	1	(26.7 m	34.7 m			
B	С	10.7 111	С		С	20.7 111	С		
2.5	69.3	50.0							
3.0	66.4	46.2	76.9	21.6					
3.5	63.6	41.3	75.4	21.6	80.8	18.7			
4.0	60.2	37.2	73.8	21.6	79.8	18.7			
4.5	56.9	33.7	72.2	21.6	78.8	18.3			
5.0	53.5	29.2	70.7	21.6	77.7	17.8			
5.5	49.9	26.7	69.0	21.6	76.7	17.1			
6.0	45.8	24.6	67.3	21.6	75.6	16.4	79.7	11.4	
6.5	41.6	22.7	65.6	21.6	74.5	15.7	79.0	11.4	
7.0	36.9	21.0	64.0	21.5	73.4	15.1	78.3	11.3	
8.0	24.8	16.0	60.4	17.8	71.2	14.4	76.7	10.5	
9.0			56.7	14.8	68.9	13.2	75.0	9.9	
10.0			52.9	12.4	66.5	12.1	73.3	9.3	
11.0			48.8	10.6	64.0	10.3	71.6	9.05	
12.0			44.3	9.05	61.4	9.0	69.9	8.75	
13.0			39.4	7.8	58.9	7.75	68.1	7.6	
14.0			33.8	6.75	56.1	6.85	66.0	6.85	
15.0			27.2	5.85	53.4	6.05	64.1	6.05	
16.0			18.0	5.15	50.4	5.3	62.1	5.35	
17.0					47.4	4.75	60.0	4.75	
18.0					44.2	4.2	57.8	4.25	
19.0					40.8	3.75	55.7	3.8	
20.0					37.1	3.35	53.5	3.4	
22.0					28.2	2.7	49.0	2.75	
24.0					14.4	2.2	44.2	2.25	
26.0							38.8	1.8	
28.0							32.6	1.45	
30.0							25.0	1.2	
32.0							12.2	0.95	
D				C)°				

	LIFTING CAPACITIES AT ZERO DEGREE BOOM ANGLE ON OUTRIGGERS FULLY EXTENDED 7.0 m SPREAD 360° ROTATION (Unit: ×1000 kg)									
	/ V		10.7 m	1	8.7 m		26.7 m		34.7 m	
C	СВВВВВВ									
	0°	8.6	7.5	16.6	3.2	24.4	1.5	32.1	0.6	

ON OUTRIGGERS MID EXTENDED 6.5 m SPREAD										
			OVER	SIDE (Unit:	×1000 k	.g)				
A		10.7 m	18.7 m			26.7 m	34.7 m			
В	С		С		С		С			
2.5	69.3	50.0								
3.0	66.4	46.2	76.9	21.6						
3.5	63.6	41.3	75.4	21.6	80.8	18.7				
4.0	60.2	37.2	73.8	21.6	79.8	18.7				
4.5	56.9	33.7	72.2	21.6	78.8	18.3				
5.0	53.5	29.2	70.7	21.6	77.7	17.8				
5.5	49.9	26.7	69.0	21.6	76.7	17.1				
6.0	45.8	24.6	67.3	21.6	75.6	16.4	79.7	11.4		
6.5	41.6	22.7	65.6	21.6	74.5	15.7	79.0	11.4		
7.0	36.9	20.9	63.9	19.6	73.4	15.1	78.3	11.3		
8.0	24.8	15.8	60.4	16.0	71.2	14.4	76.7	10.5		
9.0			56.7	13.4	68.9	12.3	75.0	9.9		
10.0			52.9	10.9	66.4	10.6	73.3	9.3		
11.0			48.7	9.15	63.9	9.2	71.6	8.6		
12.0			44.3	7.8	61.3	8.1	69.7	7.6		
13.0			39.4	6.7	58.7	6.95	67.8	6.8		
14.0			33.8	5.8	56.0	6.05	65.8	6.15		
15.0			27.2	5.05	53.3	5.3	63.9	5.4		
16.0			18.0	4.45	50.3	4.7	61.9	4.75		
17.0					47.3	4.15	59.8	4.2		
18.0					44.1	3.7	57.7	3.75		
19.0					40.7	3.3	55.6	3.35		
20.0					37.0	2.9	53.4	3.0		
22.0					28.1	2.35	48.8	2.4		
24.0					14.4	1.85	44.0	1.9		
26.0							38.6	1.5		
28.0							32.5	1.2		
30.0							24.9	0.95		
32.0							12.0	0.7		
D		•		C)°					

	LIFTING CAPACITIES AT ZERO DEGREE BOOM ANGLE ON OUTRIGGERS MID EXTENDED 6.5 m SPREAD OVER SIDE (Unit: ×1000kg)									
0	A 10.7 m 18.7 m 26.7 m 34.7 m									
	0°	8.6	7.5	16.6	3.2	24.4	1.5	32.1	0.6	

A: Boom length (m) B: Load radius (m)

C: Loaded boom angle (°)
D: Minimum boom angle (°) for indicated boom length (no load)

ON OUTRIGGERS MID EXTENDED 5.0 m SPREAD										
		(IDE (Unit: \times	1000 kg)					
A		10.7 m	_	18.7 m		26.7 m		34.7 m		
В	С		С		С		С			
2.5	69.3	50.0								
3.0	66.4	46.2	76.9	21.6						
3.5	63.6	41.3	75.4	21.6	80.8	18.7				
4.0	60.2	36.4	73.8	21.6	79.8	18.7				
4.5	56.9	29.7	72.2	21.6	78.8	18.3				
5.0	53.4	24.9	70.7	21.6	77.7	17.8				
5.5	49.7	21.3	69.0	18.3	76.6	16.0				
6.0	45.7	18.4	67.3	16.1	75.5	14.3	79.7	11.4		
6.5	41.5	15.7	65.6	14.4	74.3	12.9	79.0	11.4		
7.0	36.7	13.6	63.9	13.0	73.2	11.7	78.2	10.5		
8.0	24.4	10.6	60.3	10.8	70.8	9.6	76.5	8.9		
9.0			56.6	8.95	68.5	8.3	74.6	7.6		
10.0			52.8	7.35	66.1	7.1	72.8	6.5		
11.0			48.6	6.25	63.6	6.3	71.0	5.8		
12.0			44.2	5.2	61.1	5.5	69.1	5.1		
13.0			39.3	4.45	58.4	4.75	67.2	4.5		
14.0			33.8	3.8	55.8	4.05	65.2	4.0		
15.0			27.2	3.2	53.0	3.5	63.4	3.55		
16.0			18.0	2.8	50.2	3.05	61.3	3.1		
17.0					47.1	2.6	59.3	2.65		
18.0					43.9	2.3	57.3	2.35		
19.0					40.5	1.95	55.1	2.0		
20.0					36.8	1.75	52.9	1.75		
22.0					28.0	1.25	48.5	1.3		
24.0					14.4	0.9	43.6	0.9		
26.0							38.3	0.6		
D				0°				25°		

	LIFTING CAPACITIES AT ZERO DEGREE BOOM ANGLE ON OUTRIGGERS MID EXTENDED 5.0 m SPREAD OVER SIDE (Unit: ×1000 kg)									
	_ A		10.7 m	1	l8.7 m		26.7 m			
C	СВВВВВ									
	0°	8.6	7.5	16.6	2.5	24.5	8.0			

	ON OUTRIGGERS MIN EXTENDED 2.48 m SPREAD OVER SIDE (Unit: ×1000 kg)											
A	10.7 m 18.7 m 26.7 m 34.7 m											
B	С		С		С		С					
2.5	69.1	23.0										
3.0	66.2	18.2	76.9	14.9								
3.5	63.1	14.8	75.3	12.5	80.5	10.7						
4.0	59.9	12.4	73.8	10.7	79.3	9.3						
4.5	56.6	10.3	72.2	9.3	78.2	8.2						
5.0	53.2	8.5	70.6	8.2	77.1	7.3						
5.5	49.5	7.05	68.9	7.1	76.1	6.5						
6.0	45.5	5.95	67.2	6.4	74.9	5.8	78.9	5.2				
6.5	41.2	5.05	65.5	5.7	73.8	5.2	78.0	4.7				
7.0	36.4	4.3	63.8	5.1	72.7	4.7	77.2	4.2				
8.0	24.1	3.15	60.2	3.9	70.3	3.8	75.4	3.5				
9.0			56.5	3.0	68.0	3.2	73.6	2.9				
10.0			52.6	2.3	65.6	2.5	71.8	2.4				
11.0			48.5	1.75	63.1	2.05	70.0	1.9				
12.0			44.0	1.35	60.7	1.6	68.2	1.5				
13.0			39.1	0.95	58.1	1.2	66.3	1.15				
14.0			33.6	0.65	55.4	0.9	64.4	0.9				
15.0					52.7	0.65	62.5	0.65				
D		0°		18°		44°		0°				

	LIFTING CAPACITIES AT ZERO DEGREE BOOM ANGLE ON OUTRIGGERS MIN EXTENDED 2.48 m SPREAD OVER SIDE (Unit: ×1000kg)													
C	A	В	10.7 m]							
	0°	8.6	2.6											

A: Boom length (m)
B: Load radius (m)
C: Loaded boom angle (°)

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

Boom length	10.7 m	10.7 m to 18.7 m	18.7 m to 34.7 m	Single top / Jib
Number of parts of line	10	6	4	1

				ON O		RS FULLY
		3.	4.7-m Bo	om + 8.8-r	n Jib	
С	5°	Tilt	25°	Tilt	45°	Tilt
	R	W	R	W	R	W
80	7.6	5.6	10.5	3.8	12.5	2.75
77.5	9.8	5.18	12.5	3.63	14.3	2.65
75	11.8	4.78	14.3	3.48	16.1	2.58
72.5	13.7	4.38	16.2	3.33	17.7	2.5
70	15.5	4.03	17.9	3.2	19.3	2.45
67.5	17.3	3.73	19.7	3.05	20.9	2.4
65	19.1	3.5	21.3	2.93	22.4	2.35
62.5	20.7	3.2	22.8	2.75	23.9	2.33
60	22.3	2.9	24.3	2.58	25.4	2.3
57.5	23.7	2.5	25.8	2.25	26.7	2.05
55	25.2	2.15	27.1	1.95	27.9	1.85
52.5	26.7	1.88	28.4	1.7	29.0	1.63
50	28.0	1.63	29.7	1.5	30.2	1.45
47.5	29.3	1.4	30.9	1.3	31.2	1.28
45	30.6	1.23	32.0	1.15	32.3	1.13
42.5	31.8	1.08	33.1	1.0		
40	33.0	0.95	34.1	0.9		
37.5	34.1	0.83	35.0	0.78		
35	35.0	0.73	35.9	0.68		
32.5	35.9	0.63	36.7	0.6		
30	36.8	0.55	37.4	0.53		
27.5			38.1	0.45		
25			38.7	0.4		

/ E	EXTENDED 7.0 m SPREAD												
1	(Unit: ×10)00 kg)											
					m + 15.2-								
	С	5°	Tilt	25°	Tilt	45° Tilt							
		R	W	R	W	R	W						
	80	9.7	2.88	14.4	1.85	17.8	1.25						
	77.5	12.2	2.8	16.6	1.75	19.7	1.2						
	75	14.7	2.75	18.7	1.68	21.7	1.18						
	72.5	16.9	2.53	20.7	1.6	23.4	1.15						
	70	19.0	2.35	22.6	1.53	25.2	1.13						
	67.5	21.0	2.2	24.5	1.45	26.8	1.1						
	65	23.0	2.08	26.3	1.4	28.4	1.1						
	62.5	24.9	1.98	28.0	1.35	30.0	1.08						
	60	26.7	1.88	29.7	1.3	31.4	1.05						
	57.5	28.4	1.7	31.3	1.25	32.9	1.03						
	55	30.1	1.55	33.0	1.23	34.2	1.03						
	52.5	31.7	1.33	34.3	1.1	35.4	0.98						
	50	33.2	1.13	35.6	0.98	36.5	0.93						
	47.5	34.6	0.95	36.9	0.85	37.5	0.8						
	45	35.9	0.8	38.0	0.73	38.5	0.68						
	42.5	37.2	0.68	39.1	0.6								
	40	38.4	0.58	40.1	0.5								
	37.5	39.6	0.48	41.1	0.43								
	35	40.7	0.4	42.0	0.35								

				ON		BERS MID ER SIDE		TENDED nit: ×1000		READ
		3.	4 7-m Bo	om + 8.8-r		LITOIDL	ΤĬ			34
l c	5°	Tilt		5° Tilt		° Tilt	1	С	5°	Tilt
	R	W	R	W	R	W	1		R	W
80	7.6	5.6	10.5	3.8	12.5	2.75	1	80	9.7	2.8
77.5	9.8	5.18	12.5	3.63	14.3	2.65	1	77.5	12.2	2.8
75	11.8	4.78	14.3	3.48	16.1	2.58	1	75	14.7	2.7
72.5	13.7	4.38	16.2	3.33	17.7	2.5	1	72.5	16.9	2.5
70	15.5	4.03	17.9	3.2	19.3	2.45	1	70	19.0	2.3
67.5	17.3	3.73	19.7	3.05	20.9	2.4	1	67.5	21.0	2.2
65	19.1	3.5	21.3	2.93	22.4	2.35	1	65	23.0	2.0
62.5	20.6	3.0	22.8	2.6	23.8	2.25	1	62.5	24.9	1.9
60	22.1	2.55	24.2	2.3	25.3	2.15	1	60	26.7	1.8
57.5	23.6	2.2	25.6	1.98	26.6	1.88	1	57.5	28.3	1.5
55	25.1	1.88	27.0	1.7	27.8	1.63	1	55	29.9	1.3
52.5	26.5	1.6	28.3	1.48	28.9	1.4	1	52.5	31.4	1.1
50	27.9	1.38	29.6	1.28	30.1	1.23	1	50	33.0	0.9
47.5	29.2	1.2	30.8	1.1	31.2	1.05	1	47.5	34.4	0.7
45	30.5	1.03	31.9	0.95	32.3	0.93	1	45	35.8	0.6
42.5	31.7	0.88	33.0	0.8			1 '			
40	32.9	0.75	34.0	0.7			1			
37.5	33.9	0.63	35.0	0.6			1			
35	34.9	0.55	35.9	0.5			1			

	(Unit: ×1000 kg)													
<u>(</u> (Jnit: ×1000	J kg)												
				m Boom	+ 15.2-m J									
	C	5°	Tilt	25	° Tilt	45	° Tilt							
		R	W	R	W	R	W							
]	80	9.7	2.88	14.4	1.85	17.8	1.25							
1	77.5	12.2	2.8	16.6	1.75	19.7	1.2							
1	75	14.7	2.75	18.7	1.68	21.7	1.18							
1	72.5	16.9	2.53	20.7	1.6	23.4	1.15							
1	70	19.0	2.35	22.6	1.53	25.2	1.13							
1	67.5	21.0	2.2	24.5	1.45	26.8	1.1							
1	65	23.0	2.08	26.3	1.4	28.4	1.1							
	62.5	24.9	1.98	28.0	1.35	30.0	1.08							
7	60	26.7	1.88	29.7	1.3	31.4	1.05							
7	57.5	28.3	1.58	31.4	1.2	32.9	1.03							
7	55	29.9	1.33	32.9	1.15	34.2	1.03							
1	52.5	31.4	1.1	34.2	0.95	35.3	0.88							
	50	33.0	0.93	35.5	0.8	36.4	0.75							
	47.5	34.4	0.78	36.8	0.65	37.5	0.63							
	45	35.8	0.65	37.9	0.55	38.5	0.53							
1														

C: Boom angle (°) R: Load radius (m) W :Rated lifting capacity

				C		GERS MID E VER SIDE								
		34.7-m Boom + 8.8-m Jib												
С	5° -			° Tilt	45° Tilt									
~		1												
	R	W	R	W	R	W								
80	7.6	5.6	10.5	3.8	12.5	2.75								
77.5	9.8	5.18	12.5	3.63	14.3	2.65								
75	11.8	4.78	14.3	3.48	16.1	2.58								
72.5	.5 13.6		16.2	3.16	17.7	2.5								
70	15.3	3.3	17.8	2.85	19.3	2.45								
67.5	16.9	2.73	19.4	2.38	20.8	2.1								
65	18.7	2.2	20.9	1.95	22.2	1.78								
62.5	20.2	1.8	22.4	1.6	23.6	1.48								
60	21.8	1.48	23.8	1.3	25.0	1.23								
57.5	5 23.3 1.18 24.7 0.95		25.3	1.05	26.3	1.0								
55			26.7	0.85	27.5	0.8								
52.5	26.2	0.75	28.0	0.68	28.8	0.63								
50	27.6	0.58	29.3	0.53	29.9	0.5								

) E	XTENDED 5	.0 m SPRE	AD												
((Unit: ×1000 kg)														
Ι			34.7-m Boom + 15.2-m Jib												
1	C	5°	Tilt	25	s° Tilt	45°	`Tilt								
7		R	W	R	W	R	W								
7	80	9.7	2.88	14.4	1.85	17.8	1.25								
7	77.5	12.2	2.8	16.6	1.75	19.7	1.2								
1	75	14.7	2.75	18.7	1.68	21.7	1.18								
]	72.5	16.8	2.5	20.7	1.6	23.4	1.15								
]	70	18.9	2.3	22.5	1.53	25.2	1.13								
1	67.5	20.7	1.85	24.6	1.38	26.8	1.1								
	65	22.5	1.48	26.2	1.25	28.4	1.1								
	62.5 24.3 1.18 27.8 1.0 29.9 0.9														
	60	25.9	0.93	29.4	0.8	31.2	0.73								
	57.5	27.7	0.7	30.9	0.6	32.6	0.55								
	55	29.3	0.55	32.4	0.45	33.8	0.4								
1															

C: Boom angle (°) R: Load radius (m) W :Rated lifting capacity

				ON RUE	3BER	STATIONAR	Y (Unit:	×1000 kg)				
			Over	Front					360° F	Rotation		
_ \ A		10.7 m		18.7 m		26.7 m		10.7 m		18.7 m		26.7 m
В	С		С		С		С		С		С	
3.0	66.2	22.1					66.1	12.6				
3.5	63.2	19.7					63.1	10.4				
4.0	60.0	17.5	73.8	15.6			59.9	7.95	73.8	8.65		
4.5	56.7	15.8	72.2	14.0			56.5	6.25	72.1	7.15		
5.0	53.2	14.3	70.6	12.5			53.1	5.15	70.5	5.85		
5.5	49.6	13.0	69.0	11.6			49.4	4.25	68.9	4.95		
6.0	45.6	11.9	67.3	10.7			45.5	3.5	67.2	4.25		
6.5	41.4	11.0	65.6	9.95	73.9	7.4	41.2	2.85	65.5	3.65	73.6	3.95
7.0	36.6	9.65	63.9	9.15	72.7	6.8	36.4	2.3	63.8	3.05	72.5	3.35
8.0	24.3	7.4	60.3	7.85	70.5	5.8	24.1	1.5	60.2	2.15	70.2	2.45
9.0			56.5	6.7	68.1	5.05			56.5	1.55	67.9	1.8
10.0			52.7	5.55	65.7	4.45			52.6	1.1	65.5	1.35
11.0			48.6	4.5	63.3	4.0			48.4	0.7	63.0	0.95
12.0			44.1	3.75	60.8	3.7					60.5	0.6
13.0			39.2	3.15	58.4	3.4						
14.0			33.7	2.65	55.6	2.9						
15.0			27.1	2.25	52.9	2.5						
16.0			17.6	1.9	50.1	2.15						
17.0					47.0	1.85						
18.0					43.8	1.55						
19.0					40.4	1.3						
20.0					36.7	1.1						
22.0					27.9	0.75						
		()°				i i			39°		55°

	LIFTING CAPACITY AT ZERO DEGREE BOOM ANGLE ON RUBBER CREEP (Unit: ×1000 kg)													
			О	ver Front			360° Rotation							
_ \ A		10.7 m		18.7 m		26.7 m	10.7 m							
C	В		В		В		В							
0°	8.6	6.7	16.6	1.7	24.5	0.4	8.6	1.2						

A: Boom length (m)

B: Load radius (m)

C: Loaded boom angle (°)
D: Minimum boom angle (°) for indicated boom length (no load)

ON RUBBER CREEP (Unit: x 1,000 kg)												
			Ove	r Front	t			3	60° F	Rotatio	n	
\ A	1	0.7 m	18	3.7 m	26	.7 m	10).7 m	18	3.7 m	26.7 m	
В	С		С				С		С		С	
3.0	66.2	16.4					66.1	9.55				
3.5	63.1	14.4					63.0	8.0				
4.0	59.9	12.7	73.7	13.4			59.8	6.7	73.7	7.5		
4.5	56.6	11.4	72.1	12.1			56.5	5.35	72.1	6.35		
5.0	53.2	10.3	70.5	10.9			53.1	4.5	70.5	5.2		
5.5	49.5	9.4	68.9	9.95			49.4	3.65	68.9	4.25		
6.0	45.6	8.5	67.2	9.05			45.5	3.0	67.2	3.5		
6.5	41.3	7.75	65.5	8.25	73.9	7.4	41.2	2.4	65.5	2.95	73.6	3.4
7.0	36.5	7.05	63.8	7.6	72.7	6.8	36.4	1.95	63.8	2.55	72.5	2.85
8.0	24.2	5.95	60.3	6.5	70.5	5.7	24.1	1.25	60.2	1.9	70.2	2.05
9.0			56.5	5.6	68.1	4.75			56.5	1.35	67.8	1.55
10.0			52.7	4.65	65.7	4.2			52.6	0.9	65.4	1.15
11.0			48.5	3.8	63.3	3.65			48.4	0.55	63.0	8.0
12.0			44.1	3.15	60.8	3.15					60.5	0.5
13.0			39.2	2.65	58.3	2.75						
14.0			33.7	2.2	55.6	2.45						
15.0			27.1	1.85	52.9	2.05						
16.0			17.6	1.55	50.1	1.75						
17.0					47.0	1.5						
18.0					43.8	1.3						
19.0					40.4	1.05						
20.0					36.7	0.9						
22.0					27.8							
			0°			14°		0°	44° 5			58°

LI	FTIN	NG CA	APA	CITY A	TZ	ERO [DEG	REE E	BOOM AN	GLE		
	ON RUBBER STATIONARY (Unit: ×1000kg)											
	Over Front							36	60° Rotatio	n		
A	10	.7 m	18	3.7 m			10	.7 m				
C /	В		В]	В					
0°	8.6	5.4	16.6	1.4			8.6	0.9				

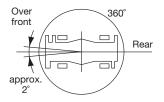
- A: Boom length (m)
- B: Load radius (m)
- C: Loaded boom angle (°)
- D: Minimum boom angle (°) for indicated boom length (no load)

WARNING AND OPERATING INSTRUCTIONS FOR ON RUBBER LIFTING CAPACITIES

- Rated lifting capacities based on crane stability are according to ISO4305.
- 2. Rated lifting capacities shown in the chart are based on the condition that crane is set on firm level surfaces with suspension 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.
- If the suspension 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.
- 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
23.5-25	450 kPa

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 26.7 m.
- 8. When making lift on rubber stationary, set parking brake.
- For creep operation, 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 60 m in any 30 minute period and to travel at the speed of less than 1.6 km/h.
- 12. For creep operation, choose the drive mode and proper gear according to the road or working condition.
- 13. The mass of the hook (500 kg for 50 t capacity, 400 kg for 20 t capacity, 150 kg for 5.6 t capacity), slings and all similarly used load handling devices must be considered as part of the load and must be deducted from the lifting capacities.
- 14. For rated lifting capacity of single top, reduce the rated lifting capacities of relevant boom according to a weight reductions for auxiliary load handling equipment. Capacities of single top shall not exceed 5,600 kg including main hook.
- 15. The lifting capacity data stowed in the Automatic Moment Limiter (AML-C) is based on the standard number of parts of line listed in the chart. Standard number of parts of line for on rubber operation should be according to the following table.

Boom length	10.7 m	18.7 m to 26.7 m	Single top
Number of parts of line	6	4	1

WARNING AND OPERATING INSTRUCTIONS FOR LIFTING CAPACITIES

GENERAL

- 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.
- 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.

SET UP

- 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

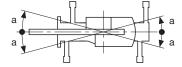
- Rated lifting capacities on outriggers fully extended as determined by ISO4305.
- Rated lifting capacities above thick lines in the chart are based on crane strength and those below, on its stability. They are based on actual load radius increased by boom deflection.
- 3. The weight of handling device such as hook blocks (500 kg for 50 t capacity, 400 kg for 20 t capacity, 150 kg for 5.6 t capacity), slings, etc., must be considered as part of the load and must be deducted from the lifting capacities.
- 4. 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 the boom or jib is extremely dangerous. Such action can damage the boom, jib or slewing mechanism, and lead to overturning of the crane.
- 5. Rated lifting capacities do not account for wind on lifted load or boom. We recommend against working under the conditions 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 9 m/s to 12 m/s; reduced by 70% when the wind speed is 12 m/s to 14 m/s. If the wind speed is 14 m/s or over, stop operation. During jib lift, stop operation if the wind speed is 9 m/s or over.
- Rated lifting capacities at load radius shall not be exceeded. Do not tip the crane to determine allowable loads.
- Do not operate at boom lengths, radii, or boom angles, where no capacities are shown. Crane may overturn without any load on the hook.
- 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.
- When making lifts at a load radius not shown, use the next longer radius to determine allowable capacity.
- 10. Load per line should not exceed. 57.1 kN (5,600 kgf) for main winch and auxiliary winch.
- 11. Check the actual number of parts of line with Automatic Moment Limiter (AML-C) before operation. Maximum lifting capacity is restricted by the number of parts of line of Automatic Moment Limiter (AML-C). Limited capacity is as determined from the formula, Single line pull for main winch 57.1 kN (5,600 kgf) x number of parts of line.
- 12. 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.

- The 10.7-m Boom length capacities are based on boom fully retracted
- 14. 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.
- 15. 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 5,600 kg including the main boom hook mass attached to the boom.
- 16. When a jib is removed, set the jib state switch to the REMOVED position.
- 17. When erecting and stowing jib, be sure to retain it by hand or by other means to prevent its free movement.
- 18. Use "ANTI-TWO-BLOCK DEVICE" 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.
- For boom length with 8.8-m Jib, rated lifting capacities are determined by loaded boom angle only in the column headed "34.7-m Boom + 8.8-m Jib".
 For boom length with 15.2-m Jib, rated lifting capacities
 - are determined by loaded boom angle only in the column headed "34.7-m Boom + 15.2-m Jib".
 - For angles not shown, use the next lower loaded boom angle to determine allowable capacity.
- 20. 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.
- 21. The lifting capacity data stowed in the Automatic Moment Limiter (AML-C) is based on the standard number of parts of line listed in the chart. Standard number of parts of line for on outrigger operation should be according to the following table.

Boom length	10.7 m	10.7 m to 18.7 m	18.7 m to 34.7 m	Single top/ jib
Number of parts of line	10	6	4	1

22. The lifting capacity for over side area differs depending on outrigger extension width. Work with capacity corresponding to the extension width. The lifting capacity for over front and over rear areas are for "outriggers fully extended". However, the areas (angle a) differ depending on the outrigger extension width.

Outriggers extended width	6.5 m	5.0 m	2.48 m
	(middle)	(middle)	(minimum)
Angle a°	45	25	15



DEFINITIONS

- 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.
- Loaded Boom Angle: The angle between the boom base section and the horizontal, after lifting the rated lifting capacity at the load radius.
- 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.
- Side Load: Horizontal side force applied to the lifted load either on the ground or in the air.

WARNING AND OPERATING INSTRUCTIONS FOR USING THE AUTOMATIC MOMENT LIMITER (AML-C)

- 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 lift indicative symbol flickers).
- 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 indicative symbol flickers.
 - Press the lift state select key to register the lift state.

 Asymptotic to the following.

However, pay attention to the following.

For stationary and creep 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 slewed to the side area, make sure the value of the AUTOMATIC MOMENT LIMITER (AML-C) is below the 360° lifting capacity.
- This machine is equipped with an automatic slewing stop device.

(For the details, see Operation and Maintenance Manual.) But, operate very carefully because the automatic slewing 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 AUTOMATIC MOMENT LIMITER (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 slewing, lifting loads shall be appropriately reduced.
- AUTOMATIC MOMENT LIMITER (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 AUTOMATIC MOMENT LIMITER (AML-C) aids in place of good operating practice can cause an accident. The operator must exercise caution to assure safety.

GR-500EX Axle weight distribution chart

		Kilograms	
	GVW	Front	Rear
Basic machine	33,445	16,430	17,015
Add: 1. 50 ton hook block	500	920	-420
2. 20 ton hook block	400	740	340
Remove: 1. 5.6 ton hook block	-150	-210	60
2. Top jib	-225	-285	60
3. Base jib	-625	-1,140	515





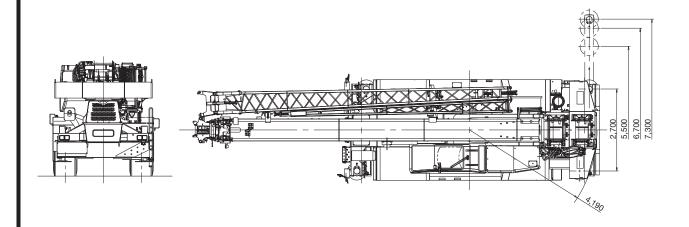
GR-600EX

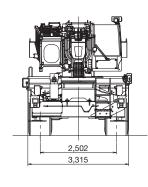
(Left-hand drive)
60 Ton Capacity

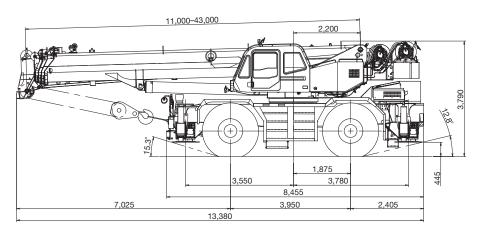
SPEC. SHEET NO. GR-600E-3-00102/EX-03

HYDRAULIC ROUGH TERRAIN CRANE

DIMENSIONS







Note: Dimension is with boom angle at -1.6 degree.

GENERAL DIMENSIONS

Turning radius (29.5 - 25 Tires)	
4 wheel steer	6.8 m
2 wheel steer	11.9 m

Overall length	approx.	13,380 mm
Overall width	approx.	3,315 mm
Overall height	approx.	3,790 mm

CRANE SPECIFICATIONS

BOOM

5 section full power partially synchronized telescoping boom of round box construction with 5 sheaves at boom head. The synchronization system consists of 2 telescope cylinder, extension cables and retraction cables. Hydraulic cylinder fitted with holding valve. 2 easily removable wire rope guards, rope dead end provided on both sides of boom head. Boom telescope sections are supported by wear pads both vertically and horizontally.

BOOM ELEVATION

By a double acting hydraulic cylinder with holding valve. Combination controls for hand or foot operation. Boom angle indicator.

Automatic speed reduction and slow stop function.

JIB

2 stage swing around boom extention swing around type with triple offset (tilt type). Single sheave at jib head. Stows alongside base boom section.

AUXILIARY LIFTING SHEAVE (SINGLE TOP)

Single sheave mounted to main boom head for single line work(stowable).

Root diameter..... 0.396 m

ANTI-TWO-BLOCK DEVICE

Pendant type over-winding cut out device with audio-visual (FAILURE lamp/BUZZER) warning system.

SLEWING

Hydraulic axial piston motor driven through planetary slewing speed reducer. Continuous 360° full circle slewing on ball bearing.

Equipped with manually locked/released slewing brake. A positive slewing lock for pick and carry and travel modes, manually engaged in cab. Twin slewing system: Free slewing or lock slewing controlled by selector switch on front console.

Slewing speed 2.4 min⁻¹ {rpm}

WINCH

MAIN WINCH

Variable speed type with grooved drum driven by hydraulic axial piston motor through speed reducer. Power load lowering and raising.

Equipped with automatic brake (neutral brake) and counterbalance valve. Controlled independently of auxiliary winch. Equipped with cable follower and drum rotation indicator.

MAIN DRUM

Root diameter x wide	0.362 m x 0.6 m
Wire rope diameter x length	. 19 mm x 235 m
Drum capacity	. 304 m, 7 layers
Maximum single line pull (1st layer)73	3.3 kN (7,480 kgf)
Maximum permissible linepull wire strength 69	9.4 kN (7,085 kgf)

AUXILIARY WINCH

Variable speed type with grooved drum driven by hydraulic axial piston motor through speed reducer. Power load lowering and raising.

Equipped with automatic brake (neutral brake) and counterbalance valve. Controlled independently of main winch. Equipped with cable follower and drum rotation indicator.

AUXILIARY DRUM

Root diameter x wide	0.362 m x 0.6 m
Wire rope diameter x length	19 mm x 133 m
Drum capacity	304 m, 7 layers
Maximum single line pull (1st layer)	73.3 kN (7,480 kgf)
Maximum permissible linepull wire strength	69.4 kN (7,085 kgf)

WIRE ROPE

HOOK BLOCKS

60 ton (option)

6 sheaves with swivel hook and safety latch 35 ton (option)

3 sheaves with swivel hook and safety latch 5.6 ton

Weighted hook with swivel and safety latch

HYDRAULIC SYSTEM

PUMPS

2 variable piston pumps for crane functions.

Tandem gear pump for steering, slewing and optional equipment. Powered by carrier engine. Pump disconnect for crane is engaged/disengaged by rotary switch from operator's cab.

CONTROL VALVES

Multiple valves actuated by pilot pressure with integral pressure relief valves.

RESERVOIR

763 liters capacity. External sight level gauge.

FILTRATION

BETA10=10 return filter, full flow with bypass protection, located inside of hydraulic reservoir. Accessible for easy replacement.

OIL COOLER - Air cooled fan type.

CAB AND CONTROLS

Both crane and drive operations can be performed from one cab mounted on rotating superstructure.

Left side, 1 man type, steel construction with sliding door access and safety glass windows opening at side. Door window is powered control. Windshield glass window and roof glass window are shatter-resistant. Wiper and washer (front indshield and roof window). Tinted safety glass and sun visor. Tilt-telescoping steering wheel. Adjustable control lever stands for slewing, boom elevating, boom telescoping, auxiliary winch and main winch. Control lever stands can change neutral positions and tilt for easy access to cab. Foot operated controls: boom elevating, boom telescoping, service brake and engine throttle. 3 way adjustable operator's seat with high back, headrest and armrest. Cab floor mat. Engine throttle knob. Hot water cab heater and air conditioning.

Dash-mounted engine start/stop, monitor lamps, cigarette lighter, drive selector switch, parking brake switch, steering mode select switch, power window switch, pump engaged/disengaged switch, slewing brake switch, boom telescoping/auxiliary winch select switch, outrigger control panel, and slewing free/ lock selector switch.

Instruments - Torque converter oil temperature, engine water temperature, air pressure, fuel, speedometer, tachometer, hour meter and odometer / tripmeter. Engin over-run alarm. Back-up alarm. Low oil pressure/high water temp. Warning device (visual). Rear steer centering light. Hydraulic oil pressure is monitored and displayed on the AML-C display panel.

CRANE SPECIFICATIONS

TADANO Automatic Moment Limiter

(AML-C) including:

- · Control lever lockout function with audible and visual pre-warning
- Number of parts of line
- Boom position indicator
- Outrigger state indicator
- Slewing angle
- Boom angle / boom length / jib offset angle / jib length / load radius / rated lifting capacities / actual loads read out
- Potential lifting height
- Ratio of actual load moment to rated load moment indication
- Permissible load
- Automatic Speed Reduction and Slow Stop function on boom elevation and slewing
- Working condition register switch
- Load radius / boom angle / tip height / slewing range preset function
- External warning lamp
- Tare function

- · Main hydraulic oil pressure
- · Fuel consumption monitor
- Main winch / auxiliarly winch select
- Drum rotation indicator (audible and visible type) main and auxiliary winch
- On-rubber indicator

TADANO AML-C monitors outrigger extended length and automatically programs the corresponding "RATED LIFTING CAPACITIES" table

Operator's right hand console includes transmission gear selector, slewing lock lever and sight level bubble.

Upper right console includes flood lamp switch, roof washer and wiper switch, emergency outrigger set up key switch, jib status switch, eco mode switch, and air conditioning control switch. Lower right console includes boom emergency telescoping switch (2nd and 3rd-top)

NOTE: Each crane motion speed is based on unladen conditions.

CARRIER SPECIFICATIONS

Rear engine, left-hand drive, driving axle 2-way selected type by manual switch, 4x2 front drive, 4x4 front and rear drive.

High tensile steel, all welded mono-box construction.

ENGINE

Model MITSUBISHI 6M60-TL Direct injection diesel Type

No. of cylinders

Combustion 4 cycle, turbo charged and after cooled

Bore x Stroke, mm 118 x 115 Displacement, liters 7.54 Air inlet heater 24 volt preheat

Dry type, replaceable element Air cleaner Oil filter Full flow with replaceable element Full flow with replaceable element Fuel filter

300, right side of carrier Fuel tank, liters

Cooling Liquid pressurized, recirculating by-pass Fin and tube core, thermostat controlled Radiator

Suction type, 6-blade, 600 dia. Fan, mm

24 volt Starting

24 volt system, negative ground Charging

2-120 amp. Hour Battery 830 at 2,600 min⁻¹ Compressor, air, I/min

Gross 200 (267) at 2,600 min-1 Output, Max. kW (HP)

Torque, Max. Nm 785 at 1,400 min-1

Capacity, liters

Cooling water 13-15 Lubrication Fuel 300

TRANSMISSION

Electronically controlled full automatic transmission.

Torque converter driving full powershift with driving axle selector. 6 forward and 2 reverse speeds, constant mesh.

3 speeds - high range - 2-wheel drive; 4-wheel drive

3 speeds - low range - 4-wheel drive

TRAVEL SPEED - 36 km/h

GRADE ABILITY (tan θ **)** - 147% (at stall), 30% *

Machine should be operated within the limit of engine crankcase design (17°: MITSUBISHI 6M60-TL)

AXLE

Front: Full floating type, steering and driving axle with planetary reduction.

Rear: Full floating type, steering and driving axle with planetary reduction and non-spin rear differential.

STEERING

Hydraulic power steering controlled by steering wheel. 4 steering modes available: 2 wheel front, 2 wheel rear, 4 wheel coordinated and 4 wheel crab.

SUSPENSION

Front: Rigid mounted to the frame.

Rear: Pivot mounted with hydraulic lockout device.

BRAKE SYSTEMS

Service: Air over hydraulic disc brakes on all 4 wheels. Parking/Emergency: Spring applied-air released brake acting on input shaft of front axle.

Auxiliary: Electro-pneumatic operated exhaust brake.

TIRES - 29.5-25 22PR (OR) Air pressure: 350 kPa or 29.5-25 28PR (OR) Air pressure: 330 kPa

OUTRIGGERS

4 hydraulic, beam and jack outriggers.

Vertical jack cylinders equipped with integral holding valve. Each outrigger beam and jack is controlled independently from cab. Beams extend to 7.3 m center-line and retract to within

3.315 m overall width with floats. Outrigger jack floats

are attached thus eliminating the need of manually attaching and

detaching them. Controls and sight bubble located in

superstructure cab. 4 outrigger extension lengths are provided with corresponding "RATED LIFTING CAPACITIES" for crane duty in confined areas.

Min. Extension 2.7 m center to center Mid. Extension 5.5 m center to center Mid. Extension 6.7 m center to center Max. Extension 7.3 m center to center Float size (Diameter) 0.6 m

COUNTERWEIGHT

Integral with slewing frame Mass... 5,670 kg (Containing weight with auxiliary winch and wire rope)

STANDARD EQUIPMENT

- Telematics (machine data logging and monitoring system) with - HELLO-NET via internet (availability depends on countries)
- Eco mode system
- Positive control
- Over unwinding prevention
- Emergency steering system
- Transmission neutral position engine start
- Overshift prevention
- Parking braked travel warning
- Tilt-telescope steering wheel
- Halogen head lamp
- Fenders

- Air dryer
- Water separator with filter (high filtration)
- Air cleaner dust indicator
- Full instrumentation package
- Complete highway light package
- Tire inflation kit
- Towing hooks-Front and rear
- Lifting eyes
- Hook block tie down (front bumper)
- Weighted hook storage compartment
- Winch drum mirror
- Tool storage compartment

OPTIONAL EQUIPMENT

- Wind speed indicator
- Hook block-60 t capacity

(6 sheaves, swivel type with safty latch. Mass: approx. 540 kg)

- Hook block-35 t capacity

(3 sheaves, swivel type with safty latch. Mass: approx. 450 kg)

HOISTING PERFORMANCE

LINE SPEEDS AND PULLS

	Main or auxiliary winch - 0.362 m drum	
Layer	Line speeds ¹	Line pulls Available²
	m/min	kN (kgf)
1st	101	73.3 (7,480)
2nd	110	67.6 (6,900)
3rd	119	61.4 (6,260)
4th	128	56.5 (5,760)
5th	137	52.9 (5,400)
6th	146	48.9 (4,990)
7th³	155	45.8 (4,670)

Maximum permissible line pull wire strength.
 Main & Auxiliary: 69.4 kN (7,085 kgf) with 6 x 31 class rope.

- ¹ Line speed based only on hook block, not loaded.
- ² Developed by machinery with each layer of wire rope, but not based on rope strength or other limitations in machinery or equipment.
- 3 Eighth layer of wire rope are not recommended for hoisting operations.

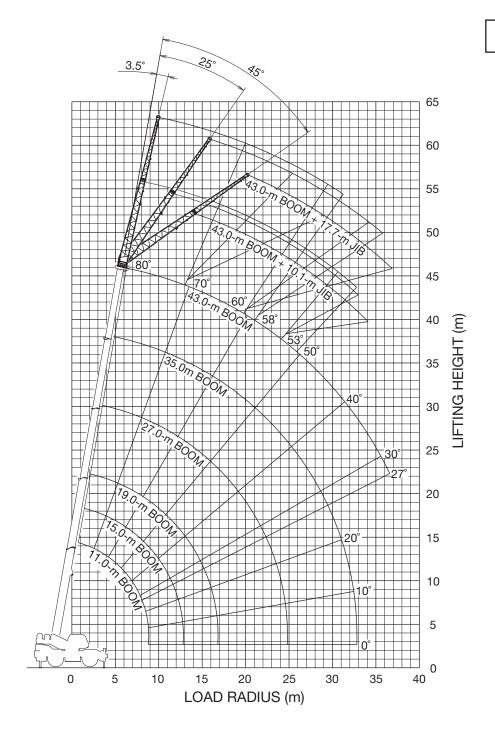
DRUM WIRE ROPE CAPACITIES

	Main and auxiliary d	rum grooved lagging
Wire	19 mm wire rope	
rope layer	Rope per layer	Total wire rope
layei	m	m
1	34.2	34.2
2	37.3	71.5
3	40.3	111.8
4	43.4	155.2
5	46.4	201.6
6	49.5	251.1
7	52.6	303.7

DRUM DIMENSIONS

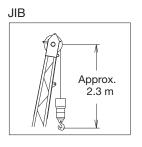
Root diameter	362 mm
Length	600 mm
Flange diameter	657 mm

GR-600EX WORKING RANGE CHART



Telescoping mode I

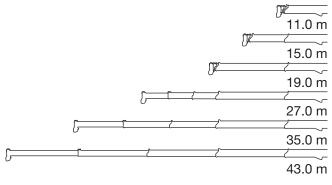




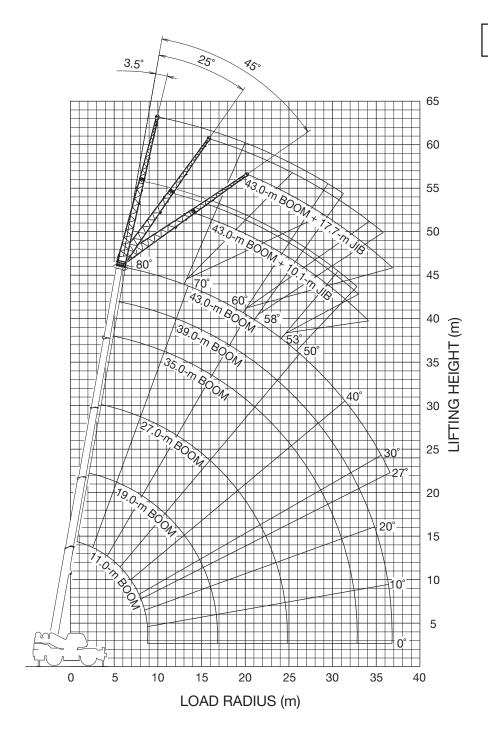


Boom Length

The above lifting height and boom angle are based on a straight (unloaded) boom and machine standing level on firm supporting surface. Allowance should be made for boom deflection obtained under loaded conditions. The above working range is shown on condition with outriggers fully (7.3 m) extended.

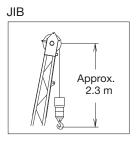


GR-600EX WORKING RANGE CHART



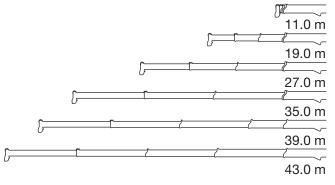
Telescoping mode II







The above lifting height and boom angle are based on a straight (unloaded) boom and machine standing level on firm supporting surface. Allowance should be made for boom deflection obtained under loaded conditions. The above working range is shown on condition with outriggers fully (7.3 m) extended.



						ON OU		GERS F				7.3 m 000 kg)	SPRI	EAD						
A	- 1	11.0 m	1	15.0 m	1	10	.0 m	0 11017	1	(-	.0 m	oo kg)	1	35	.0 m		3	9.0 m	1	3.0 m
B \\ \\	С	1.0 111	- c	0.0 111		13.	C			21	<u> </u>		С	00			С	3.0 111		0.0 111
3.0	68	60.0	74	40.8	78	32.0	78	22.0												
3.5	65	54.9	72	40.8	76	32.0	76	22.0												
4.0	62	53.8	70	40.8	75	32.0	75	22.0												
4.5	59	47.7	68	40.8	73	32.0	73	22.0	78	22.0	78	17.0								
5.0	56	42.8	66	40.8	72	32.0	72	22.0	77	21.3	77	17.0								
5.5	52	38.7	64	37.5	70	32.0	70	22.0	76	20.3	76	17.0								
6.0	48	35.3	61	34.6	68	31.9	68	22.0	75	19.4	75	17.0								
6.5	44	32.4	59	32.0	67	30.3	67	22.0	74	18.6	74	16.2	79	14.0	79	12.0				
7.0	39	29.9	57	29.6	65	28.8	65	22.0	73	17.8	73	15.6	78	13.5	78	11.7				
7.5	34	27.7	54	27.4	64	25.8	63	22.0	72	17.7	72	14.9	77	13.0	77	11.3				
8.0	28	25.7	52	24.9	62	23.2	61	22.0	71	17.6	71	14.4	76	12.6	76	10.9	78	10.0		
8.5	20	22.6	49	22.0	60	21.0	60	22.0	70	17.5	70	13.9	75	12.2	76	10.5	77	10.0		
9.0			47	19.5	58	19.1	58	21.7	68	17.4	69	13.4	75	11.9	75	10.2	76	10.0	80	9.0
10.0			40	15.8	54	15.3	54	17.8	66	15.7	66	12.4	73	11.8	73	9.5	75	9.6	78	8.7
11.0			34	13.0	50	12.6	50	15.0	64	13.6	64	11.5	71	11.6	71	8.9	73	9.1	77	8.3
12.0			25	10.9	46	10.5	46	12.8	62	11.6	62	10.6	69	11.4	70	8.5	72	8.6	75	7.9
14.0					36	7.6	36	9.7	56	8.6	56	9.3	66	9.1	66	7.7	69	7.9	72	7.4
16.0					22	5.5	21	7.5	51	6.5	51	7.9	62	7.0	62	6.7	66	7.4	71	7.3
18.0									45	5.0	45	6.4	58	5.5	58	5.9	62	6.1	66	5.7
20.0									39	3.9	38	5.2	54	4.4	54	5.2	59	4.9	63	4.6
22.0									30	3.1	29	4.3	50	3.5	50	4.5	55	4.1	60	3.7
24.0									17	2.4	17	3.6	45	2.8	46	3.7	51	3.3	56	3.0
26.0													40	2.2	40	3.2	47	2.8	53	2.4
28.0													34	1.7	34	2.7	43	2.3	49	1.9
30.0													27	1.3	27	2.3	38	1.9	45	1.5
32.0													16	1.0	16	1.9	32	1.5	41	1.2
34.0					\vdash												25	1.2	36	0.9
36.0																	14	1.0		
D									C	ı°										27°
								Telesc	opin	g condit	ions	(%)								
Telescoping Mode		Ι, Π		I		I		П		I		П		I		П		П		Ι, Π
2nd boom		0		50		100		0		100		0		100		0		50		100
3rd boom		0		0		0		33		33		66		66		100	_	100		100
4th boom		0		0		0		33		33		66		66		100	_	100		100
Top boom		0		0		0		33		33		66		66		100		100		100

	LIFTIN	NG CAPACIT	IES AT ZERO 7.3 m SF			E ON OUTRI ON (Unit: ×10		LY EXTENDE	ΞD	
_	110	15.0 m		0 m		.0 m	- 0,	.0 m	39.0 m	I
c ^	11.0 m	B 15.0 III	В 19.	B	B 21	B	В 35	B	В 39.0 П	
O°	8.8 13.6	12.9 7.5	16.9 4.8	16.8 6.2	24.9 2.1	24.6 3.4	32.9 0.9	32.7 1.7	36.3 0.8	
Telescoping Mode	Ι, Π	I	I	П	I	П	I	П	П	

						ON O	JTRI	GGERS	MID	EXTENI	DED	6.7 m S	PRE	AD						
							(OVER S	IDE	(Unit: >	<100	0 kg)								
A	1	1.0 m	1	5.0 m		19	.0 m	1		27	.0 m	1		35	.0 m	1	3	9.0 m	4	3.0 m
В	С		С		С		С		С		С		С		С		С		С	
3.0	68	59.6	75	40.8	78	32.0	78	22.0												
3.5	65	53.3	72	40.8	76	32.0	76	22.0												
4.0	62	48.0	70	40.8	75	32.0	75	22.0												
4.5	59	43.5	68	40.8	73	32.0	73	22.0	78	22.0	79	17.0								
5.0	56	39.7	66	39.5	71	32.0	71	22.0	77	21.3	77	17.0								
5.5	52	36.4	64	36.2	70	32.0	70	22.0	76	20.3	77	17.0								
6.0	48	33.5	62	33.3	68	31.8	68	22.0	75	19.4	75	17.0								
6.5	44	31.0	59	30.8	67	27.9	66	22.0	74	18.6	74	16.2	79	14.0	79	12.0				
7.0	40	28.8	57	27.4	65	24.8	65	22.0	73	17.8	73	15.6	78	13.5	78	11.7				
7.5	34	25.5	54	24.4	63	22.2	63	22.0	72	17.7	72	14.9	78	13.0	77	11.3				
8.0	28	22.3	52	21.6	61	20.0	61	22.0	71	17.6	71	14.4	76	12.6	77	10.9	78	10.0		
													10.0							
9.0			47	17.0	58	16.5	58	19.1	68	16.0	69	13.4	74	11.9	75	10.2	76	10.0	79	9.0
	10.0 41 13.7 54 13.3 54 15.7 66 13.7 66 12.4 73 11.8 73 9.5 75 9.6														78	8.7				
11.0			34	11.3	50	11.0	50	13.2	64	11.9	64	11.5	71	11.5	71	8.9	74	9.1	76	8.3
12.0			25	9.4	45	9.1	46	11.3	62	10.2	62	10.6	69	10.1	70	8.5	72	8.6	75	7.9
14.0					38	6.5	36	8.6	56	7.5	57	8.9	66	8.0	66	7.7	69	7.9	72	7.4
16.0					21	4.7	21	6.7	51	5.7	51	7.0	62	6.2	63	6.7	66	6.8	69	6.4
18.0									45	4.4	45	5.7	58	4.8	59	5.8	62	5.4	66	5.1
20.0									38	3.4	38	4.6	54	3.8	54	4.8	59	4.4	63	4.0
22.0									30	2.6	29	3.8	49	3.0	50	3.9	55	3.6	59	3.2
24.0									17	1.9	16	3.2	44	2.4	45	3.3	51	2.9	56	2.6
26.0													40	1.8	40	2.8	47	2.4	52	2.0
28.0													34	1.4	34	2.3	42	1.9	48	1.6
30.0													27	1.0	27	1.9	37	1.5	44	1.2
32.0															17	1.6	32	1.2	40	0.9
34.0																	25	0.9		
D									()°										30°
								Telesc	opin	g condit	ions	(%)								

				Telesc	oping condit	ions (%)				
Telescoping Mode	Ι, Π	I	I	П	I	П	I	П	П	Ι, Π
2nd boom	0	50	100	0	100	0	100	0	50	100
3rd boom	0	0	0	33	33	66	66	100	100	100
4th boom	0	0	0	33	33	66	66	100	100	100
Top boom	0	0	0	33	33	66	66	100	100	100

	LIF	TING CAPAC			BOOM ANG OVER SIDE (ID EXTENDE	D	
CA	11.0 m	15.0 m	В 19	.0 m	В 27	.0 m	35 B	.0 m	39.0 m	
0°	8.8 13.5	12.9 7.5	16.8 4.2	16.8 6.1	24.9 1.7	24.6 3.0	32.8 0.6	32.7 1.4	36.4 0.6	
Telescoping Mode	Ι, Π	I	I	П	I	П	I	П	П	

- A: Boom length (m)
 B: Load radius (m)
 C: Loaded boom angle (°)
 D: Minimum boom angle (°) for indicated boom length (no load)

						ON O		GGERS OVER S					PRE	AD						
A	1	1.0 m	1	5.0 m		19	.0 m			•	.0 m			35	.0 m		3	9.0 m	4	3.0 m
В	С		С		С		С		С		С		С)	С		C		С	
3.0	68	55.6	74	40.8	78	32.0	78	22.0												
3.5	65	49.4	72	40.8	76	32.0	76	22.0												
4.0	62	44.3	70	40.8	75	32.0	75	22.0												
4.5	59	40.0	68	39.5	73	32.0	73	22.0	78	22.0	79	17.0								
5.0	56	36.3	66	33.2	72	29.6	71	22.0	77	21.3	77	17.0								
5.5	52	32.7	64	28.5	70	25.5	70	22.0	76	20.3	76	17.0								
6.0	48	28.4	62	24.9	69	22.4	68	22.0	75	19.4	75	17.0		110		10.0				
6.5	44	24.2	59	21.9	67	19.8	66	22.0	74	18.5	74	16.2	79	14.0	79	12.0				
7.0	40	20.8	57	19.5	65	17.7	65	20.4	73	16.8	73	15.6	78	13.5	78	11.7				
7.5 8.0	34 28	18.1 16.0	54 52	17.5 15.5	63 62	15.9 14.3	63 61	18.5 16.9	72 71	15.2 13.9	72 71	14.9 14.4	77 76	13.0 12.6	77	11.3 10.9	78	10.0		
8.5	28	14.2	50	13.7	60	13.0	59	15.5	70	12.8	70	13.9	75	12.6	76	10.9	78	10.0		
9.0	20	14.2	47	12.3	58	11.8	58	14.2	68	11.7	69	13.4	74	11.2	75	10.5	77	10.0	79	9.0
10.0			40	9.9	54	9.6	54	11.8	66	10.0	66	11.6	73	9.7	73	9.5	75	9.6	78	8.7
11.0			33	8.1	50	7.8	50	10.0	64	8.6	64	10.2	71	8.5	71	8.9	74	8.9	77	8.2
12.0			24	6.7	46	6.5	45	8.5	61	7.5	61	8.9	69	7.4	70	8.5	72	7.9	75	7.2
14.0				0.7	36	4.4	35	6.4	56	5.4	56	6.8	66	5.8	66	6.9	69	6.3	72	5.7
16.0			\vdash		22	3.0	21	4.9	51	4.0	51	5.3	62	4.4	62	5.4	65	5.0	69	4.6
18.0									45	2.9	45	4.2	58	3.4	59	4.3	62	3.9	66	3.6
20.0									38	2.1	37	3.3	54	2.6	55	3.5	58	3.1	62	2.8
22.0									30	1.5	29	2.7	49	1.9	50	2.8	55	2.5	59	2.1
24.0									18	0.9	15	2.1	45	1.4	45	2.3	51	1.9	55	1.6
26.0													39	0.9	40	1.8	46	1.5	52	1.2
28.0															34	1.5	42	1.1		
30.0															27	1.2				
32.0															16	0.9				
D							0°							26°		0°		31°		43°
								Telesc	opin	g condit	ions	(%)								
Telescoping Mode		Ι, Π		I		I		П		I		П		I		П		П	I	, П
2nd boom		0		50		100		0	1	00		0		100		0		50	1	00
3rd boom		0		0		0	;	33		33		66		66		100	1	00	1	00
4th boom		0		0		0		33		33		66		66		100		00		00
Top boom		0		0		0		33		33		66		66		100	1	00	1	00
		LIFTIN	IG C	APACIT	IES A	AT ZERO	D DE	GREE B	SOON VER	1 ANGLI SIDE (U	E ON	I OUTRI	GGE	RS MID	EXT	ENDED				
A		1.0 m		5.0 m			0 m				.0 m			35.	0 m					
C O°	B 8.8	12.5	B 12.9	5.6	B 16.9	2.5	B 16.8	4.5	B 24.9	0.7	B 24.5	2.0			B 32.8	0.6	\vdash			
Telescoping			12.3		10.9		10.0		24.0	-	24.5				52.5					
Mode		Ι, Π		I		I		П		I		П				П				

						01101	ITDI	00500	N AIN I	CVTCNI	<u> </u>	0.70		^ -						
						ON O		GGERS OVER S		(Unit: >			PRE	AD						
A	- 1	1.0 m	1	5.0 m	1	10	.0m	OVLITO			.0 m	o kg)	1	35	.0 m		3	9.0 m	1	3.0 m
В	С	1.0 111	c	3.0 111	С	13	C		С	21			C	33	0		_ C	3.0 111	c	3.0 111
3.0	68	26.3	74	22.3	78	19.3	78	22.0												
3.5	65	21.4	72	18.3	76	16.0	76	18.7												
4.0	62	17.8	70	15.4	75	13.5	75	16.1												
4.5	59	15.0	68	13.1	73	11.5	73	14.0	78	10.9	78	12.5								
5.0	55	12.9	66	11.3	72	9.9	71	12.3	77	9.5	77	11.1								
5.5	52	11.2	64	9.8	70	8.6	69	10.9	76	8.4	76	10.0								
6.0	48	9.8	61	8.5	68	7.5	68	9.8	75	7.5	75	9.0								
6.5	44	8.6	59	7.4	67	6.6	66	8.8	74	6.7	74	8.2	78	6.4	79	7.5				
7.0	40	7.6	57	6.5	65	5.7	64	7.9	73	6.0	72	7.4	77	5.8	78	6.9	ldot			
7.5	34	6.6	55	5.7	63	5.0	63	7.1	71	5.3	71	6.8	76	5.2	77	6.3				
8.0	28	5.7	52	5.0	61	4.3	61	6.5	70	4.8	70	6.2	75	4.7	76	5.8	77	5.1	\perp	
8.5	19	5.0	49	4.4	59	3.8	59	5.9	69	4.3	69	5.7	75	4.3	75	5.4	77	4.7	ldot	
9.0			47	3.9	58	3.3	57	5.3	68	3.8	68	5.3	74	3.9	74	5.0	76	4.3	78	3.8
10.0			41	2.9	54	2.4	53	4.4	66	3.1	65	4.5	72	3.2	72	4.3	74	3.7	76	3.2
11.0			33	2.2	49	1.7	49	3.7	63	2.4	63	3.8	70	2.6	71	3.7	73	3.1	75	2.6
12.0			25	1.5	45	1.1	45	3.1	61	1.9	60	3.2	69	2.1	69	3.2	71	2.6	73	2.2
14.0							35	2.0	56	1.0	55	2.3	65	1.3	65	2.3	68	1.8	70	1.4
16.0							20	1.3			49	1.6			62	1.7	64	1.2		
18.0								- 0			38	1.1			58	1.2				
D			o°			21°		0°		44°		27°		57°		49°		57°		64°
								Telesc	opin	g condit	ions	(%)								
Telescoping Mode		Ι, Π		I		I		П		I		П		I		П		П		Ι, Π
2nd boom		0		50		100		0		100		0	-	100		0		50		100
3rd boom		0		0		0		33		33		66		66	-	100		100		100
4th boom		0		0		0		33		33		66		66		100		100		100

	ı	JIFTING CAPA	ERO DEGRE n SPREAD		IGLE ON OL E (Unit: ×100		MIN EXTEND	DED	
CA	11.0 m	15.0 m	 0 m	OVERSID		JO Kg)			
O°	8.7 4.5	12.9 0.9	16.7 1.1						
Telescoping Mode	Ι, Π	I	П						

Top boom

A: Boom length (m)
B: Load radius (m)
C: Loaded boom angle (°)
D: Minimum boom angle (°) for indicated boom length (no load)

				ON		ERS FULLY ROTATION		TENDED 7 (Unit: ×100		AD
		4:	3.0m Boon	1 + 10.1m Ji			Π	(011111 77100	l	
С	3.	5°Tilt	25°		45°	Tilt		С	3.5	5°Tilt
	R	W	R	W	R	W			R	
80	10.1	4.2	13.4	3.5	15.7	2.9		80	11.6	
79	11.0	4.2	14.4	3.3	16.6	2.9		79	12.9	
78	12.2	4.2	15.2	3.2	17.5	2.8		78	13.9	
77	13.1	4.1	16.3	3.1	18.3	2.7		77	15.0	
76	14.0	3.9	17.1	3.0	19.2	2.7		76	16.2	
75	14.9	3.8	18.1	3.0	20.1	2.6		75	17.3	
73	16.8	3.5	20.0	2.8	21.7	2.5		73	19.4	
70	19.5	3.2	22.6	2.6	24.1	2.3		70	22.7	
68	21.3	3.0	24.2	2.5	25.7	2.3		68	24.5	
65	23.9	2.8	26.6	2.3	27.9	2.2		65	27.6	
63	25.5	2.7	28.2	2.3	29.4	2.1		63	29.3	
60	27.8	2.2	30.3	1.9	31.3	1.8		60	32.2	
58	29.3	1.9	31.6	1.6	32.6	1.5		58	33.8	
55	31.2	1.4	33.6	1.3	34.4	1.2				
53	32.6	1.2	34.9	1.1	35.5	1.0				
50	34.5	0.9								

(Ur	nit: ×100	0kg)					
T			43	.0m Boom	+ 17.7m Jik)	
	С	3.5	°Tilt	25°T	ilt	45°T	ilt
		R	W	R	W	R	W
	80	11.6	2.6	17.5	2.1	21.7	1.7
	79	12.9	2.6	18.5	2.0	22.6	1.7
	78	13.9	2.6	19.8	2.0	23.6	1.6
	77	15.0	2.6	20.6	1.9	24.5	1.6
	76	16.2	2.5	21.7	1.9	25.4	1.6
	75	17.3	2.4	22.8	1.8	26.3	1.5
	73	19.4	2.3	24.7	1.7	28.0	1.5
	70	22.7	2.1	27.7	1.6	30.5	1.4
	68	24.5	2.0	29.4	1.5	32.0	1.3
	65	27.6	1.8	32.2	1.4	34.4	1.3
	63	29.3	1.7	33.8	1.4	35.8	1.2
	60	32.2	1.4	36.4	1.2	37.9	1.0
	58	33.8	1.2	37.7	0.9		

				ON		ERS FULLY ROTATION
	(39.0m Boon	n(telescopii	ng mode II)	+ 10.1m Jil	0
С	3.5	5°Tilt	25°	Tilt	45°	Γilt
	R	W	R	W	R	W
80	9.5	4.6	13.1	3.8	15.5	3.2
79	10.5	4.6	13.9	3.6	16.2	3.1
78	11.4	4.6	14.8	3.5	17.1	3.0
77	12.5	4.5	15.8	3.4	17.9	2.9
76	13.3	4.4	16.6	3.3	18.6	2.9
75	14.2	4.2	17.4	3.2	19.5	2.8
73	15.9	3.9	19.1	3.1	21.0	2.7
70	18.4	3.6	21.5	2.8	23.2	2.5
68	20.1	3.4	23.0	2.7	24.7	2.4
65	22.5	3.1	25.3	2.6	26.5	2.3
63	24.0	3.0	26.7	2.5	27.9	2.3
60	26.3	2.8	28.6	2.3	29.6	2.2
58	27.8	2.7	30.2	2.3	31.1	2.1
55	29.8	2.3	32.0	2.0	32.8	1.9
53	31.0	2.0	33.1	1.8	33.8	1.7
50	32.8	1.7	34.8	1.5	35.3	1.5
48	33.9	1.5	35.8	1.4	36.2	1.3
45	35.6	1.2	37.0	1.1	37.6	1.1
43	36.7	1.1	38.2	1.0		
40	38.1	0.9				

	(TENDED 7 (Unit: ×100		AD				
Т		(39.0m Boon	n(telescopii	ng mode II)	+ 17.7m Jil	b
1	С	3.5	5°Tilt	25°	Tilt	45°	Γilt
1		R	W	R	W	R	W
1	80	10.9	2.8	17.2	2.3	21.1	1.8
1	79	12.0	2.8	18.2	2.2	21.9	1.8
1	78	13.1	2.8	19.0	2.1	22.8	1.7
1	77	14.4	2.8	20.0	2.1	23.7	1.7
7	76	15.3	2.7	20.9	2.0	24.4	1.7
7	75	16.4	2.7	21.9	1.9	25.4	1.6
]	73	18.3	2.5	23.7	1.8	26.9	1.6
	70	21.3	2.3	26.3	1.7	29.2	1.5
	68	23.1	2.2	28.1	1.6	30.7	1.4
	65	26.0	2.0	30.7	1.5	32.9	1.4
	63	27.8	1.9	32.4	1.5	34.4	1.3
	60	30.1	1.8	34.4	1.4	36.3	1.3
	58	32.1	1.7	36.2	1.4	37.6	1.3
	55	34.4	1.5	38.3	1.3	39.7	1.2
	53	35.8	1.3	39.6	1.1	40.6	1.0
	50	37.9	1.1	41.4	0.9		
	48	39.2	0.9				

				ON		ERS FULLY ROTATION				:AD
	T	35m Boom	/talesconir	ng mode I) +			T (OTILL	×100	Jong)	35r
С	3	5°Tilt	25°		45°Tilt				2	5°Tilt
	R 8	W	R	W	R	W			R 8	J 1111
80	8.1	5.6	11.7	4.5	14.0	3.7		0	9.6	
										-
79	9.1	5.6	12.4	4.4	14.7	3.6		9	10.5	1
78	9.9	5.6	13.2	4.3	15.3	3.6		'8	11.5	
77	10.7	5.6	14.0	4.2	16.1	3.5		7	12.5	
76	11.5	5.5	14.8	4.0	16.8	3.4		6	13.5	
75	12.4	5.3	15.5	3.9	17.5	3.4	7	'5	14.4	
73	13.9	5.0	16.9	3.7	18.9	3.2	7	3	16.3	
70	16.2	4.6	19.1	3.5	20.8	3.1	7	0	19.0	
68	17.8	4.3	20.6	3.4	22.1	3.0	6	8	20.7	
65	19.9	4.0	22.6	3.2	24.0	2.9	6	5	23.2	
63	21.3	3.8	24.0	3.1	25.2	2.8	6	3	24.9	
60	23.4	3.6	25.8	2.9	26.9	2.7	6	0	27.3	
58	24.6	3.2	27.8	2.8	28.1	2.6	5	8	28.9	
55	26.4	2.6	28.7	2.3	29.6	2.2	5	5	30.9	
53	27.5	2.3	29.7	2.1	30.5	1.9	5	3	32.5	
50	29.3	1.9	31.4	1.7	32.0	1.6	5	0	34.7	
48	30.4	1.7	32.3	1.5	32.8	1.5	4	-8	36.0	
45	32.0	1.4	33.7	1.3	34.1	1.2	-			
43	33.0	1.2	34.6	1.1						
40	34.5	1.0	35.9	0.9						
38	35.3	0.9								

(Unit: ×100	00kg)						
		35m Boom	(telescopin	ıg mode l) +	17.7m Jib		
С	3.5°Tilt		25°	Γilt	45°Tilt		
	R	W	R	W	R	W	
80	9.6	3.2	15.8	2.6	20.1	2.1	
79	10.5	3.2	16.7	2.6	20.8	1.9	
78	11.5	3.2	17.6	2.5	21.6	1.9	
77	12.5	3.2	18.3	2.4	22.4	1.9	
76	13.5	3.2	19.4	2.4	23.2	1.9	
75	14.4	3.2	20.1	2.3	24.0	1.9	
73	16.3	3.1	21.9	2.2	25.5	1.9	
70	19.0	2.9	24.5	2.1	27.7	1.8	
68	20.7	2.7	26.0	2.0	29.1	1.7	
65	23.2	2.5	28.3	1.9	31.1	1.7	
63	24.9	2.4	29.8	1.8	32.3	1.6	
60	27.3	2.2	31.8	1.7	34.2	1.6	
58	28.9	2.1	33.3	1.7	35.4	1.5	
55	30.9	1.8	35.1	1.5	37.0	1.3	
53	32.5	1.5	36.4	1.3	38.0	1.2	
50	34.7	1.2	38.2	1.0	39.5	0.9	
48	36.0	1.0	39.2	0.9			

C: boom angle (°) R: Load radius (m)

W: Rated lifting capacity (Unit: ×1,000 kg)

					NI OLITRIC	GERS MID E				
						VER SIDE				
	43.0-m Boom + 10.1-m Jib									
С	3.5° Tilt		25	5° Tilt	45	° Tilt				
	R	W	R	W	R	W				
80	9.9	4.2	13.4	3.5	15.8	2.9				
79	11.0	4.2	14.3	3.3	16.7	2.9				
78	12.1	4.2	15.3	3.2	17.6	2.8				
77	13.1	4.1	16.3	3.1	18.4	2.7				
76	14.0	3.9	17.2	3.0	19.4	2.7				
75	15.0	3.8	18.2	3.0	20.0	2.6				
73	16.8	3.5	19.9	2.8	21.9	2.5				
70	19.5	3.2	22.6	2.6	24.1	2.3				
68	21.2	3.0	24.2	2.5	25.7	2.3				
65	23.8	2.8	26.6	2.3	28.0	2.2				
63	25.4	2.4	28.0	2.0	29.3	1.9				
60	27.4	1.8	30.0	1.6	31.1	1.5				
58	29.1	1.5	31.5	1.3	32.5	1.2				
55	31.2	1.1	33.5	1.0	34.3	0.9				
53	32.6	0.9								

EXTEND	EXTENDED 6.7 m SPREAD									
(Unit: ×	1000	kg)								
			43.0-r	m Boom +	17.7-m Jib					
	0	3.5	5° Tilt	25	s° Tilt	45	° Tilt			
		R	W	R	W	R	W			
8	0	11.5	2.6	17.9	2.1	21.9	1.7			
7	9	12.7	2.6	18.6	2.0	22.8	1.7			
7	8	14.0	2.6	19.8	2.0	23.7	1.6			
7	7	15.1	2.6	20.7	1.9	24.5	1.6			
7	6	16.2	2.5	21.7	1.9	25.4	1.6			
7	5	17.3	2.4	22.8	1.8	26.3	1.5			
7	3	19.4	2.3	24.7	1.7	27.9	1.5			
7	O	22.6	2.1	27.6	1.6	30.4	1.4			
6	8	24.7	2.0	29.5	1.5	32.1	1.3			
6	5	27.5	1.8	32.1	1.4	34.2	1.3			
6	3	29.1	1.5	33.7	1.2	35.7	1.1			
6	0	31.7	1.1	36.1	0.9					
5	8	33.4	0.9							

				C		GERS MID E VER SIDE					
	3	9.0-m Boor	n (telescop	ina mode II)	+ 10.1-m	Jib					
С	3.5° Tilt			° Tilt		° Tilt					
	R	W	R	W	R	W					
80	9.5	4.6	13.0	3.8	15.4	3.2					
79	10.5	4.6	13.8	3.6	16.1	3.1					
78	11.4	4.6	14.7	3.5	17.0	3.0					
77	12.4	4.5	15.6	3.4	17.9	2.9					
76	13.4	4.4	16.6	3.3	18.8	2.9					
75	14.2	4.2	17.4	3.2	19.5	2.8					
73	16.0	3.9	19.1	3.1	20.9	2.7					
70	18.5	3.6	21.4	2.8	23.1	2.5					
68	20.1	3.4	23.1	2.7	24.4	2.4					
65	22.5	3.1	25.2	2.6	26.6	2.3					
63	24.0	3.0	26.8	2.5	27.8	2.3					
60	26.3	2.7	28.9	2.3	29.7	2.2					
58	27.5	2.4	29.9	2.1	30.9	2.0					
55	29.5	1.9	31.8	1.7	32.6	1.6					
53	30.8	1.7	32.9	1.5	33.7	1.4					
50	32.6	1.4	34.6	1.2	35.2	1.2					
48	33.7	1.2	35.7	1.1	36.1	1.0					
45	35.4	1.0									

	<u> </u>												
	<u> </u>			(Unit: ×1000 kg)									
С		39.0-m Boom (telescoping mode II) + 17.7-m Jib											
		5° Tilt		Tilt		° Tilt							
	R	W	R	W	R	W							
80	11.0	2.8	17.1	2.3	21.1	1.8							
79	12.1	2.8	17.9	2.2	22.0	1.8							
78	13.2	2.8	19.0	2.1	22.8	1.7							
77	14.3	2.8	19.9	2.1	23.6	1.7							
76	15.5	2.7	21.0	2.0	24.5	1.7							
75	16.4	2.7	21.9	1.9	25.3	1.6							
73	18.4	2.5	23.8	1.8	27.0	1.6							
70	21.4	2.3	26.4	1.7	29.2	1.5							
68	23.2	2.2	28.1	1.6	30.7	1.4							
65	26.0	2.0	30.5	1.5	32.8	1.4							
63	27.8	1.9	32.3	1.5	34.2	1.3							
60	30.3	1.8	34.7	1.4	36.4	1.3							
58	31.8	1.6	36.1	1.3	37.7	1.2							
55	34.1	1.3	38.1	1.0	39.4	0.9							
53	35.5	1.1											
	79 78 77 76 75 73 70 68 65 63 60 58	79 12.1 78 13.2 77 14.3 76 15.5 75 16.4 73 18.4 70 21.4 68 23.2 65 26.0 63 27.8 60 30.3 58 31.8 55 34.1	79 12.1 2.8 78 13.2 2.8 77 14.3 2.8 76 15.5 2.7 75 16.4 2.7 73 18.4 2.5 70 21.4 2.3 68 23.2 2.2 65 26.0 2.0 63 27.8 1.9 60 30.3 1.8 58 31.8 1.6 55 34.1 1.3	79 12.1 2.8 17.9 78 13.2 2.8 19.0 77 14.3 2.8 19.9 76 15.5 2.7 21.0 75 16.4 2.7 21.9 73 18.4 2.5 23.8 70 21.4 2.3 26.4 68 23.2 2.2 28.1 65 26.0 2.0 30.5 63 27.8 1.9 32.3 60 30.3 1.8 34.7 58 31.8 1.6 36.1 55 34.1 1.3 38.1	79 12.1 2.8 17.9 2.2 78 13.2 2.8 19.0 2.1 77 14.3 2.8 19.9 2.1 76 15.5 2.7 21.0 2.0 75 16.4 2.7 21.9 1.9 73 18.4 2.5 23.8 1.8 70 21.4 2.3 26.4 1.7 68 23.2 2.2 28.1 1.6 65 26.0 2.0 30.5 1.5 63 27.8 1.9 32.3 1.5 60 30.3 1.8 34.7 1.4 58 31.8 1.6 36.1 1.3 55 34.1 1.3 38.1 1.0	79 12.1 2.8 17.9 2.2 22.0 78 13.2 2.8 19.0 2.1 22.8 77 14.3 2.8 19.9 2.1 23.6 76 15.5 2.7 21.0 2.0 24.5 75 16.4 2.7 21.9 1.9 25.3 73 18.4 2.5 23.8 1.8 27.0 70 21.4 2.3 26.4 1.7 29.2 68 23.2 2.2 28.1 1.6 30.7 65 26.0 2.0 30.5 1.5 32.8 63 27.8 1.9 32.3 1.5 34.2 60 30.3 1.8 34.7 1.4 36.4 58 31.8 1.6 36.1 1.3 37.7 55 34.1 1.3 38.1 1.0 39.4							

				C		GERS MID E
	25	m Doom (to	laccanina			VER SIDE
С	35-m Boom (tel			node ij + it 5° Tilt		5° Tilt
~		W	R	W		W
80	8.2	5.6	11.6	4.5	13.9	3.7
79	9.0	5.6	12.4	4.4	14.7	3.6
78	9.9	5.6	13.3	4.3	15.6	3.6
77	10.8	5.6	14.1	4.2	16.2	3.5
76	11.6	5.5	14.8	4.0	16.8	3.4
75	12.4	5.3	15.5	3.9	17.6	3.4
73	14.0	5.0	17.2	3.7	19.0	3.2
70	16.2	4.6	19.2	3.5	20.9	3.1
68	17.8	4.3	20.6	3.4	22.2	3.0
65	20.0	4.0	22.7	3.2	24.1	2.9
63	21.4	3.8	24.0	3.1	25.2	2.8
60	23.3	3.1	25.9	2.7	26.9	2.5
58	24.5	2.7	26.9	2.4	27.9	2.2
55	26.2	2.2	28.6	2.0	29.5	1.8
53	27.5	1.9	29.7	1.7	30.4	1.6
50	29.2	1.6	31.2	1.4	31.9	1.3
48	30.3	1.4	32.3	1.2	32.8	1.2
45	32.0	1.1	33.7	1.0	34.1	0.9
43	33.0	0.9				

ΓV	EXTENDED 6.7 m SPREAD										
			AD								
_(U	nit: ×1000		D (1.	1		7 7 19.					
4	С				mode I) + 17						
4	C		° Tilt		Tilt		Tilt				
╛		R	W	R	W	R	W				
	80	9.6	3.2	15.8	2.6	20.0	2.1				
	79	10.6	3.2	16.7	2.6	20.8	1.9				
	78	11.6	3.2	17.5	2.5	21.6	1.9				
	77	12.5	3.2	18.5	2.4	22.3	1.9				
1	76	13.5	3.2	19.4	2.4	23.1	1.9				
	75	14.4	3.2	20.2	2.3	23.9	1.9				
1	73	16.3	3.1	22.1	2.2	25.6	1.9				
	70	19.1	2.9	24.4	2.1	27.7	1.8				
	68	20.7	2.7	26.0	2.0	29.1	1.7				
	65	23.3	2.5	28.2	1.9	31.1	1.7				
	63	25.0	2.4	29.8	1.8	32.3	1.6				
	60	27.3	2.2	31.8	1.7	34.1	1.5				
	58	28.9	1.8	33.1	1.5	35.3	1.3				
	55	31.2	1.5	35.1	1.2	37.0	1.1				
	53	32.6	1.2	36.3	1.0	38.0	0.9				
	50	34.7	1.0								
1	00 04.7 1.0										

C: Loaded boom angle (°) R: Load radius (m) W: Rated lifting capacity (Unit:×1,000 kg)

				C		GERS MID
					C	VER SIDE
		43.0r	n Boom +	10.1m Jib		
C	3.5	s°Tilt	25	5°Tilt	45	°Tilt
	R	W	R	W	R	W
80	9.9	4.2	13.2	3.5	15.7	2.9
79	10.9	4.2	14.3	3.3	16.5	2.9
78	12.1	4.2	15.4	3.2	17.7	2.8
77	13.1	4.1	16.3	3.1	18.4	2.7
76	14.0	3.9	17.2	3.0	19.4	2.7
75	15.0	3.8	18.2	3.0	20.1	2.6
73	16.7	3.5	19.9	2.8	21.8	2.5
70	19.3	2.8	22.3	2.4	24.1	2.2
68	20.9	2.3	23.9	2.0	25.5	1.9
65	23.2	1.7	26.1	1.5	27.6	1.4
63	24.7	1.4	27.5	1.2	28.9	1.1
60	27.0	1.0				

	EXTENDED 5.5m SPREAD (Unit: ×1000kg)									
T	43.0m Boom + 17.7m Jib									
1	С	3.5	5°Tilt	25	°Tilt	45	Tilt			
		R	W	R	W	R	W			
	80	11.5	2.6	17.9	2.1	22.0	1.7			
1	79	12.6	2.6	18.4	2.0	22.5	1.7			
1	78	13.8	2.6	19.8	2.0	23.6	1.6			
1	77	14.9	2.6	20.7	1.9	24.4	1.6			
1	76	16.2	2.5	21.7	1.9	25.4	1.6			
1	75	17.3	2.4	22.8	1.8	26.4	1.5			
1	73	19.5	2.3	24.8	1.7	28.0	1.5			
	70	22.3	1.8	27.4	1.4	30.3	1.3			
	68	24.0	1.4	29.1	1.1	31.8	1.0			
1	65	26.9	1.0							

	ON OUTRIGGERS MID E OVER SIDE (
	39.0m Boom(telescoping mode II) + 10.1m Jib											
С	3.5	5°Tilt	25	°Tilt	45	°Tilt						
	R	W	R	W	R	W						
80	9.6	4.6	13.1	3.8	15.5	3.2						
79	10.5	4.6	13.8	3.6	16.1	3.1						
78	11.4	4.6	14.7	3.5	17.0	3.0						
77	12.4	4.5	15.6	3.4	17.8	2.9						
76	13.4	4.4	16.6	3.3	18.7	2.9						
75	14.2	4.2	17.4	3.2	19.4	2.8						
73	15.9	3.9	19.1	3.1	21.0	2.7						
70	18.5	3.6	21.4	2.8	23.1	2.5						
68	20.1	3.4	22.9	2.7	24.5	2.4						
65	22.5	2.8	25.2	2.3	26.4	2.1						
63	24.1	2.3	26.8	2.0	27.8	1.8						
60	25.8	1.8	28.4	1.6	29.5	1.4						
58	27.2	1.5	29.6	1.3	30.7	1.2						
55	29.2	1.2	31.4	1.0	32.4	0.9						
53	30.5	1.0										

	EXTENDED 5.5m SPREAD (Unit: ×1000kg)											
Ť		39.	0m Boom(te	elescoping	mode II) + 1	7.7m Jib						
	С	3.	.5°Tilt	25	*Tilt	45	°Tilt					
		R	W	R	W	R	W					
	80	11.0	2.8	17.1	2.3	21.1	1.8					
	79	12.1	2.8	18.1	2.2	22.0	1.8					
	78	13.2	2.8	18.9	2.1	22.6	1.7					
	77	14.3	2.8	20.0	2.1	23.6	1.7					
	76	15.3	2.7	20.8	2.0	24.5	1.7					
1	75	16.4	2.7	21.8	1.9	25.3	1.6					
1	73	18.4	2.5	23.7	1.8	26.9	1.6					
	70	21.2	2.3	26.4	1.7	29.2	1.5					
	68	23.2	2.2	28.2	1.6	30.7	1.4					
	65	25.8	1.8	30.5	1.4	32.6	1.2					
	63	27.8	1.5	32.4	1.2	34.2	1.0					
	60	29.9	1.1									
	58	31.4	0.9									
1												

						GERS MID	
						VER SIDE	<u>(U</u>
	35r	n Boom(tele	escoping m	node I) + 10.	1m Jib		╽╽
С	3.5	5°Tilt	2	5°Tilt	4	5°Tilt	
	R	W	R	W	R	W	1
80	8.2	5.6	11.7	4.5	14.1	3.7] [
79	9.0	5.6	12.4	4.4	14.7	3.6] [
78	9.9	5.6	13.2	4.3	15.5	3.6	1 [
77	10.7	16.1	3.5	1 [
76	11.6	5.5	14.8	4.0	16.8	3.4	1 [
75	12.4	5.3	15.5	3.9	17.5	3.4	1
73	14.0	5.0	17.0	3.7	18.9	3.2	1 [
70	16.3	4.6	19.2	3.5	20.0	3.1	1 [
68	17.7	3.9	20.6	3.3	22.2	3.0] [
65	19.7	3.1	22.4	2.6	23.8	2.4	1 [
63	21.0	2.7	23.7	2.3	25.0	2.1] [
60	22.9	2.1	25.5	1.8	26.7	1.6] [
58	24.2	1.7	26.6	1.5	27.7	1.4] [
55	26.0	1.3	28.4	1.2	29.3	1.1] `
53	29.2	1.1	29.5	1.0]

$E\rangle$	(TENDED 5	.5m SPRE	٩D								
(L	(Unit: ×1000kg)										
Π		35m Boom(telescoping mode I) + 17.7m Jib									
1	С	3.5	°Tilt	25°	Tilt	45°	Tilt				
1		R	W	R	W	R	W				
]	80	9.6	3.2	15.9	2.6	20.1	2.1				
]	79	10.6	3.2	16.6	2.6	20.8	1.9				
	78	11.6	3.2	17.7	2.5	21.7	1.9				
1	77	12.4	3.2	18.4	2.4	22.3	1.9				
1	76	13.5	3.2	19.3	2.4	23.2	1.9				
]	75	14.4	3.2	20.2	2.3	24.0	1.9				
1	73	16.2	3.1	22.0	2.2	25.6	1.9				
1	70	19.0	2.9	24.0	2.1	27.6	1.8				
]	68	20.6	2.7	25.9	2.0	29.0	1.7				
1	65	23.3	2.2	28.1	1.6	31.0	1.4				
	63	24.9	1.8	29.5	1.4	32.3	1.2				
	60	27.3	1.3	31.5	1.0						
	58	28.7	1.1								

C: Loaded boom angle (°)

R: Load radius (m)

W: Rated lifting capacity (Unit:×1,000 kg)

				ON RU	BBER	STATIONARY	(Unit: ×	1000 kg)				
			Over	Front			360° Rotation					
_ A		11.0 m		19.0 m		27.0 m		11.0 m		19.0 m		27.0 m
В	C	00.5	С		С		C	10.0	С		С	
3.0	68	29.5					68	18.6				
3.5	65	27.8					65	14.8				
4.0	62	25.5	75	15.9			62	12.5	75	10.0		
4.5	59	23.0	73	15.9			59	10.6	73	10.0		
5.0	55	20.7	71	15.9			55	9.1	71	9.0		
5.5	52	18.2	70	15.9			52	7.7	70	7.8		
6.0	48	15.7	68	15.9	75	10.0	49	6.6	68	6.6	75	7.5
6.5	44	14.0	66	14.5	74	10.0	44	5.6	66	5.8	74	6.5
7.0	40	12.5	65	13.0	73	10.0	39	4.8	65	5.1	73	5.5
7.5	34	11.0	63	11.6	72	10.0	34	4.2	63	4.5	72	4.7
8.0	28	9.8	61	10.5	71	9.7	29	3.6	61	4.0	71	4.2
8.5	20	8.5	59	9.4	70	9.2	20	3.1	59	3.5	70	3.8
9.0			58	8.4	69	8.8			58	3.0	68	3.3
10.0			54	7.0	66	7.6			54	2.4	66	2.7
11.0			50	6.0	64	6.5			50	1.8	64	2.1
12.0			46	5.1	61	5.5			46	1.3	61	1.7
14.0			36	3.4	56	4.1					56	0.9
16.0			22	2.4	51	3.0						
18.0					45	2.3						
20.0					38	1.5						
22.0					30	1.0						
D	0°				18°		0°		21°		45°	

Telescoping	conditions	(%)
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Telescoping Mode	Ι,Π	П	П	I,II	П	П
2nd boom	0	0	0	0	0	0
3rd boom	0	33	66	0	33	66
4th boom	0	33	66	0	33	66
Top boom	0	33	66	0	33	66

	LIFTING CAPACITIES AT ZERO DEGREE BOOM ANGLE ON RUBBER STATIONARY										
	Over Front 360° Rotation										
	A 11.0 m 19.0 m					1	1.0 m				
B \	В					В					
0	8.8	8.0	16.9	2.1			8.8	2.8			

				ON	RUBBE	R CREEP (U	nit: ×100	10 kg)				
			Over			,	360° Rotation					
_ \ A [1.0 m		19.0 m 27.0 m			11.0 m 19.		19.0 m			
В	С		С		С		С		С		С	
3.0	68	22.7					68	15.0				
3.5	65	20.2					65	13.0				
4.0	62	18.2	74	15.9			62	11.2	74	10.0		
4.5	59	16.5	73	15.9			59	9.5	73	9.8		
5.0	55	15.1	72	15.0			56	8.2	71	8.4		
5.5	52	13.6	70	13.9			52	7.0	70	7.2		
6.0	48	12.4	68	12.8	75	10.0	48	5.9	68	6.2	75	6.7
6.5	44	11.4	66	11.9	74	10.0	44	5.0	66	5.4	74	5.9
7.0	39	10.5	65	11.0	73	10.0	40	4.3	65	4.7	73	5.2
7.5	34	9.5	63	10.1	72	10.0	35	3.7	63	4.1	72	4.6
8.0	28	8.5	61	9.0	71	9.3	28	3.1	61	3.6	71	4.1
8.5	20	7.6	59	8.0	70	8.6	20	2.5	60	3.1	70	3.6
9.0			58	7.3	69	8.0			58	2.7	68	3.2
10.0			54	6.0	66	6.8			54	2.0	66	2.6
11.0			50	5.1	64	5.8			50	1.5	64	2.0
12.0			45	4.2	61	4.9			46	1.1	61	1.5
14.0			36	2.9	56	3.6						
16.0			21	1.8	51	2.6						
18.0					45	1.9						
20.0					38	1.3						
D	0°					18°		0°		21°		50°

Telescoping conditions (%)

Telescoping Mode	Ι, Π	П	П	I,II	П	П
2nd boom	0	0	0	0	0	0
3rd boom	0	33	66	0	33	66
4th boom	0	33	66	0	33	66
Top boom	0	33	66	0	33	66

	LIFTING CAPACITIES AT ZERO DEGREE BOOM ANGLE ON RUBBER STATIONARY											
	Over Front 360° Rotation											
	A [A 11.0 m 19.0 m						1	1.0 m			
lΒ	В В					В						
	0 8.8 7.3 16.9 1.5					8.8	2.3					

A: Boom length (m)

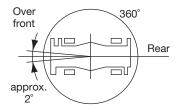
B: Load radius (m)
C: Loaded boom angle (°)
D: Minimum boom angle (°) for indicated boom length (no load)

WARNING AND OPERATING INSTRUCTIONS FOR ON RUBBER LIFTING CAPACITIES

- Rated lifting capacities based on crane stability are according to ISO4305.
- Rated lifting capacities shown in the chart are based on the condition that crane is set on firm level surfaces with suspension 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.
- If the suspension 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.
- 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 22PR	420 kPa
29.5-25 28PR	450 kPa

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 27.0 m.

- 8. When making lift on rubber stationary, set parking brake.
- For creep operation, 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 60 m in any 30 minute period and to travel at the speed of less than 1.6 km/h
- 12. For creep operation, choose the drive mode and proper gear according to the road or working condition.
- 13. The mass of the hook (540 kg for 60 t capacity, 450 kg for 35 t capacity, 150 kg for 5.6 t capacity), slings and all similarly used load handling devices must be considered as part of the load and must be deducted from the lifting capacities.
- 14. For rated lifting capacity of single top, reduce the rated lifting capacities of relevant boom according to a weight reductions for auxiliary load handling equipment. Capacities of single top shall not exceed 5,600 kg including main hook.
- 15. The lifting capacity data stowed in the Automatic Moment Limiter (AML-C) is based on the standard number of parts of line listed in the chart. Standard number of parts of line for on rubber operation should be according to the following table.

Boom le	ength	11.0 m	11.0 m to 27.0 m	Single top
Telesco mode	ping	Ι, Π	П	Ι, Π
Numbe parts of		6	4	1

WARNING AND OPERATING INSTRUCTIONS FOR LIFTING CAPACITIES

GENERAL

- 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.
- 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.

SET UP

- 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

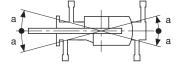
- Rated lifting capacities on outriggers fully extended as determined by ISO4305.
- Rated lifting capacities above thick lines in the chart are based on crane strength and those below, on its stability. They are based on actual load radius increased by boom deflection.
- 3. The weight of handling device such as hook blocks (540 kg for 60 t capacity, 450 kg for 35 t capacity, 150 kg for 5.6 t capacity), slings, etc., must be considered as part of the load and must be deducted from the lifting capacities.
- 4. 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 the boom or jib is extremely dangerous.
 - Such action can damage the boom, jib or slewing mechanism, and lead to overturning of the crane.
- 5. Rated lifting capacities do not account for wind on lifted load or boom. We recommend against working under the conditions 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 9 m/s to 12 m/s; reduced by 70 % when the wind speed is 12 m/s to 14 m/s. If the wind speed is 14 m/s or over, stop operation. During jib lift, stop operation if the wind speed is 9 m/s or over.
- Rated lifting capacities at load radius shall not be exceeded. Do not tip the crane to determine allowable loads.
- Do not operate at boom lengths, radii, or boom angles, where no capacities are shown. Crane may overturn without any load on the hook.
- 8. 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.
- When making lifts at a load radius not shown, use the next longer radius to determine allowable capacity.
- Load per line should not exceed 54.9 kN (5,600 kgf) for main winch and auxiliary winch.
- 11. Check the actual number of parts of line with Automatic Moment Limiter (AML-C) before operation. Maximum lifting capacity is restricted by the number of parts of line of Automatic Moment Limiter (AML-C). Limited capacity is as determined from the formula, Single line pull for main winch 54.9 kN(5,600 kgf) x number of parts of line.
- 12. 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.
- The 11.0-m Boom length capacities are based on boom fully retracted.
- 14. 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.
- 15. 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 5,600 kg including the main boom hook mass attached to the boom.

- When a jib is removed, set the jib state switch to the REMOVED position.
- 17. When erecting and stowing jib, be sure to retain it by hand or by other means to prevent its free movement.
- 18. Use "ANTI-TWO-BLOCK DEVICE" 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.
- 19. For boom length 43.0 m or less and 35.0 m or longer with jib, rated lifting capacities are determined by loaded boom angle only in the column handed "43.0-m Boom + jib".
 - For boom length 35.0 m or less with jib, rated lifting capacities are determined by loaded boom angle only in the column headed "35.0-m Boom + jib". For angles not shown, use the next lower loaded boom angle to determine allowable capacity. (Telescoping MODE I) For boom length 43.0 m or less and 39.0 m or longer with jib, rated lifting capacities are determined by loaded boom angle only in the column handed "43.0-m Boom + jib".
 - For boom length 39.0 m or less with jib, rated lifting capacities are determined by loaded boom angle only in the column headed "39.0-m Boom + jib". For angles not shown, use the next lower loaded boom angle to determine allowable capacity.(Telescoping MODE II)
- 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.
- 21. 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.
- 22. The lifting capacity data stowed in the Automatic Moment Limiter (AML-C) is based on the standard number of parts of line listed in the chart. Standard number of parts of line for on outrigger operation should be according to the following table.

Boom length	11.0 m	11.0 m to 15.0 m		15,0 m to 19.0 m	19.0 m to 43.0 m	Single top/ jib
Telescoping mode	Ι, Π	I	п	Ι, Π	Ι, Π	Ι, Π
Number of parts of line	12	8	6	6	4	1

23. The lifting capacity for over side area differs depending on outrigger extension width. Work with 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.

Outriggers extended width	6.7 m	5.5 m	2.7 m
	(middle)	(middle)	(minimum)
Angle a°	60	40	15



DEFINITIONS

- 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.
- Loaded Boom Angle: The angle between the boom base section and the horizontal, after lifting the rated lifting capacity at the load radius.
- Working Area: Area measured in a circular arc about the centerline of rotation.
- Freely Suspended Load: Load hanging free with no direct external force applied except by the hoist line.
- Side Load: Horizontal side force applied to the lifted load either on the ground or in the air.

WARNING AND OPERATING INSTRUCTIONS FOR USING THE AUTOMATIC MOMENT LIMITER (AML-C)

- 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 lift indicative symbol flickers).
- 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 indicative symbol flickers.
 - Press the lift state select key to register the lift state.

However, pay attention to the following.

For stationary and creep 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 slewed to the side area, make sure the value of the AUTOMATIC MOMENT LIMITER (AML-C) is below the 360° lifting capacity.
- This machine is equipped with an automatic slewing stop device.
 - (For the details, see Operation and Maintenance Manual.) But, operate very carefully because the automatic slewing stop does not work in the following cases.
 - During on rubber operation.
- 5. During crane operation, make sure that the displays on front panel are in accordance with actual operating conditions.
- The displayed values of AUTOMATIC MOMENT LIMITER (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 slewing, lifting loads shall be appropriately reduced.
- AUTOMATIC MOMENT LIMITER (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 AUTOMATIC MOMENT LIMITER (AML-C) aids in place of good operating practice can cause an accident. The operator must exercise caution to assure safety.

GR-600EX Axle weight distribution chart

		Kilograms		
	GVW	Front	Rear	
Basic machine	43,735	21,555	22,180	
Add: 1. 60 ton 6 sheaves hook block	540	960	-420	
2. 35 ton 3 sheaves hook block	450	800	-350	
Remove: 1. 5.6 ton hook block	-150	-209	59	
2. Top jib	-335	-365	30	
3. Base jib	-865	-1,480	615	
Counter weight with auxiliary winch and wire rope	-5,670	2,500	-8,170	



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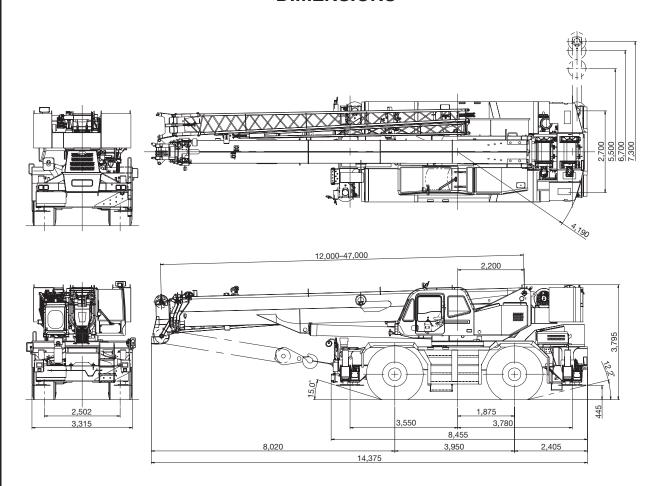
GR-800EX

(Left-hand drive)
80 Ton Capacity

SPEC. SHEET NO. GR-800E-3-00102/EX-03

HYDRAULIC ROUGH TERRAIN CRANE

DIMENSIONS



Note: Dimension is with boom angle at -1.5 degree.

GENERAL DIMENSIONS

Turning radius (29.5 - 25 Tires) 4 wheel steer	6.8 m
2 wheel steer	11.9 m

Overall length	approx.	14,375 mm
Overall width	approx.	3,315 mm
Overall height	approx.	3,795 mm

CRANE SPECIFICATIONS

BOOM

5 section full power partially synchronized telescoping boom of round box construction with 6 sheaves at boom head. The synchronization system consists of 2 telescope cylinder, extension cables and retraction cables. Hydraulic cylinder fitted with holding valve. 2 easily removable wire rope guards, rope dead end provided on both sides of boom head. Boom telescope sections are supported by wear pads both vertically and horizontally.

Fully retracted length...... 12.0 m
Fully extended length...... 47.0 m
Extension speed.............. 35.0 m in 160 s
Root diameter.................. 0.44 m

BOOM ELEVATION

By a double acting hydraulic cylinder with holding valve. Combination controls for hand or foot operation. Boom angle indicator.

Automatic speed reduction and slow stop function.

JIB

2 stage swing around boom extention swing around type with triple offset (tilt type). Single sheave at jib head. Stows alongside base boom section.

AUXILIARY LIFTING SHEAVE (SINGLE TOP)

Single sheave mounted to main boom head for single line work(stowable).

Root diameter..... 0.396 m

ANTI-TWO-BLOCK DEVICE

Pendant type over-winding cut out device with audio-visual (FAILURE lamp/BUZZER) warning system.

SLEWING

Hydraulic axial piston motor driven through planetary slewing speed reducer. Continuous 360° full circle slewing on ball bearing.

Equipped with manually locked/released slewing brake. A positive slewing lock for pick and carry and travel modes, manually engaged in cab. Twin slewing system: Free slewing or lock slewing controlled by selector switch on front console.

Slewing speed..... 1.5 min⁻¹ {rpm}

WINCH

MAIN WINCH

Variable speed type with grooved drum driven by hydraulic axial piston motor through speed reducer. Power load lowering and raising.

Equipped with automatic brake (neutral brake) and counterbalance valve. Controlled independently of auxiliary winch. Equipped with cable follower and drum rotation indicator.

MAIN DRUM

Root diameter x wide	0.362 m x 0.6 m
Wire rope diameter x length	. 19 mm x 253 m
Drum capacity	. 304 m, 7 layers
Maximum single line pull (1st layer)89	9.1 kN (9,090 kgf)
Maximum permissible linepull wire strength 64	4.7 kN (6,600 kgf)

AUXILIARY WINCH

Variable speed type with grooved drum driven by hydraulic axial piston motor through speed reducer. Power load lowering and raising.

Equipped with automatic brake (neutral brake) and counterbalance valve. Controlled independently of main winch. Equipped with cable follower and drum rotation indicator.

AUXILIARY DRUM

Root diameter x wide	0.362 m x 0.6 m
Wire rope diameter x length	19 mm x 139 m
Drum capacity	304 m, 7 layers
Maximum single line pull (1st layer)	89.1 kN (9,090 kgf)
Maximum permissible linepull wire strength	64.7 kN (6,600 kgf)

WIRE ROPE

Non-rotating wire (no-spin), extra improved plow steel, preformed, independent wire rope core, right regular lay.

Main & Auxillary 19 mm 7 x 39 class

HOOK BLOCKS

80 ton (option)

7 sheaves with swivel hook and safety latch 60 ton (option)

6 sheaves with swivel hook and safety latch 50 ton (option)

5 sheaves with swivel hook and safety latch 35 ton (option)

3 sheaves with swivel hook and safety latch

Weighted hook with swivel and safety latch

HYDRAULIC SYSTEM

PUMPS

2 variable piston pumps for crane functions.

Tandem gear pump for steering, slewing and optional equipment. Powered by carrier engine. Pump disconnect for crane is engaged/disengaged by rotary switch from operator's cab.

CONTROL VALVES

Multiple valves actuated by pilot pressure with integral pressure relief valves.

RESERVOIR

763 liters capacity. External sight level gauge.

FILTRATION

BETA10=10 return filter, full flow with bypass protection, located inside of hydraulic reservoir. Accessible for easy replacement.

OIL COOLER - Air cooled fan type.

CAB AND CONTROLS

Both crane and drive operations can be performed from one cab mounted on rotating superstructure.

Left side, 1 man type, steel construction with sliding door access and safety glass windows opening at side. Door window is powered control. Windshield glass window and roof glass window are shatter-resistant. Wiper and washer (front indshield and roof window). Tinted safety glass and sun visor. Tilt-telescoping steering wheel. Adjustable control lever stands for slewing, boom elevating, boom telescoping, auxiliary winch and main winch. Control lever stands can change neutral positions and tilt for easy access to cab. Foot operated controls: boom elevating, boom telescoping, service brake and engine throttle. 3 way adjustable operator's seat with high back, headrest and armrest. Cab floor mat. Engine throttle knob. Hot water cab heater and air conditioning.

Dash-mounted engine start/stop, monitor lamps, cigarette lighter, drive selector switch, parking brake switch, steering mode select switch, power window switch, pump engaged/disengaged switch, slewing brake switch, boom telescoping/auxiliary winch select switch, outrigger control panel, and slewing free/ lock selector switch.

Instruments - Torque converter oil temperature, engine water temperature, air pressure, fuel, speedometer, tachometer, hour meter and odometer / tripmeter. Engin over-run alarm. Back-up alarm. Low oil pressure/high water temp. Warning device (visual). Rear steer centering light. Hydraulic oil pressure is monitored and displayed on the AML-C display panel.

CRANE SPECIFICATIONS

TADANO Automatic Moment Limiter

(AML-C) including:

- Control lever lockout function with audible and visual pre-warning
- Number of parts of line
- Boom position indicator
- Outrigger state indicator
- Slewing angle
- Boom angle / boom length / jib offset angle / jib length / load radius / rated lifting capacities / actual loads read out
- Potential lifting height
- · Ratio of actual load moment to rated load moment indication
- Permissible load
- Automatic Speed Reduction and Slow Stop function on boom elevation and slewing
- · Working condition register switch
- Load radius / boom angle / tip height / slewing range preset function
- External warning lamp
- Tare function

- · Main hydraulic oil pressure
- · Fuel consumption monitor
- Main winch / auxiliarly winch select
- Drum rotation indicator (audible and visible type) main and auxiliary winch
- On-rubber indicator

TADANO AML-C monitors outrigger extended length and automatically programs the corresponding "RATED LIFTING CAPACITIES" table

Operator's right hand console includes transmission gear selector, slewing lock lever and sight level bubble.

Upper right console includes flood lamp switch, roof washer and wiper switch, emergency outrigger set up key switch, jib status switch, eco mode switch, and air conditioning control switch. Lower right console includes boom emergency telescoping switch (2nd and 3rd-top)

NOTE: Each crane motion speed is based on unladen conditions.

CARRIER SPECIFICATIONS

TYPE

Rear engine, left-hand drive, driving axle 2-way selected type by manual switch, 4x2 front drive, 4x4 front and rear drive.

FRAME

High tensile steel, all welded mono-box construction.

ENGINE

Model MITSUBISHI 6M60-TL Type Direct injection diesel

No. of cylinders 6

Combustion 4 cycle, turbo charged and after cooled

Bore x Stroke, mm 118 x 115 Displacement, liters 7.54

Air inlet heater 24 volt preheat

Air cleaner Dry type, replaceable element
Oil filter Full flow with replaceable element
Fuel filter Full flow with replaceable element

Fuel tank, liters 300, right side of carrier

Cooling Liquid pressurized, recirculating by-pass Radiator Fin and tube core, thermostat controlled

Fan, mm Suction type, 6-blade, 600 dia.

Starting 24 volt

Charging 24 volt system, negative ground

Battery 2-120 amp. Hour Compressor, air, I /min 830 at 2,600 min⁻¹

Output, Max. kW (HP) Gross 200 (267) at 2,600 min⁻¹

Torque, Max. N•m 785 at 1,400 min-1

Capacity, liters

Cooling water 13 Lubrication 13–15 Fuel 300

TRANSMISSION

Electronically controlled full automatic transmission.

Torque converter driving full powershift with driving axle selector. 6 forward and 2 reverse speeds, constant mesh.

3 speeds - high range - 2-wheel drive; 4-wheel drive

3 speeds - low range - 4-wheel drive

TRAVEL SPEED - 36 km/h

GRADE ABILITY (tan θ **)** - 94% (at stall), 30%*

 * Machine should be operated within the limit of engine crankcase design (17°: MITSUBISHI 6M60-TL)

AXLE

Front: Full floating type, steering and driving axle with planetary reduction.

Rear: Full floating type, steering and driving axle with planetary reduction and non-spin rear differential.

STEERING

Hydraulic power steering controlled by steering wheel. 4 steering modes available: 2 wheel front, 2 wheel rear, 4 wheel coordinated and 4 wheel crab.

SUSPENSION

Front: Rigid mounted to the frame.

Rear: Pivot mounted with hydraulic lockout device.

BRAKE SYSTEMS

Service: Air over hydraulic disc brakes on all 4 wheels. Parking/Emergency: Spring applied-air released brake acting on input shaft of front axle.

Auxiliary: Electro-pneumatic operated exhaust brake.

TIRES - 29.5-25 34PR (OR) Air pressure: 400 kPa

OUTRIGGERS

4 hydraulic, beam and jack outriggers.

Vertical jack cylinders equipped with integral holding valve. Each outrigger beam and jack is controlled independently from cab. Beams extend to 7.3 m center-line and retract to within 3.315 m overall width with floats. Outrigger jack floats

are attached thus eliminating the need of manually attaching and detaching them. Controls and sight bubble located in

superstructure cab. 4 outrigger extension lengths are provided with corresponding "RATED LIFTING CAPACITIES" for crane duty in confined areas.

Min. Extension 2.7 m center to center
Mid. Extension 5.5 m center to center
Mid. Extension 6.7 m center to center
Max. Extension 7.3 m center to center

Float size (Diameter) 0.6 m

COUNTERWEIGHT

Integral with slewing frame Mass... 9,980 kg (Containing weight with auxiliary winch and wire rope)

STANDARD EQUIPMENT

- Telematics (machine data logging and monitoring system)
 with HELLO-NET via internet (availability depends on countries)
- Eco mode system
- Positive control
- Over unwinding prevention
- Emergency steering system
- Transmission neutral position engine start
- Overshift prevention
- Parking braked travel warning
- Tilt-telescope steering wheel
- Halogen head lamp
- Fenders

- Air dryer
- Water separator with filter (high filtration)
- Air cleaner dust indicator
- Full instrumentation package
- Complete highway light package
- Tire inflation kit
- Towing hooks-Front and rear
- Lifting eyes
- Hook block tie down (front bumper)
- Weighted hook storage compartment
- Winch drum mirror
- Tool storage compartment

OPTIONAL EQUIPMENT

- Wind speed indicator
- Hook block-80 t capacity

(7 sheaves, swivel type with safty latch. Mass: approx. 700 kg)

Hook block-60 t capacity
 (6 sheaves, swivel type with safty latch. Mass: approx. 540 kg)

 - Hook block–50 t capacity
 (5 sheaves, swivel type with safty latch. Mass: approx. 500 kg)-Hook block–35 t capacity

(3 sheaves, swivel type with safty latch. Mass: approx. 450 kg)

HOISTING PERFORMANCE

LINE SPEEDS AND PULLS

	Main or au	uxiliary winch - 0	.362 m drum					
1	Line s	peeds1	Line pulls Available ²					
Layer	m/ı	min	kN (kgf)					
	Low	High	Low	High				
1st	84	118	89.1 (9,090)	63.9 (6,520)				
2nd	92	128	80.7 (8,230)	57.8 (5,900)				
3rd	99	139	73.7 (7,520)	52.8 (5,390)				
4th	107	149	67.8 (6,920)	48.6 (4,960)				
5th	115	160	62.8 (6,410)	45.1 (4,600)				
6th	122	170	58.5 (5,970)	41.9 (4,280)				
7th³	130	181	54.8 (5,590) 39.3 (4,01					

- Maximum permissible line pull wire strength.
 Main & Auxiliary: 64.7 kN (6,600 kgf) with 7 x 39 class rope.
- ¹ Line speed based only on hook block, not loaded.
- ² Developed by machinery with each layer of wire rope, but not based on rope strength or other limitations in machinery or equipment.
- ³ Eighth layer of wire rope are not recommended for hoisting operations.

DRUM WIRE ROPE CAPACITIES

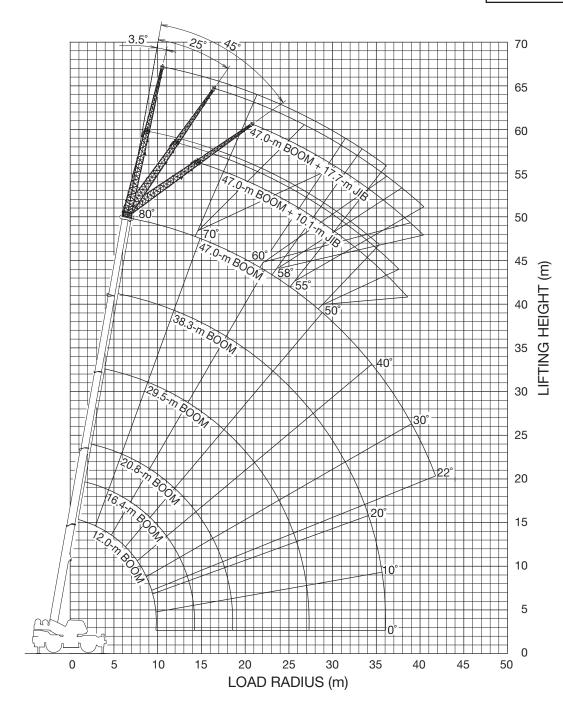
	Main and auxiliary drum grooved lagging										
Wire	19 mm wire rope										
rope layer	Rope per layer	Total wire rope									
layer	m	m									
1	34.2	34.2									
2	37.3	71.5									
3	40.3	111.8									
4	43.4	155.2									
5	46.4	201.6									
6	49.5	251.1									
7	52.6	303.7									

DRUM DIMENSIONS

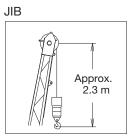
Root diameter	362 mm
Length	600 mm
Flange diameter	657 mm

GR-800EX WORKING RANGE CHART

Telescoping mode I

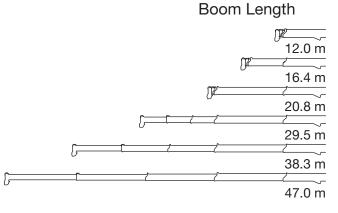






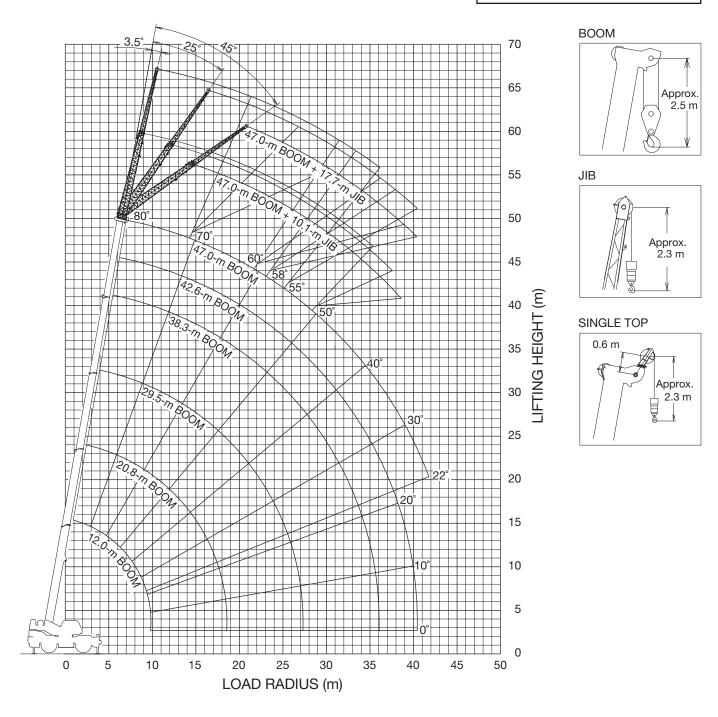


The above lifting height and boom angle are based on a straight (unloaded) boom and machine standing level on firm supporting surface. Allowance should be made for boom deflection obtained under loaded conditions. The above working range is shown on condition with outriggers fully (7.3 m) extended.

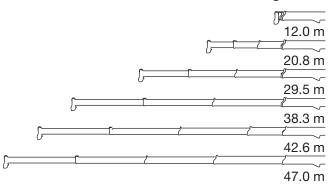


GR-800EX WORKING RANGE CHART

Telescoping mode II



The above lifting height and boom angle are based on a straight (unloaded) boom and machine standing level on firm supporting surface. Allowance should be made for boom deflection obtained under loaded conditions. The above working range is shown on condition with outriggers fully (7.3 m) extended.



Boom Length

						ON OU		GERS F		Y EXTE		7.3 m 000 kg)	SPRI	EAD							
A	1	2.0 m	1.	6.4 m		20	8 m	U KUIF	TIOI		.: × 10	Juu kg)	1	38	.3 m			2.6 m	1	7.0 m	
В	С.	2.0 111		J 111		20.			С				С	00.			C	2.0 111	C		
3.0	70	80.0	75	46.6	79	40.9	78	18.2													
3.5	67	74.2	74	46.6	77	40.9	77	18.2													
4.0	64	67.0	72	46.6	76	40.9	76	18.2													
4.5	62	60.9	70	46.6	75	40.9	74	18.2													
5.0	59	55.7	68	46.6	73	38.9	73	18.2	79	18.2	78	15.1									
5.5	56	51.1	66	46.6	72	36.8	71	18.2	78	18.2	77	15.1									
6.0	53	46.2	64	45.8	70	34.9	70	18.2	77	18.2	76	15.1									
6.5	49	42.1	62	41.7	69	33.2	68	18.2	76	18.2	75	15.1									
7.0	46	38.6	60	38.3	67	31.6	67	18.2	75	18.2	75	15.1	79	15.1	79	13.0					
7.5	42	35.6	58	34.4	66	30.1	65	18.2	74	18.2	74	15.1	78	15.1	78	13.0					
8.0	38	33.0	56	31.0	64	28.1	64	18.2	73	18.2	73	15.1	78	15.1	78	12.8					
9.0	27	24.0	51	24.9	61	23.3	60	18.2	71	18.2	71	15.1	76	15.1	76	12.1	77	11.0			
10.0			46	20.2	58	19.7	57	18.2	69	18.2	69	15.0	75	14.6	75	11.3	76	11.0	79	9.5	
11.0			40	16.7	54	16.3	54	18.2	67	16.6	66	14.0	74	13.8	73	10.7	75	10.7	77	9.5	
12.0			34	14.0	50	13.6	50	16.4	65	14.6	64	13.2	72	13.0	72	10.1	73	10.2	76	9.5	
14.0			13	10.2	42	9.9	42	12.4	60	11.2	60	11.7	69	11.3	68	9.0	71	9.3	74	9.3	
16.0					32	7.3	32	9.8	55	8.6	55	10.3	65	9.1	65	8.1	68	8.5	72	8.6	
18.0					16	5.5	16	7.5	50	6.7	50	8.3	62	7.2	62	7.4	65	7.7	69	7.5	
20.0									44	5.3	44	6.9	58	5.8	58	6.8	62	6.6	66	6.2	
22.0									38	4.2	38	5.7	54	4.7	54	5.9	59	5.4	63	5.0	
24.0									30	3.3	30	4.8	50	3.8	50	5.0	56	4.5	60	4.1	
26.0									20	2.5	20	4.0	46	3.0	46	4.2	52	3.8	57	3.4	
28.0													41	2.4	41	3.6	48	3.1	54	2.8	
30.0					\square								36	1.9	36	3.1	44	2.6	50	2.2	
32.0					\square								29	1.5	30	2.6	40	2.2	47	1.8	
34.0													22	1.1	22	2.2	35	1.8	43	1.4	
36.0					\vdash		\vdash										30	1.4	39	1.1	
38.0																	23	1.1			
40.0										.0							12	0.9		0.00	
D								Tologo		<u>)°</u> a condit	iono	(0/)								22°	
								relesc	Johin	y condi	10118	(70)	1						I		
Telescoping Mode]	[, Π		Ι		I		П		I		П		I		П		П	I	Ι, Π	
2nd boom		0		50		100		0	1	100		0	1	100		0		50		100	
3rd boom		0		0		0		33		33		66		66		100		100		100	
4th boom		0		0		0		33		33		66		66		100		100		100	
Top boom		0		0		0		33		33		66		66	Ι.	100	-	100	Ι.	100	

	LIFTING CAPACITIES AT ZERO DEGREE BOOM ANGLE ON OUTRIGGERS FULLY EXTENDED													
7.3 m SPREAD 360° ROTATION (Unit: ×1000 kg)														
A	A 12.0 m 16.4 m 20.8 m				29.	5 m	38.	3 m	42.6 m					
C	В	В	В	В	В	В	В	В	В					
0°	9.8 20.3	14.1 10.0	18.4 5.2	18.4 7.2	27.2 2.2	27.0 3.7	35.8 0.8	35.0 2.1	40.0 0.9					
Telescoping Mode	Ι, Π	I	I	П	I	П	I	П	П					

ON OUTRIGGERS MID EXTENDED 6.7 m SPREAD OVER SIDE (Unit: ×1000 kg)																				
A	1	2.0 m	1	6.4 m		20.	8 m		29.5 m			38.3 m				4	2.6 m	47.0 m		
В	С		С		С		С		С		С		С		С		С		С	
3.0	70	80.0	76	46.6	79	40.9	78	18.2												
3.5	67	72.1	74	46.6	77	40.9	77	18.2												
4.0	65	65.0	72	46.6	76	40.9	76	18.2												
4.5	62	59.0	70	46.6	75	40.9	74	18.2												
5.0	59	53.8	68	46.6	73	38.9	73	18.2	79	18.2	78	15.1								
5.5	55	49.3	66	46.6	72	36.8	71	18.2	78	18.2	77	15.1						,		
6.0	52	44.0	64	43.5	70	34.5	70	18.2	77	18.2	76	15.1								
6.5	49	40.0	62	38.0	69	32.0	68	18.2	76	18.2	75	15.1								
7.0	46	35.5	60	33.6	67	30.0	67	18.2	75	18.2	74	15.1	79	15.1	79	13.0				
7.5	42	31.8	58	30.1	66	27.3	65	18.2	74	18.2	74	15.1	78	15.1	78	13.0				
8.0	37	27.8	55	27.1	64	24.6	64	18.2	73	18.2	73	15.1	78	15.1	78	12.8				
9.0	27	22.0	51	21.3	61	20.4	61	18.2	71	18.2	71	15.1	76	15.1	76	12.1	77	11.0		
10.0			46	17.2	57	16.8	57	18.2	69	17.0	69	15.0	75	14.6	75	11.3	76	11.0	79	9.5
11.0			40	14.2	54	13.8	54	16.7	67	14.7	66	14.0	73	13.8	73	10.7	75	10.7	78	9.5
12.0			34	11.9	50	11.5	50	14.2	64	12.9	64	13.2	72	12.6	72	10.1	73	10.2	77	9.5
14.0			13	8.6	42	8.2	42	10.8	60	9.6	60	11.3	69	10.0	68	9.0	70	9.3	74	9.3
16.0					32	6.0	32	8.4	55	7.3	55	8.9	65	7.9	65	8.1	68	8.3	71	8.0
18.0					16	4.3	15	6.7	50	5.6	50	7.2	62	6.2	62	7.2	65	6.9	69	6.5
20.0									44	4.3	44	5.9	58	4.9	58	6.1	62	5.6	66	5.2
22.0									38	3.3	38	4.8	54	3.9	54	5.1	59	4.6	63	4.2
24.0									30	2.5	31	4.0	50	3.1	50	4.2	56	3.8	60	3.4
26.0									20	1.9	20	3.4	46	2.4	46	3.5	52	3.1	57	2.7
28.0													41	1.8	41	3.0	48	2.5	53	2.1
30.0													36	1.4	36	2.5	44	2.0	50	1.7
32.0													30	1.0	29	2.1	40	1.6	46	1.3
34.0															21	1.7	35	1.3	43	0.9
36.0																	30	1.0		
D						0	0							6°		0°		23°		34°
								Telesc	opin	g condit	ions	(%)								

Telescoping Mode	Ι, Π	I	I	П	I	П	I	П	П	Ι, Π
2nd boom	0	50	100	0	100	0	100	0	50	100
3rd boom	0	0	0	33	33	66	66	100	100	100
4th boom	0	0	0	33	33	66	66	100	100	100
Top boom	0	0	0	33	33	66	66	100	100	100

	LIFT	ING CAPAC				LE ON OUT Unit: ×1000 l	D EXTENDE	D	
CA	12.0 m	16.4 m	20.	8 m	29.	5 m	38.3 m		
0°	9.8 18.0	14.2 8.3	18.5 4.0	18.3 6.5	27.2 1.5	27.2 3.0	35.4 1.6		
Telescoping Mode	Ι, Π	I	I	П	I	П	П		

A: Boom length (m)
B: Load radius (m)
C: Loaded boom angle (°)
D: Minimum boom angle (°) for indicated boom length (no load)

						ON O	JTRI	GGERS	MID	EXTENI	DED	5.5 m S	PRE	AD						
								OVER S	IDE	(Unit: >	<100	0 kg)								
A	1	2.0 m	1 10	6.4 m		20.	8 m			29.	5 m			38.	3 m		4:	2.6 m	4	7.0 m
В	С		С		С		С		С		С		С		С		С]	С	
3.0	70	75.4	75	46.6	79	40.9	78	18.2												
3.5	67	67.0	74	46.6	77	40.9	77	18.2												
4.0	64	60.1	72	46.6	76	40.9	76	18.2												
4.5	61	52.8	70	46.6	75	40.9	74	18.2												
5.0	58	47.2	68	41.1	73	36.5	73	18.2	79	18.2	78	15.1								
5.5	55	40.3	66	35.4	72	31.6	71	18.2	78	18.2	77	15.1								
6.0	52	35.0	64	30.9	70	27.8	70	18.2	77	18.2	76	15.1								
6.5	49	30.1	62	27.3	69	24.6	68	18.2	76	18.2	75	15.1								
7.0	45	25.9	60	24.3	67	22.0	67	18.2	75	18.2	74	15.1	79	15.1	79	13.0				
7.5	42	22.6	58	21.9	66	19.8	65	18.2	74	18.2	74	15.1	78	15.1	78	13.0				
8.0	38	19.9	55	19.4	64	17.9	64	18.2	73	17.4	73	15.1	78	15.1	78	12.8				
9.0	27	15.9	51	15.3	61	14.8	61	16.7	71	14.8	71	15.1	76	14.1	76	12.1	77	11.0		
10.0			46	12.4	57	12.0	57	14.8	69	12.6	69	14.6	75	12.2	75	11.3	76	11.0	79	9.5
11.0			40	10.2	54	9.8	54	12.5	66	10.9	66	12.8	73	10.7	73	10.7	75	10.7	77	9.5
12.0			34	8.5	50	8.1	50	10.6	64	9.5	64	11.2	71	9.4	71	10.1	73	9.9	76	9.1
14.0			13	5.9	42	5.5	42	8.0	60	6.9	59	8.5	68	7.4	68	8.8	71	8.0	74	7.3
16.0					32	3.8	32	6.2	55	5.1	55	6.7	65	5.7	65	6.9	68	6.4	71	5.9
18.0					16	2.5	14	4.8	49	3.7	50	5.3	61	4.3	61	5.5	65	5.0	68	4.7
20.0									44	2.7	44	4.2	57	3.3	58	4.4	62	4.0	65	3.6
22.0									38	1.9	38	3.4	54	2.5	54	3.6	59	3.2	62	2.8
24.0									30	1.3	30	2.7	50	1.8	50	2.9	55	2.5	59	2.1
26.0											20	2.2	45	1.3	45	2.4	52	1.9	56	1.6
28.0															40	1.9	48	1.5	53	1.1
30.0															35	1.5	44	1.1		
32.0															29	1.2				
34.0															20	0.9				
D							0°							35°		0°		29°		38°
								Telesc	opin	g condit	ions	(%)								
Tologooping									r i			` '							T	

Telescoping Mode	Ι, Π	I	I	П	I	П	I	П	П	Ι, Π
2nd boom	0	50	100	0	100	0	100	0	50	100
3rd boom	0	0	0	33	33	66	66	100	100	100
4th boom	0	0	0	33	33	66	66	100	100	100
Top boom	0	0	0	33	33	66	66	100	100	100

	LIFTING CAPACITIES AT ZERO DEGREE BOOM ANGLE ON OUTRIGGERS MID EXTENDED												
	5.5 m SPREAD OVER SIDE (Unit: ×1000 kg)												
CA	12.0 m	16.4 m	20.8	8 m	29.	5 m		38.3 m		\vdash			
0°	9.8 13.0	14.1 5.8	18.5 2.3	18.3 4.6	27.2 0.5	27.1 2.0		35.4 0.4					
Telescoping Mode	Ι, Π	I	I	П	I	П		П					

						ON OL	JTRI	GGERS	MIN	EXTEN	DED	2.7 m S	PRE/	AD						
							O\	ER SID	E (I	Jnit: ×10	000 k	kg)								
A	1	2.0 m	1	16.4 m		20.	8 m			29.	5 m			38.3	3 m		4	2.6 m	4	7.0 m
В	С		С		С		С		С		С		С		С	1	С		С	
3.0	70	33.8	75	28.9	79	20.9	78	18.2												
3.5	67	27.7	74	23.9	78	20.9	77	18.2												
4.0	64	23.3	71	20.2	76	17.8	75	18.2												
4.5	61	19.9	70	17.3	75	15.3	74	18.2												
5.0	58	17.2	68	15.0	73	13.2	73	16.1	78	12.7	78	14.6								
5.5	55	14.5	66	13.0	72	11.5	71	14.4	77	11.3	77	13.1								
6.0	52	12.3	64	11.5	70	10.1	70	12.9	76	10.1	76	11.9								
6.5	48	10.6	62	10.1	68	8.9	68	11.6	75	9.0	75	10.8								
7.0	45	9.2	60	8.7	67	7.8	67	10.5	74	8.1	74	9.9	78	7.8	79	8.5				
7.5	42	8.0	57	7.5	66	6.9	65	9.6	73	7.3	73	9.1	77	7.1	78	8.5				
8.0	38	7.0	55	6.5	64	6.1	63	8.7	72	6.6	72	8.3	77	6.5	77	7.8				
9.0	28	5.4	50	4.9	61	4.6	60	7.0	70	5.4	70	7.1	75	5.4	76	6.7	77	5.9		
10.0			46	3.7	57	3.3	57	5.7	68	4.4	68	6.1	74	4.5	74	5.8	76	5.1	78	4.4
11.0			40	2.7	54	2.3	53	4.6	66	3.6	66	5.1	72	3.8	72	5.0	74	4.4	76	3.6
12.0			34	1.9	50	1.5	49	3.8	63	2.8	63	4.3	71	3.1	71	4.4	73	3.6	75	2.9
14.0							41	2.5	59	1.6	59	3.0	67	2.0	68	3.2	70	2.5	72	1.9
16.0							32	1.6			54	2.1	64	1.1	64	2.3	67	1.7	69	1.1
18.0							12	0.9			49	1.4			61	1.6	64	1.0		
20.0															57	1.0				
D	0° 12° 42°					0°		54°		43°	60° 53°			58°		63°				

				Telesco	oping conditi	ons (%)				
Telescoping Mode	Ι, Π	I	I	п	I	П	I	п	П	Ι, Π
2nd boom	0	50	100	0	100	0	100	0	50	100
3rd boom	0	0	0	33	33	66	66	100	100	100
4th boom	0	0	0	33	33	66	66	100	100	100
Top boom	0	0	0	33	33	66	66	100	100	100

	LIF	TING CAPA			E BOOM AN			MIN EXTEND	DED				
	2.7 m SPREAD OVER SIDE (Unit: ×1000 kg)												
A	12.0 m			20.8 m									
C _	В			В									
0°	9.8 4.0			18.3 0.8									
Telescoping Mode	Ι, Π	·		П						·			

A: Boom length (m)
B: Load radius (m)
C: Loaded boom angle (°)
D: Minimum boom angle (°) for indicated boom length (no load)

				10			/ EXTENDED (Unit: ×10		READ
		4	7.0-m Boor	m + 10.1-m	Jib				
С	3.5	5° Tilt	25°	Tilt	45°	Tilt	С	3.5	° Tilt
	R	W	R	W	R	W		R	٧
80	10.9	4.9	14.2	4.9	16.7	4.3	80	12.8	3.
79	11.8	4.9	15.2	4.7	17.7	4.2	79	14.1	3.
78	12.9	4.9	16.4	4.6	18.6	4.1	78	15.5	3.
77	14.0	4.9	17.4	4.5	19.5	4.0	77	16.9	3.
76	15.1	4.9	18.4	4.4	20.5	3.9	76	18.1	3.
75	16.0	4.9	19.3	4.2	21.7	3.9	75	19.4	3.
73	18.2	4.8	21.3	4.0	23.5	3.7	73	21.9	3.
70	21.2	4.4	24.2	3.8	26.3	3.5	70	25.6	3.
68	23.2	4.1	26.0	3.6	28.0	3.4	68	27.8	3.
65	26.0	3.8	28.6	3.4	30.5	3.1	65	30.8	2
63	27.8	3.2	30.2	2.9	31.9	2.7	63	32.7	2.
60	30.0	2.5	32.4	2.3	33.9	2.2	60	35.2	1.
58	31.7	2.1	34.0	2.0	35.2	1.9	58	36.7	1
55	33.9	1.6	35.9	1.5	37.0	1.5	55	39.2	1
53	35.3	1.4	37.2	1.3	38.4	1.2			
50	37.4	1.0	39.3	1.0	40.2	0.9			

(Unit: ×100	Init: ×1000 kg) 47.0-m Boom + 17.7-m Jib												
			.0-m Boon	າ + 17.7-m ເ	-								
C	3.5	° Tilt	25°	Tilt	45°	Tilt							
	R	W	R	W	R	W							
80	12.8	3.1	19.1	2.9	23.8	2.3							
79	14.1	3.1	20.5	2.8	24.7	2.3							
78	15.5	3.1	21.7	2.7	26.0	2.3							
77	16.9	3.1	22.7	2.7	27.0	2.3							
76	18.1	3.1	24.1	2.6	28.0	2.2							
75	19.4	3.1	25.2	2.6	29.0	2.2							
73	21.9	3.1	27.3	2.5	30.0	2.2							
70	25.6	3.1	30.4	2.4	33.8	2.1							
68	27.8	3.0	32.4	2.3	35.7	2.1							
65	30.8	2.7	35.3	2.2	38.1	2.0							
63	32.7	2.3	36.9	2.0	39.6	1.8							
60	35.2	1.7	39.3	1.5	41.9	1.4							
58	36.7	1.4	40.8	1.3	43.0	1.2							
55	39.2	1.0	43.3	0.9									

				OI		GERS FULLY		XTENDED (Unit: ×100		READ
	4	42.6-m Boo	m (telescor	oing mode I	l) + 10.1-m	Jib	П	•	<u> </u>	42.6-m
C	3.5	5° Tilt	25°	`Tilt	45°	Tilt		С	3.	5° Tilt
	R	W	R	W	R	W			R	V
80	9.4	5.3	13.4	5.2	15.6	4.6		80	11.5	3.
79	10.4	5.3	14.3	5.1	16.5	4.5		79	12.6	3.
78	11.3	5.3	15.3	5.0	17.5	4.4		78	13.8	3.
77	12.4	5.3	16.3	4.8	18.3	4.3		77	15.1	3.
76	13.5	5.3	17.2	4.7	19.2	4.2		76	16.3	3.
75	14.5	5.3	18.1	4.6	19.9	4.1		75	17.5	3.
73	16.5	5.2	19.8	4.3	21.6	4.0		73	19.6	3.
70	19.2	4.7	22.5	4.0	23.9	3.7		70	23.0	3.
68	21.1	4.5	24.1	3.9	25.5	3.6		68	25.2	3.
65	23.5	4.1	26.4	3.6	27.6	3.4		65	28.1	3.
63	25.2	3.9	28.0	3.5	29.1	3.3		63	30.2	2.
60	27.5	3.5	30.2	3.2	31.1	3.0		60	32.7	2.
58	28.9	3.1	31.6	2.9	32.4	2.7		58	34.3	2.
55	31.1	2.6	33.6	2.4	34.3	2.3		55	36.7	1.
53	32.5	2.3	34.8	2.1	35.3	2.0	[53	38.0	1.
50	34.4	1.9	36.5	1.8	37.0	1.7	[50	40.2	1.
48	35.7	1.7	37.7	1.6	38.1	1.5		48	41.6	1.
45	37.5	1.4	39.3	1.3	39.5	1.3]			,
43	38.6	1.2	40.4	1.1						
40	40.3	1.0	41.9	0.9						

(Unit: ×100	nit: ×1000 kg) 42.6-m Boom (telescoping mode II) + 17.7-m Jib											
	4	42.6-m Boo	m (telescor	oing mode II) + 17.7-m	Jib						
С	3.5	5° Tilt	25°	Tilt	45°	Tilt						
	R	W	R	W	R	W						
80	11.5	3.3	18.5	3.0	22.6	2.4						
79	12.6	3.3	19.6	2.9	23.4	2.3						
78	13.8	3.3	20.4	2.8	24.5	2.3						
77	15.1	3.3	21.3	2.8	25.5	2.3						
76	16.3	3.3	22.3	2.7	26.4	2.3						
75	17.5	3.3	23.3	2.7	27.3	2.3						
73	19.6	3.3	25.4	2.6	28.9	2.2						
70	23.0	3.3	28.3	2.5	31.5	2.1						
68	25.2	3.3	30.1	2.4	33.1	2.1						
65	28.1	3.0	32.8	2.3	35.4	2.1						
63	30.2	2.9	34.6	2.3	36.9	2.0						
60	32.7	2.6	36.9	2.2	39.2	2.0						
58	34.3	2.2	38.4	2.0	40.4	1.9						
55	36.7	1.8	40.6	1.7	42.2	1.6						
53	38.0	1.6	41.7	1.4	43.4	1.4						
50	40.2	1.3	43.7	1.2	45.0	1.1						
48	41.6	1.1	45.0	1.0	46.0	1.0						

				10		GERS FULLY ROTATION		ENDED		EAD
	1	00 0 D-	/4-1	!			T (UI	III. X 100	JU Kg)	00.0
С					l) + 10.1-m Jib		l c	38.3-		
	3.5° Tilt		25° Tilt		45° Tilt				3.5° Tilt	
	R	W	R	W	R	W	\vdash		R	V
80	8.4	6.6	12.5	6.4	14.7	4.9		80	10.5	4.
79	9.3	6.6	13.4	6.2	15.5	4.8		79	11.6	4.
78	10.3	6.6	14.1	6.0	16.3	4.7		78	12.7	4.
77	11.2	6.6	15.1	5.9	17.1	4.7		77	13.7	4.
76	12.1	6.6	15.8	5.7	18.0	4.6		76	14.8	4.
75	13.0	6.6	16.6	5.6	18.6	4.6		75	15.9	4.
73	14.9	6.6	18.2	5.4	20.1	4.5		73	18.0	4.
70	17.4	6.2	20.6	5.1	22.3	4.4		70	20.8	3.
68	19.0	5.9	22.1	4.9	23.6	4.4		68	22.7	3.
65	21.4	5.5	24.3	4.7	25.7	4.3		65	25.4	3.
63	22.8	4.8	25.6	4.3	26.9	3.9		63	27.3	3.
60	24.9	3.9	27.3	3.5	28.7	3.3		60	29.8	2.
58	26.2	3.4	28.6	3.1	29.8	2.9		58	31.2	2.
55	28.0	2.8	30.3	2.6	31.5	2.5		55	33.5	2.
53	29.5	2.5	31.5	2.3	32.6	2.2		53	34.9	1.
50	31.3	2.1	33.1	1.9	34.2	1.8		50	37.0	1.
48	32.5	1.8	34.2	1.7	35.1	1.6		48	38.3	1.
45	34.2	1.5	35.7	1.4	36.5	1.3		45	40.2	0.
43	35.3	1.3	36.7	1.2						
40	36.8	1.0	38.2	1.0						
38	37.7	0.9								

(Unit: ×1000 kg)											
С	38.3-m Boom (telescoping mode I) + 17.7-m Jib										
	3.5	5° Tilt	25°	Tilt	45° Tilt						
	R	W	R	W	R	W					
80	10.5	4.0	17.1	3.2	20.8	2.4					
79	11.6	4.0	18.0	3.1	21.7	2.3					
78	12.7	4.0	19.0	3.0	22.6	2.3					
77	13.7	4.0	19.9	3.0	23.5	2.3					
76	14.8	4.0	20.7	2.9	24.4	2.3					
75	15.9	4.0	21.7	2.9	25.2	2.3					
73	18.0	4.0	23.5	2.8	26.8	2.2					
70	20.8	3.8	26.1	2.6	29.1	2.1					
68	22.7	3.6	27.8	2.6	30.7	2.1					
65	25.4	3.4	30.4	2.5	32.8	2.1					
63	27.3	3.2	31.9	2.4	34.2	2.1					
60	29.8	2.8	34.2	2.3	36.2	2.0					
58	31.2	2.4	35.5	2.1	37.5	2.0					
55	33.5	2.0	37.5	1.8	39.2	1.7					
53	34.9	1.7	38.6	1.5	40.4	1.5					
50	37.0	1.4	40.4	1.2	41.8	1.2					
48	38.3	1.2	41.6	1.1	42.7	1.0					
45	40.2	0.9									

C: boom angle (°) R: Load radius (m) W: Rated lifting capacity (Unit: ×1,000 kg)

GR-800EX RATED LIFTING CAPACITIES

				C		GERS MID				AD
					OVE	ER SIDE (L	ınıt	: × 1000 kg)	
		47.0-	m Boom +	10.1-m Jib						
C	3.5	5° Tilt	25	5° Tilt	45	° Tilt		С	3.	5° Til
	R	W	R	W	R	W			R	
80	10.8	4.9	14.3	4.9	16.7	4.3		80	12.8	
79	11.9	4.9	15.4	4.7	17.8	4.2		79	14.1	
78	13.0	4.9	16.4	4.6	18.8	4.1		78	15.5	
77	14.1	4.9	17.6	4.5	19.8	4.0		77	16.9	
76	15.2	4.9	18.5	4.4	20.8	3.9		76	18.1	
75	16.1	4.9	19.6	4.2	21.9	3.9		75	19.4	
73	18.3	4.8	21.5	4.0	23.6	3.7		73	21.9	
70	21.2	4.4	24.3	3.8	26.4	3.5		70	25.6	
68	23.1	3.9	26.0	3.5	28.0	3.2		68	27.6	
65	25.7	3.0	28.2	2.7	30.2	2.5		65	30.2	
63	27.4	2.5	29.9	2.3	31.6	2.2		63	32.3	
60	29.9	1.9	32.3	1.8	33.8	1.7		60	34.6	
58	31.4	1.6	33.8	1.5	35.1	1.4		58	36.4	
55	33.7	1.2	35.7	1.1	37.0	1.0	'			•
53	35.1	0.9								

: ×1000 kg	1)						
				17.7-m Jib			
С	3.5	5° Tilt	25	5° Tilt	45° Tilt		
	R	W	R	W	R	W	
80	12.8	3.1	19.1	2.9	23.8	2.3	
79	14.1	3.1	20.5	2.8	24.7	2.3	
78	15.5	3.1	21.6	2.7	26.1	2.3	
77	16.9	3.1	22.9	2.7	27.2	2.3	
76	18.1	3.1	24.2	2.6	28.1	2.2	
75	19.4	3.1	25.4	2.6	29.2	2.2	
73	21.9	3.1	27.5	2.5	31.1	2.2	
70	25.6	3.1	30.5	2.4	33.9	2.1	
68	27.6	2.7	32.5	2.3	35.7	2.1	
65	30.2	2.0	35.0	1.8	37.9	1.7	
63	32.3	1.7	36.4	1.5	39.3	1.4	
60	34.6	1.2	38.9	1.1	41.4	1.0	
58	36.4	1.0					
73 70 68 65 63 60	21.9 25.6 27.6 30.2 32.3 34.6	3.1 3.1 2.7 2.0 1.7 1.2	27.5 30.5 32.5 35.0 36.4	2.5 2.4 2.3 1.8 1.5	31.1 33.9 35.7 37.9 39.3		

				С		GERS MID E		ΓENDED 6: : ×1000 kg		AD
		0.6 m Been	n (talaasan	ina mada II)		- (-	TIIL	. x 1000 kg		42.6-
	$\overline{}$	2.6-m Boor						0		
С		5° Tilt		° Tilt		° Tilt		С		3.5° T
	R	W	R	W	R	W	L		R	
80	9.3	5.3	13.3	5.2	15.7	4.6		80	11.5	
79	10.4	5.3	14.3	5.1	16.5	4.5		79	12.7	
78	11.5	5.3	15.2	5.0	17.4	4.4		78	13.8	
77	12.5	5.3	16.2	4.8	18.4	4.3		77	15.0	
76	13.6	5.3	17.2	4.7	19.1	4.2		76	16.1	
75	14.5	5.3	18.1	4.6	19.9	4.1		75	17.4	
73	16.4	5.2	19.7	4.3	21.6	4.0		73	19.6	
70	19.2	4.7	22.3	4.0	23.9	3.7		70	23.0	
68	21.1	4.5	24.0	3.9	25.5	3.6		68	25.3	
65	23.5	4.1	26.4	3.6	27.6	3.4		65	28.1	
63	25.1	3.7	27.9	3.3	28.9	3.1		63	29.8	
60	27.2	3.0	29.9	2.7	30.9	2.6		60	32.1	
58	28.7	2.6	31.3	2.4	32.2	2.3		58	33.8	
55	30.7	2.1	33.2	1.9	34.0	1.9		55	36.2	
53	32.1	1.8	34.5	1.7	35.1	1.6		53	37.7	
50	34.1	1.5	36.3	1.4	36.8	1.3	Ī	50	39.8	
48	35.4	1.3	37.4	1.2	37.9	1.2	ď			
45	37.2	1.0	39.2	1.0	39.4	0.9				

t: × 1000 kg	1)						
	4	2.6-m Boor	n (telescop	ing mode II)	+ 17.7-m	Jib	
С	3	.5° Tilt	25	° Tilt	45° Tilt		
	R	W	R	W	R	W	
80	11.5	3.3	18.6	3.0	22.5	2.4	
79	12.7	3.3	19.4	2.9	23.4	2.3	
78	13.8	3.3	20.4	2.8	24.4	2.3	
77	15.0	3.3	21.3	2.8	25.4	2.3	
76	16.1	3.3	22.2	2.7	26.3	2.3	
75	17.4	3.3	23.3	2.7	27.2	2.3	
73	19.6	3.3	25.4	2.6	29.0	2.2	
70	23.0	3.3	28.2	2.5	31.4	2.1	
68	25.3	3.3	30.3	2.4	33.1	2.1	
65	28.1	3.0	32.7	2.3	35.3	2.1	
63	29.8	2.7	34.7	2.2	36.8	2.0	
60	32.1	2.1	36.5	1.8	38.8	1.7	
58	33.8	1.8	38.0	1.6	40.1	1.5	
55	36.2	1.4	40.0	1.2	42.0	1.2	
53	37.7	1.2	41.4	1.1	43.1	1.0	
50	39.8	0.9					

				C		GERS MID				AD
							Jnit:	: ×1000 kg	-	
		38.3-m Boo	m (telescop	oing mode I)	+ 10.1-m	Jib				38.3
С	3.5	5° Tilt	25	5° Tilt	4	5° Tilt		С	3.5	5° Til
	R	W	R	W	R	W			R	
80	8.4	6.6	12.5	6.4	14.7	4.9		80	10.5	
79	9.3	6.6	13.2	6.2	15.5	4.8		79	11.6	
78	10.3	6.6	14.1	6.0	16.2	4.7		78	12.7	
77	11.2	6.6	15.0	5.9	17.1	4.7		77	13.7	
76	12.2	6.6	15.8	5.7	17.8	4.6		76	14.8	
75	13.0	6.6	16.6	5.6	18.6	4.6		75	15.9	
73	14.9	6.6	18.2	5.4	20.0	4.5		73	17.8	
70	17.4	6.2	20.6	5.1	22.3	4.4		70	20.8	
68	19.1	5.9	22.1	4.9	23.7	4.4		68	22.7	
65	21.2	4.8	24.0	4.1	25.6	3.8		65	25.6	
63	22.6	4.2	25.3	3.6	26.8	3.4		63	27.2	
60	24.7	3.4	27.0	2.9	28.5	2.8		60	29.4	
58	26.1	2.9	28.3	2.5	29.7	2.4		58	30.9	
55	28.0	2.4	30.1	2.1	31.4	2.0		55	33.3	
53	29.3	2.0	31.3	1.8	32.5	1.8		53	34.7	
50	31.1	1.6	33.0	1.5	34.1	1.4		50	36.8	
48	32.3	1.4	34.1	1.3	35.0	1.2				
45	34.0	1.1	35.6	1.0	36.4	1.0				
43	35.1	0.9								

t: ×1000 kg)						
		38.3-m Boo	m (telescor	oing mode I) + 17.7-m 、	Jib	
C	3.5	s° Tilt	25°	Tilt	45° Tilt		
	R	W	R	W	R	W	
80	10.5	4.0	17.0	3.2	20.8	2.4	
79	11.6	4.0	18.1	3.1	21.7	2.3	
78	12.7	4.0	18.9	3.0	22.7	2.3	
77	13.7	4.0	19.9	3.0	23.5	2.3	
76	14.8	4.0	20.8	2.9	24.4	2.3	
75	15.9	4.0	21.8	2.9	25.3	2.3	
73	17.8	4.0	23.5	2.8	26.7	2.2	
70	20.8	3.8	26.2	2.6	29.3	2.1	
68	22.7	3.6	28.0	2.6	30.7	2.1	
65	25.6	3.4	30.4	2.5	32.8	2.1	
63	27.2	3.0	32.1	2.4	34.4	2.1	
60	29.4	2.3	34.0	2.0	36.2	1.9	
58	30.9	2.0	35.4	1.7	38.4	1.6	
55	33.3	1.6	37.3	1.4	39.1	1.3	
53	34.7	1.3	38.5	1.1	40.2	1.1	
50	36.8	1.0					

C: Loaded boom angle (°) R: Load radius (m) W: Rated lifting capacity (Unit:×1,000 kg)

GR-800EX RATED LIFTING CAPACITIES

				(GERS MID ER SIDE (L				AD
		47.0-	m Boom +	10.1-m Jib			П		,, 	
С	3.5	5° Tilt	25° Tilt		45° Tilt			С	3.	5° Tilt
	R	W	R	W	R	W			R	
80	10.7	4.9	14.2	4.9	16.8	4.3		80	12.8	
79	11.9	4.9	15.4	4.7	17.8	4.2		79	14.1	
78	13.0	4.9	16.5	4.6	18.8	4.1		78	15.6	
77	14.0	4.9	17.6	4.5	19.8	4.0		77	16.9	
76	15.2	4.9	18.6	4.4	20.8	3.9		76	18.2	
75	16.3	4.9	19.5	4.2	21.9	3.9		75	19.5	
73	18.3	4.2	21.5	3.5	23.6	3.3		73	22.2	
70	21.2	3.1	24.2	2.7	26.4	2.5		70	25.8	
68	23.2	2.5	26.1	2.2	28.0	2.1		68	27.9	
65	26.1	1.8	28.7	1.6	30.5	1.6		65	31.2	
63	27.8	1.5	30.2	1.3	32.0	1.3				
60	30.1	1.0								

g)											
	47.0-m Boom + 17.7-m Jib										
3.5	5° Tilt	25	s° Tilt	45	° Tilt						
R	W	R	W	R	W						
12.8	3.1	19.3	2.9	23.9	2.3						
14.1	3.1	20.5	2.8	24.9	2.3						
15.6	3.1	21.7	2.7	26.0	2.3						
16.9	3.1	22.9	2.7	27.1	2.3						
18.2	3.1	24.0	2.6	28.2	2.2						
19.5	3.1	23.1	2.6	29.1	2.2						
22.2	2.8	27.5	2.3	31.2	2.2						
25.8	2.0	30.7	1.7	33.9	1.6						
27.9	1.6	32.5	1.4	35.8	1.3						
31.2	1.1	35.4	0.9	38.2	0.9						
	3.5 R 12.8 14.1 15.6 16.9 18.2 19.5 22.2 25.8 27.9	3.5° Tilt R W 12.8 3.1 14.1 3.1 15.6 3.1 16.9 3.1 18.2 3.1 19.5 3.1 22.2 2.8 25.8 2.0 27.9 1.6	47.0-m Boom + 3.5° Tilt 25 R W R 12.8 3.1 19.3 14.1 3.1 20.5 15.6 3.1 21.7 16.9 3.1 22.9 18.2 3.1 24.0 19.5 3.1 23.1 22.2 2.8 27.5 25.8 2.0 30.7 27.9 1.6 32.5	47.0-m Boom + 17.7-m Jib 3.5° Tilt 25° Tilt R W R W 12.8 3.1 19.3 2.9 14.1 3.1 20.5 2.8 15.6 3.1 21.7 2.7 16.9 3.1 22.9 2.7 18.2 3.1 24.0 2.6 19.5 3.1 23.1 2.6 22.2 2.8 27.5 2.3 25.8 2.0 30.7 1.7 27.9 1.6 32.5 1.4	47.0-m Boom + 17.7-m Jib 3.5° Tilt 25° Tilt 45 R W R W R 12.8 3.1 19.3 2.9 23.9 14.1 3.1 20.5 2.8 24.9 15.6 3.1 21.7 2.7 26.0 16.9 3.1 22.9 2.7 27.1 18.2 3.1 24.0 2.6 28.2 19.5 3.1 23.1 2.6 29.1 22.2 2.8 27.5 2.3 31.2 25.8 2.0 30.7 1.7 33.9 27.9 1.6 32.5 1.4 35.8						

				(ON OUTRIC	GERS MID	EX	TENDED 5	.5 m SPRE	AD
					OV	ER SIDE (I	Jni	t: ×1000 kç	g)	
	42.	6-m Boom (telescopin	g mode II) +	10.1-m Jik)			42.	.6-m
C	3.5	5° Tilt	25	° Tilt	45	s° Tilt		С	3	.5° T
	R	W	R	W	R	W			R	
80	9.3	5.3	13.4	5.2	15.7	4.6	1	80	11.5	
79	10.4	5.3	14.3	5.1	16.6	4.5	1	79	12.7	
78	11.4	5.3	15.2	5.0	17.4	4.4	1	78	13.9	
77	12.4	5.3	16.2	4.8	18.3	4.3	1	77	15.0	
76	13.6	5.3	17.2	4.7	19.1	4.2	1	76	16.2	
75	14.5	5.3	18.1	4.6	20.0	4.1	1	75	17.5	
73	16.5	5.2	19.8	4.3	21.6	4.0	1	73	19.7	
70	19.2	4.5	22.3	3.9	23.9	3.6	I	70	23.0	
68	20.7	3.8	23.8	3.3	25.2	3.1	1	68	24.7	
65	23.0	3.0	26.0	2.6	27.2	2.4	1	65	27.4	
63	24.5	2.5	27.3	2.2	28.5	2.1	1	63	29.1	
60	26.7	1.9	29.5	1.7	30.5	1.6	1	60	31.6	
58	28.1	1.6	30.8	1.5	31.8	1.4]	58	33.2	
55	30.3	1.2	32.8	1.1	33.7	1.1				
53	31.7	1.0								

t: ×1000 kg	g)						
				g mode II) +			
С	3	.5° Tilt	25	° Tilt	45° Tilt		
	R	W	R	W	R	W	
80	11.5	3.3	18.6	3.0	22.5	2.4	
79	12.7	3.3	19.6	2.9	23.5	2.3	
78	13.9	3.3	20.2	2.8	24.4	2.3	
77	15.0	3.3	21.2	2.8	25.3	2.3	
76	16.2	3.3	22.3	2.7	26.3	2.3	
75	17.5	3.3	23.1	2.7	27.3	2.3	
73	19.7	3.3	25.9	2.6	29.0	2.2	
70	23.0	3.2	28.2	2.5	31.5	2.1	
68	24.7	2.6	29.9	2.3	33.0	2.0	
65	27.4	2.0	32.4	1.8	35.0	1.5	
63	29.1	1.7	33.8	1.5	36.4	1.3	
60	31.6	1.3	36.0	1.1	38.5	1.0	
58	33.2	1.0					

				C		GERS MID I ER SIDE (L
	38.	3-m Boom (telescoping	g mode I) +	10.1-m Jib	
С	3.5	s° Tilt	25	5° Tilt	4	5° Tilt
	R	W	R	W	R	W
80	8.4	6.6	12.5	6.4	14.7	4.9
79	9.3	6.6	13.4	6.2	15.5	4.8
78	10.3	6.6	14.2	6.0	16.3	4.7
77	11.2	6.6	15.0	5.9	17.1	4.7
76	12.2	6.6	15.9	5.7	17.9	4.6
75	13.0	6.6	16.6	5.6	18.7	4.6
73	14.8	6.3	18.3	5.4	20.1	4.5
70	17.1	5.0	20.3	4.3	22.2	3.9
68	18.6	4.2	21.7	3.7	23.4	3.4
65	20.8	3.3	23.6	2.9	25.3	2.7
63	22.3	2.8	24.9	2.5	26.5	2.3
60	24.4	2.1	26.8	1.9	28.3	1.8
58	25.8	1.8	28.1	1.6	29.5	1.5
55	27.8	1.3	29.9	1.2	31.3	1.1
53	28.9	1.0	31.0	1.0	32.3	0.9

EX	TENDED 5	.5 m SPRE	AD									
Jni	nit: ×1000 kg)											
		38.	3-m Boom ((telescopin	g mode I) +	17.7-m Jib						
	С	3.5	s° Tilt	25°	Tilt	45°	Tilt					
		R	W	R	W	R	W					
	80	10.5	4.0	17.0	3.2	20.8	2.4					
	79	11.6	4.0	18.1	3.1	21.7	2.3					
	78	12.7	4.0	19.0	3.0	22.7	2.3					
	77	13.8	4.0	19.9	3.0	23.6	2.3					
	76	14.8	4.0	20.8	2.9	24.5	2.3					
	75	15.9	4.0	21.8	2.9	25.3	2.3					
	73	18.0	4.0	23.6	2.8	26.9	2.2					
	70	20.7	3.7	26.3	2.6	29.2	2.1					
	68	22.5	3.1	28.0	2.5	30.8	2.1					
	65	25.0	2.4	30.1	1.9	32.8	1.8					
	63	26.6	1.9	31.5	1.6	34.0	1.5					
	60	28.9	1.4	33.7	1.2	35.9	1.1					
	58	30.5	1.1	35.1	1.0	37.1	0.9					

C: Loaded boom angle (°)

R: Load radius (m)

W: Rated lifting capacity (Unit:×1,000 kg)

GR-800EX RATED LIFTING CAPACITIES

				ON RU	BBER	STATIONAR'	Y (Unit: ×	1000 kg)					
			Over	Front			360° Rotation						
ВА	С	12.0 m	C	20.8 m	С	29.5 m	С	12.0 m	С	20.8 m	С	29.5 m	
3.5	67	28.5											
4.0	64	25.3					64	15.5					
4.5	61	23.0					61	12.9					
5.0	58	20.9					58	10.9					
5.5	55	19.0					55	9.3					
6.0	52	17.3	70	13.5			52	7.9	70	9.0			
6.5	49	15.9	68	13.5			49	6.6	68	7.8			
7.0	45	14.7	67	13.5	74	10.4	45	5.6	67	6.8			
7.5	42	13.3	65	13.5	73	10.4	42	4.7	65	6.0	73	6.8	
8.0	38	12.2	63	12.6	72	10.4	38	3.8	63	5.2	72	6.0	
8.5	33	11.0	62	11.7	71	10.0	33	3.3	62	4.7	71	5.2	
9.0	28	10.0	60	10.8	70	9.8	28	2.8	60	4.2	70	4.6	
10.0			57	9.0	68	9.3			57	3.3	68	3.5	
11.0			53	7.6	66	8.3			53	2.5	66	2.8	
12.0			50	6.5	64	7.2			50	2.0	63	2.2	
14.0			42	4.8	59	5.3			42	1.0	59	1.5	
16.0			32	3.5	54	4.1							
18.0			13	2.5	49	3.2							
20.0					44	2.5							
22.0					37	1.8							
24.0					30	1.2							
26.0					19	0.9							
D		·		C)°			·		31°		54°	

Telescoping con	ditions	(%)
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Telescoping Mode	Ι, Π	П	П	I,II	П	П
2nd boom	0	0	0	0	0	0
3rd boom	0	33	66	0	33	66
4th boom	0	33	66	0	33	66
Top boom	0	33	66	0	33	66

	LIFTING CAPACITIES AT ZERO DEGREE BOOM ANGLE ON RUBBER STATIONARY											
Over Front							360° Rotation					
A	12.0 m		20.8 m		29.5 m		12.0 m					
C \	В		В		В		В					
0	9.9	8.5	18.3	2.4	27.2	0.6	9.9	2.0				

				ON	RUBBE	R CREEP (U	nit: ×100	0 kg)					
			Over	Front		,	360° Rotation						
A	12.0 m		1	20.8 m		29.5 m		12.0 m		20.8 m		29.5 m	
В	С		С		С		С		С		С		
4.0	65	19.0					64	11.2					
4.5	61	17.0					62	9.8					
5.0	58	15.1					58	8.5					
5.5	55	13.6					55	7.5					
6.0	52	12.4	70	13.5			52	6.5	69	7.5			
6.5	49	11.4	68	12.3			49	5.4	68	6.5			
7.0	45	10.3	66	11.4	74	10.4	45	4.7	67	5.8			
7.5	42	9.5	65	10.5	73	10.4	42	3.8	65	5.0	73	5.8	
8.0	39	8.7	64	9.7	72	10.0	38	3.1	63	4.3	72	5.0	
8.5	33	8.0	62	9.1	71	9.4	34	2.5	62	3.8	71	4.3	
9.0	27	7.3	60	8.5	70	8.7	28	2.3	60	3.3	70	3.8	
10.0			57	7.3	68	7.7			57	2.5	69	3.0	
11.0			53	6.3	66	6.7			53	2.0	68	2.5	
12.0			50	5.6	64	6.0			50	1.5	66	1.9	
14.0			42	4.2	59	4.7					59	1.1	
16.0			32	3.3	54	3.7							
18.0			13	2.5	49	2.6							
20.0					43	2.0							
22.0					37	1.4							
24.0					30	1.0							
D			O°			19°		0°		38°		54°	

Telescoping conditions (%)

Telescoping Mode	Ι, Π	П	П	Ι,Π	П	П
2nd boom	0	0	0	0	0	0
3rd boom	0	33	66	0	33	66
4th boom	0	33	66	0	33	66
Top boom	0	33	66	0	33	66

	LIFTING CAPACITIES AT ZERO DEGREE BOOM ANGLE ON RUBBER STATIONARY											
	Over Front						360° Rotation					
A	1	12.0m		20.8m			12.0m					
C	В		В				В					
0	9.9	6.3	18.3	2.4			9.9	1.6				

A: Boom length (m)
B: Load radius (m)
C: Loaded boom angle (°)

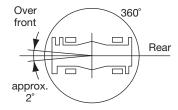
D: Minimum boom angle (°) for indicated boom length (no load)

WARNING AND OPERATING INSTRUCTIONS FOR ON RUBBER LIFTING CAPACITIES

- Rated lifting capacities based on crane stability are according to ISO4305.
- Rated lifting capacities shown in the chart are based on the condition that crane is set on firm level surfaces with suspension 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.
- If the suspension 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.
- 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	400 kPa

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 29.5 m.

- 8. When making lift on rubber stationary, set parking brake.
- For creep operation, 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 60 m in any 30 minute period and to travel at the speed of less than 1.6 km/h.
- 12. For creep operation, choose the drive mode and proper gear according to the road or working condition.
- 13. The mass of the hook (700 kg for 80 t capacity, 540 kg for 60 t capacity, 500 kg for 50 t capacity, 450 kg for 35 t capacity, 165 kg for 6.6 t capacity), slings and all similarly used load handling devices must be considered as part of the load and must be deducted from the lifting capacities.
- 14. For rated lifting capacity of single top, reduce the rated lifting capacities of relevant boom according to a weight reductions for auxiliary load handling equipment. Capacities of single top shall not exceed 6,600 kg including main hook.
- 15. The lifting capacity data stowed in the Automatic Moment Limiter (AML-C) is based on the standard number of parts of line listed in the chart. Standard number of parts of line for on rubber operation should be according to the following table.

Boom length	12.0 m	12.0 m to 29.5 m	Single top		
Telescoping mode	Ι, Π	П	Ι, Π		
Number of parts of line	6	4	1		

WARNING AND OPERATING INSTRUCTIONS FOR LIFTING CAPACITIES

GENERAL

- 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.
- 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.

SET UP

- 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

- Rated lifting capacities on outriggers fully extended as determined by ISO4305.
- 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.
- 3. The weight of handling device such as hook blocks (700 kg for 80 t capacity, 540 kg for 60 t capacity, 500 kg for 50 t capacity, 450 kg for 35 t capacity, 165 kg for 6.6 t capacity), slings, etc., must be considered as part of the load and must be deducted from the lifting capacities.
- 4. 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 the boom or jib is extremely dangerous.
 - Such action can damage the boom, jib or slewing mechanism, and lead to overturning of the crane.
- 5. Rated lifting capacities do not account for wind on lifted load or boom. We recommend against working under the conditions 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 9 m/s to 12 m/s; reduced by 70 % when the wind speed is 12 m/s to 14 m/s. If the wind speed is 14 m/s or over, stop operation. During jib lift, stop operation if the wind speed is 9 m/s or over.
- Rated lifting capacities at load radius shall not be exceeded. Do not tip the crane to determine allowable loads.
- Do not operate at boom lengths, radii, or boom angles, where no capacities are shown. Crane may overturn without any load on the hook
- 8. 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.
- When making lifts at a load radius not shown, use the next longer radius to determine allowable capacity.
- Load per line should not exceed 64.7kN (6,600 kgf) for main winch and auxiliary winch.
- 11. Check the actual number of parts of line with Automatic Moment Limiter (AML-C) before operation. Maximum lifting capacity is restricted by the number of parts of line of Automatic Moment Limiter (AML-C). Limited capacity is as determined from the formula, Single line pull for main winch 64.7 kN (6,600 kgf) x number of parts of line
- 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.
- The 12.0-m Boom length capacities are based on boom fully retracted
- 14. 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.
- 15. 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 6,600 kg including the main boom hook mass attached to the boom.

- When a jib is removed, set the jib state switch to the REMOVED position.
- 17. When erecting and stowing jib, be sure to retain it by hand or by other means to prevent its free movement.
- 18. Use "ANTI-TWO-BLOCK DEVICE" 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.
- 19. For boom length 47.0 m or less and 38.3 m or longer with jib, rated lifting capacities are determined by loaded boom angle only in the column handed "47.0-m boom + jib".
 - For boom length 38.3 m or less with jib, rated lifting capacities are determined by loaded boom angle only in the column headed "38.3-m boom + jib". For angles not shown, use the next lower loaded boom angle to determine allowable capacity. (Telescoping MODE I)

For boom length 47.0 m or less and 42.6 m or longer with jib, rated lifting capacities are determined by loaded boom angle only in the column handed "47.0-m boom + jib".

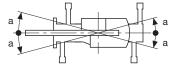
For boom length 42.6 m or less with jib, rated lifting capacities are determined by loaded boom angle only in the column headed "42.6-m boom + jib". For angles not shown, use the next lower loaded boom angle to determine allowable capacity. (Telescoping MODE II)

- 20. 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.
- 21. 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.
- 22. The lifting capacity data stowed in the Automatic Moment Limiter (AML-C) is based on the standard number of parts of line listed in the chart. Standard number of parts of line for on outrigger operation should be according to the following table.

-		-		-	
Boom length	12.0 m	12.0 20.8		20.8 m to 47.0 m	Single top/ jib
Telescoping mode	Ι, Π	I	П	Ι, Π	Ι, Π
Number of parts of line	14	8	4	4	1

23. The lifting capacity for over side area differs depending on outrigger extension width. Work with 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.

Outriggers extended width	6.7 m	5.5 m	2.7 m
	(middle)	(middle)	(minimum)
Angle a°	60	40	15



DEFINITIONS

- 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.
- Loaded Boom Angle: The angle between the boom base section and the horizontal, after lifting the rated lifting capacity at the load radius.
- 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.
- Side Load: Horizontal side force applied to the lifted load either on the ground or in the air.

WARNING AND OPERATING INSTRUCTIONS FOR USING THE AUTOMATIC MOMENT LIMITER (AML-C)

- 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 lift indicative symbol flickers).
- 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 indicative symbol flickers.
 - Press the lift state select key to register the lift state.

However, pay attention to the following.

For stationary and creep 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 slewed to the side area, make sure the value of the AUTOMATIC MOMENT LIMITER (AML-C) is below the 360° lifting capacity.

This machine is equipped with an automatic slewing stop

4. device.

(For the details, see Operation and Maintenance Manual.) But, operate very carefully because the automatic slewing stop does not work in the following cases.

• During on rubber operation.

During crane operation, make sure that the displays on front

- panel are in accordance with actual operating conditions. The displayed values of AUTOMATIC MOMENT LIMITER
- (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 slewing, lifting loads shall be appropriately reduced.
- AUTOMATIC MOMENT LIMITER (AML-C) is intended as an 7. aid to the operator. Under no condition should it be relied upon to replace use of capacity charts and operating instruction.

Sole reliance upon AUTOMATIC MOMENT LIMITER (AML-C) aids in place of good operating practice can cause an accident. The operator must exercise caution to assure safety.

GR-800EX Axle weight distribution chart

			Kilograms	
		GVW	Front	Rear
Basic n	nachine	51,410	24,325	27,085
Add:	1. 80 ton 7 sheaves hook block	700	1,350	-650
	2. 60 ton 6 sheaves hook block	540	1,040	-500
	3. 50 ton 5 sheaves hook block	500	970	-470
	4. 35 ton 3 sheaves hook block	450	870	-420
Remove	e: 1. 6.6 ton hook block	-165	-235	70
	2. Top jib	-335	-450	115
	3. Base jib	-865	-1,705	840
	 Counter weight with auxiliary winch and wire rope 	-9,980	4,240	-14,220



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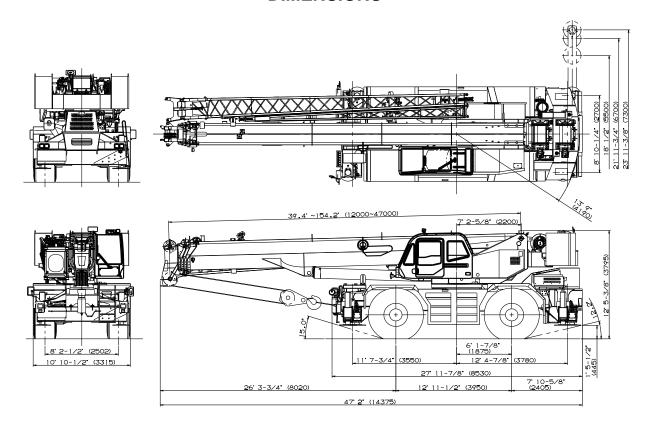


GR-1000XL

100 Ton Capacity (90.7 Metric Tons)

HYDRAULIC ROUGH TERRAIN CRANE

DIMENSIONS



Note: Dimension is with boom angle at -1.5 degree.

GENERAL DIMENSIONS (29.5 - 25 Tires)

	Feet	Meters
Turning radius		
4 wheel steer	22' 4"	6.8
2 wheel steer	39' 1"	11.9
Tail swing of counterweight	13' 9"	4.19

CRANE SPECIFICATIONS

BOOM

Five section full power synchronized telescoping boom, 39.4'~154.2' (12.0m~47.0m), of round box construction with seven sheaves, 17-5/16" (0.44m) root diameter, at boom head. The synchronization system consists of two telescope cylinders, an extension cable and retraction cable. Hydraulic cylinder fitted with holding valve. Two easily removable wire rope guards, rope dead end provided on both sides of boom head. Boom telescope sections are supported by wear pads both vertically and horizontally. Extension speed 114.8' in 160 seconds.

BOOM ELEVATION - By a double acting hydraulic cylinder with holding valve. Elevation -1.5 $^{\circ}$ ~80.5 $^{\circ}$, combination controls for hand or foot operation. Boom angle indicator. Automatic speed reduction and soft stop function. Boom raising speed 20 $^{\circ}$ to 60 $^{\circ}$ in 46 sec.

JIB - Two stage bi-fold lattice type with 3.5°, 25° or 45° offset (tilt type). Single sheave, 15-5/8" (0.396m) root diameter, at the head of both jib sections. Stored alongside base boom section. Jib length is 33.2' (10.1m) or 58.1' (17.7m). Assistant cylinders for mounting and stowing, controlled at right side of superstructure. Self stowing jib mounting pins.

AUXILIARY LIFTING SHEAVE (SINGLE TOP)

Single sheave, 15-5/8" (0.396m) root diameter. Mounted to main boom head for single line work (storable).

ANTI-TWO BLOCK - Pendant type over-winding cut out device with audio-visual (FAILURE lamp/BUZZER) warning system.

SLEWING

Hydraulic axial piston motor through planetary slewing speed reducer. Continuous 360 ° full circle slewing on ball bearing turn table at 1.5min⁻¹ {rpm}. Equipped with manually locked/released slewing brake. A 360 ° positive slewing lock for pick and carry and travel modes, manually engaged in cab. Twin slewing system: Free slewing or lock slewing controlled by selector switch on front console.

HOIST

MAIN HOIST - Variable speed type with grooved drum driven by hydraulic axial piston motor through speed reducer. Power load lowering and raising. Equipped with automatic brake (neutral brake) and counterbalance valve. Controlled independently of auxiliary hoist. Equipped with cable follower and drum rotation indicator.

DRUM - Grooved 14-1/4" (0.362m) root diameter x 23-5/8" (0.6m) wide. Wire rope: 830' of 3/4" diameter rope (253m of 19mm). Drum capacity: 997' (304m) 7 layers.

Maximum single line pull (available): 20,000 lbs (9,090kg).

Maximum line speed: 560FPM (170m/min) at the 6th layer.

AUXILIARY HOIST - Variable speed type with grooved drum driven by hydraulic axial piston motor through speed reducer. Power load lowering and raising. Equipped with automatic brake (neutral brake) and counterbalance valve. Controlled independently of main hoist. Equipped with cable follower and drum rotation indicator.

DRUM - Grooved 14-1/4" (0.362m) root diameter x 23-5/8" (0.6m) wide. Wire rope: 456' of 3/4" diameter rope (139m of 19mm). Drum capacity: 997' (304m) 7 layers.

Maximum single line pull (available): 20,000 lbs (9,090kg).

Maximum line speed: 491FPM (149m/min) at the 4th layer.

WIRE ROPE - Non-rotating 3/4" (19mm) 7x35 class. Breaking strength (Main and Aux): 72,800 lbs (33,000 kg)

HOOK BLOCKS

100 ton (90.7 metric ton) - 8 sheaves with swivel hook block and safety latch. 7.3 ton (6.6 metric ton) - Weighted hook ball with swivel and safety latch.

HYDRAULIC SYSTEM

PUMPS - Two variable piston pumps for crane functions.

Tandem gear pump for steering, slewing and optional equipment.

Powered by carrier engine. Pump disconnect for crane is engaged/disengaged by rotary switch from operator's cab.

CONTROL VALVES - Multiple valves actuated by pilot pressure with integral pressure relief valves.

RESERVOIR - 202 gallon (763 lit.) capacity. External sight level gauge.

FILTRATION - BETA10=10 return filter, full flow with bypass protection, located inside of hydraulic reservoir. Accessible for easy replacement.

OIL COOLER - Air cooled fan type.

CAB AND CONTROLS

Both crane and drive operations can be performed from one cab mounted on rotating superstructure.

Left side, 1 man type, steel construction with sliding door access and safety glass windows opening at side. Door window is powered control. Windshield glass window and roof glass window are shatter-resistant. Tilt-telescoping steering wheel. Adjustable control lever stands for slewing, boom elevating, boom telescoping, auxiliary hoist and main hoist. Control lever stands can change neutral positions and tilt for easy access to cab. 3 way adjustable operator's seat with high back, headrest and armrest. Engine throttle knob. Foot operated controls: boom elevating, boom telescoping, service brake and engine throttle. Hot water cab heater and air conditioning.

Dash-mounted engine start/stop, monitor lamps, cigarette lighter, drive selector switch, parking brake switch, steering mode select switch, power window switch, pump engaged/disengaged switch, slewing brake switch, telescoping/auxiliary hoist select switch, outrigger controls, free slewing / lock slewing selector switch, eco mode switch, high speed hoist (main/aux) switch and ashtray.

Instruments - Torque converter oil temperature, engine water temperature, air pressure, fuel, speedometer, tachometer, hour meter and odometer / tripmeter. Hydraulic oil pressure is monitored and displayed on the AML-C display panel.

Tadano electronic LOAD MOMENT INDICATOR system (AML-C) including:

- · Control lever lockout function
- · Boom position indicator
- · Outrigger state indicator
- Boom angle / boom length / jib offset angle / jib length / load radius / rated lifting capacities / actual loads read out
- Ratio of actual load moment to rated load moment indication
- Automatic Speed Reduction and Slow Stop function on boom elevation and slewing
- · Working condition register switch
- Load radius / boom angle / tip height / slewing range preset function
- · External warning lamp
- Tare function
- · Fuel consumption monitor
- · Main hoist / auxiliary hoist select
- Drum rotation indicator (audible and visible type) main and auxiliary hoist

TADANO AML-C monitors outrigger extended length and automatically programs the corresponding "RATED LIFTING CAPACITIES" table

Operator's right hand console includes transmission gear selector, and slewing lock lever and sight level bubble. Upper console includes working light switch, roof washer and wiper switch, emergency outrigger set up key switch, jib equipped/removed select switch, eco mode switch, high speed hoist (main/aux) switch and air conditioning control switch.

NOTE: Each crane motion speed is based on unloaded conditions.

CARRIER SPECIFICATIONS

TYPE - Rear engine, left hand steering, driving axle 2-way selected type by manual switch, 4x2 front drive, 4x4 front and rear drive.

FRAME - High tensile steel, all welded mono-box construction.

TRANSMISSION - Electronically controlled full automatic transmission. Torque converter driving full powershift with driving axle selector. 6 forward and 2 reverse speeds, constant mesh.

3 speeds - high range - 2 wheel drive; 4 wheel drive 3 speeds - low range - 4 wheel drive

TRAVEL SPEED - 22 mph (36 km/h)

GRADEABILITY (tane) - 94% (at stall), **57%

** Machine should be operated within the limit of engine design. (30°: Cummins QSB6.7)

AXLE - Front: Full floating type, steering and driving axle with planetary reduction. Rear: Full floating type, steering and driving axle with planetary reduction and non-spin rear differential.

STEERING - Hydraulic power steering controlled by steering wheel. Four steering modes available: 2 wheel front, 2 wheel rear, 4 wheel coordinated and 4 wheel crab.

ENGINE

Model Cummins QSB6.7 [Tier 4] Type Direct injection diesel No. of cylinders Combustion 4 cycle, turbo charged and after cooled BoreXStroke, in.(mm) 4.212 x 4.882 (107 x 124) Displacement, cu. in (liters) 409 (6.700) Air inlet heater 24 volt preheat Dry type, replaceable element Air cleaner Oil filter Full flow with replaceable element Fuel filter Full flow with replaceable element Fuel tank, gal.(liters) 79.2 (300), right side of carrier Cooling Liquid pressurized, recirculating by-pass **SUSPENSION** - Front: Rigid mounted to frame. Rear: Pivot mounted with hydraulic lockout device.

BRAKE SYSTEMS - Service: Air over hydraulic disc brakes on all 4 wheels. Parking/Emergency: Spring applied-air released brake acting on input shaft of front axle. Auxiliary: Electropneumatic operated exhaust brake.

TIRES - 29.5-25 34PR(OR)

OUTRIGGERS - Four hydraulic, beam and jack outriggers. Vertical jack cylinders equipped with integral holding valve. Each outrigger beam and jack is controlled independently from cab. Beams extend to 23' 11-3/8" (7.3 m) center-line and retract to within 10' 10-1/2" (3.315 m) overall width with floats. Outrigger jack floats are attached thus eliminating the need of manually attaching and detaching them. Controls and sight bubble located in superstructure cab. Four outrigger extension lengths are provided with corresponding "RATED LIFTING CAPACITIES" for crane duty in confined areas.

Min. Extension 8' 10-1/4" (2.7m) center to center Mid. Extension 18' 1/2" (5.5m) center to center Mid. Extension 21' 11-3/4" (6.7m) center to center Max. Extension 23' 11-3/8" (7.3m) center to center Float size(Diameter) 1' 11- 5/8" (0.6m)

Radiator Fin and tube core, thermostat controlled Fan, in.(mm) Suction type, 9-blade, 28 (711) dia. Starting 24 volt Charging 24 volt system, negative ground Battery 2-120 amp. Hour Compressor, air, CFM(I /min) 17.0 CFM (481) at 2,400rpm Horsepower (kW) Gross 270 (201) at 2,000rpm Torque, Max. ft-lb (Nm) 730 (990) at 1,500rpm Capacity, gal.(liters) Cooling water 7.4 (28) Lubrication 4.0 (15) Fuel 79.2 (300)

10.0 (38)

DEF

STANDARD EQUIPMENT

- Five section full power partially synchronized boom 39.4'~154.2' (12.0 m~47.0 m)
- 33.2' or 58.1' (10.1 m or 17.7 m) bi-fold lattice jib (tilt type) with 3.5°, 25° or 45° pinned offsets and self storing pins.
- Auxiliary lifting sheave (single top) storable
- Variable speed main hoist with grooved drum, cable follower and 830' of 3/4" cable.
- Variable speed auxiliary hoist with grooved drum, cable follower and 456' of 3/4" cable.
- Drum rotation indicator (audible, visible and thumper type) main and auxiliary hoist
- 2-speed hoist
- Anti-Two block device (overwind cutout)
- Boom angle indicator
- Tadano electronic load moment indicator system (AML-C)
- Outrigger extension length detector
- Electronic crane monitoring system
- Tadano twin slewing system and 360° positive slewing lock
- Self centering finger control levers with pilot control
- Control pedals for boom elevating and boom telescoping
- 3 way adjustable cloth seat with armrests, high back and seat belt
- Tilt-telescoping steering wheel
- Tinted safety glass and sun visor
- Front windshield wiper and washer
- Roof window wiper and washer
- Power window (cab door)
- Rear view mirrors (right and left side)
- Mirror for main and auxiliary hoists
- Cigarette lighter and ashtray
- Cab floor mat
- Pump disconnect in operator's cab
- Hydraulic oil cooler
- Hot water cab heater and air conditioner
- Positive control
- Quick reeving type bi-fold jib
- Work lights

- Independently controlled outriggers
- Four outrigger extension positions
- Self-storing outrigger pads
- Cummins QSB6.7 turbo charged after cooled engine (270HP) with exhaust brake
- Electronic controlled automatic transmission driven by torque converter
- 4 X 4 X 4 drive/steer
- Non-spin rear differential
- Automatic rear axle oscillation lockout system
- 29.5-25 34PR tires
- Disc brakes
- Fenders
- Air dryer
- Water separator with filter(high filtration)
- Engine over-run alarm
- Back-up alarm
- Low oil pressure/high water temp. warning device (visual)
- Rear steer centering light
- Air cleaner dust indicator
- Full instrumentation package
- Complete highway light package
- Tool storage compartment
- Tire inflation kit
- 24 volt electric system
- 7.3 ton (6.6 metric ton) hook ball with swivel
- 100 ton (90.7 metric ton) 8 sheaves with swivel hook block and safety latch for 3/4"(19mm) wire rope
- Towing hooks-Front and rear
- Lifting eyes
- Hook block tie down (front bumper)
- Weighted hook storage compartment
- Halogen head lamp
- Telematics (machine data logging and monitoring system) with HELLO-NET via internet
- Fuel consumption monitor
- Eco mode system
- Self-removable counterweight

HOISTING PERFORMANCE

LINE SPEEDS AND PULLS

		Mai	in or auxili	iary hoist	- 14'-1/4" ((0.362m)	drum	
Layer		Line s	peeds ¹		Li	ine pulls	- Availabl	6 ²
Layer	Lo)W	Hi	gh	Lo	W	Hi	gh
	F.P.M.	m/min	F.P.M.	m/min	Lbs.	kgf	Lbs.	kgf
1st	278	84	387	118	20,000	9,090	14,400	6,520
2nd	302	92	421	128	18,100	8,230	13,000	5,900
3rd	327	99	456	139	16,600	7,520	11,900	5,390
4th	352	107	491	149	15,300	6,920	10,900	4,960
5th	377	115	526	160	14,100	6,410	10,100	4,600
6th	402	122	560	170	13,200	5,970	9,400	4,280
7th ³	427	130	595	181	12,300	5,590	8,800	4,010

- * Maximum permissible line pull may be affected by wire rope strength. Maximum lifting capacity per line (Main & Aux.): 14,600 lbs (6,600 kg)
- ¹ Line speeds based only on hook block, not loaded.
- Developed by machinery with each layer of wire rope, but not based on rope strength or other limitation in machinery or equipment.
- Seventh layer of wire rope are not recommended for hoisting operations.

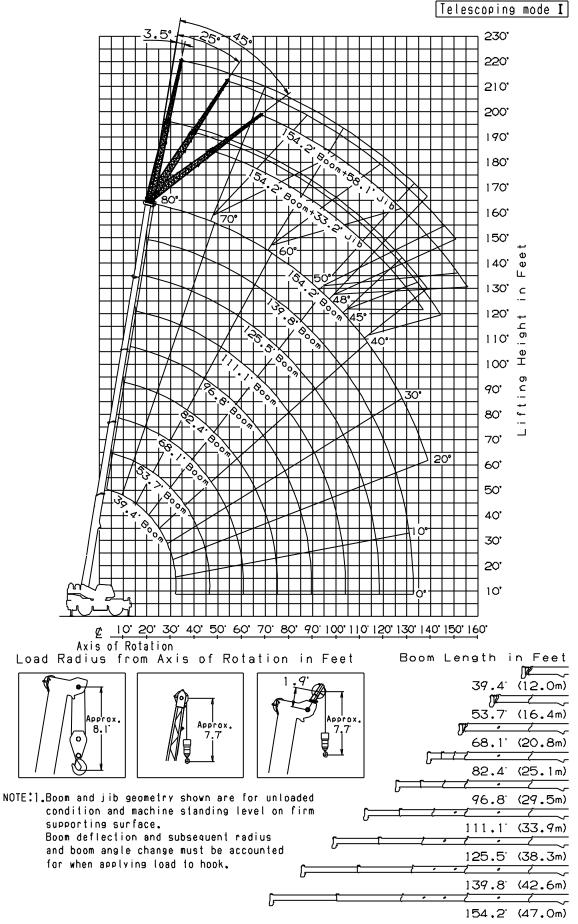
DRUM WIRE ROPE CAPACITIES

\\/:	Main and	d auxiliary o	drum groov	ed lagging
Wire rope		3/4" (19mn	n) wire rope)
layer	Rope p	er layer	Total w	ire rope
layei	Feet	Meters	Feet	Meters
1	112.2	34.2	112.2	34.2
2	122.3	37.3	234.5	71.5
3	132.2	40.3	366.8	111.8
4	142.3	43.4	509.1	155.2
5	152.2	46.4	661.4	201.6
6	162.4	49.5	823.8	251.1
7	172.5	52.6	996.4	303.7

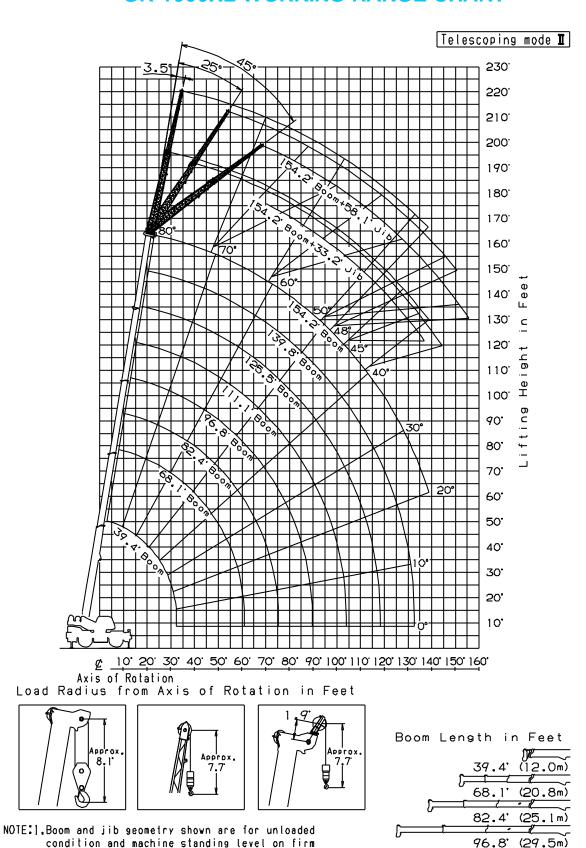
DRUM DIMENSIONS

	Inch	mm
Root diameter	14-1/4"	362
Length	23-5/8"	600
Flange diameter	25-7/8"	657

GR-1000XL WORKING RANGE CHART



GR-1000XL WORKING RANGE CHART



111.1' (33.9m)

154.2' (47.0m)

(38.3m)

(42.6m)

125.5

139.8

supporting surface.

Boom deflection and subsequent radius and boom angle change must be accounted

for when applying load to hook.

								ON	OU	TRIGO	SEF	RS FU	LLY	'EXTE	ND	ED 23	3' 1 <i>'</i>	1-3/8"(7.3	m) SP	RE	AD								
													3	60° R)TC	ATION														
A		39.4'		53.7'		68.1' (2	20.8	m)		82.4' (2	25.1	m)		96.8' (29.5	m)		111.1'	(33.9	9m)		125.5'	(38.	3m)		139.8' (42.6	6m)	1	54.2'
В	С	(12m)	С	(16.4m)	C		С		C		С		C		C		С		С		С		С		С		С		С	(47m)
8'	73	200,000	78	102,700																										
10'	70	180,000	76	102,700	80	90,200	79	40,100																						
12'	67	157,900	74	102,700	78	90,200	77	40,100																						
15'	61	132,300	70	102,700	75	89,900	75	40,100	78	42,500	78	35,500																		
20'	52	99,700		99,100		76,100	-			42,500					-		_		_	32,200	_									
25'	41	76,900	58	76,200			-		-	42,500	70		-		_		_		_	32,200	_				_					
30'	25	50,700	51	- ,		56,700		-,		42,500		35,500		40,100		,		35,500		30,200		33,300		26,300		-,		,		
35'			43			41,800	_		-	42,500	$\overline{}$		-											24,000	_		-	24,100	78	20,900
40'			33	33,100	50	32,100	-			34,100					-		_		_	24,900	_	28,400		22,000	_				77	20,900
45'			18	26,200		25,400		- ,		27,300		31,800		28,300						22,900				20,200	_			20,700	75	20,700
50'					_	20,400	-			22,200	_	26,600	57		-		_			21,300	_	22,900	-	18,700	_		_	19,300	73	19,400
55'					28	16,600	27	20,900	44	18,400	-	22,600	_	19,300	_		_	20,100	_		_	20,100	-	17,400	_	-,	-	18,000	71	18,100
60'					13	13,600	12	15,900	39	15,300	38	19,400	49		-		_	17,000	57		_	17,300	_	16,100	_		-	16,800	69	16,800
65'									32	12,700	_	16,800			-	17,100	_			16,600	_		_	15,000	_		-	15,800	67	15,200
70'									24	10,600	23	14,600	40	11,600	-	15,000	_		50	15,200	_	12,700	_	13,800	_	13,200	_	14,300	65	13,400
75'									7	8,900	5	11,700	35	9,800	35	13,200	45		_	13,400	_	10,900	_		_		-	12,500	62	11,700
80'													29		-	11,600	_	9,100	_	11,900	_		_	11,700	_		-		_	10,200
85'													21	7,100	21	10,300	_	7,800		-,		8,200		-,		-,		9,700		8,900
90'																	31	6,600	_		_	7,000	-	9,600	_	,		8,600		7,700
95'																	25	5,600	_	8,400	_	6,000		8,600	_	6,500	-	7,600	_	6,700
100'																	17	4,800	19	7,500	-	5,200		7,700	_		_	6,700		5,900
105'																					29	4,400		_	_		-	5,900	47	5,100
110'																					24	3,700		6,200	_	4,100	-	5,200	44	4,300
115'																					15	3,100	15	5,600	_	3,500	-	4,500	41	3,700
120'																									27	2,900	_	4,000	38	3,200
125'																									22	2,400	-	3,500	34	2,600
130'																									14	2,000	14	3,100	30	2,200
135'	Ш																		Ш										26	1,800
D	<u> </u>													0																20
													Γele	scoping	con	ditions (%)													
Tele. mode		I, II		I		I		II		I		II		I		II		I		II		I		II		I		II		I, II
2nd boom		0		50 100 0				0		100		0		100		0		100		0		100		0		100		50		100
3rd boom		0		0				33		16		50		33		66		50		83		66		100		83		100		100
4th boom		0		0	0 33			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

				L	IFT	ING C	ΑP	ACITIE	ES /	AT ZE	RO	DEGF	REE	BOO	M A	ANGLE	OI	N OUT	RIC	GERS	3 Fl	JLLY I	ΕX	TENDE	D				
										23' 1	11-3	3/8"(7.	3m) SPRE	ΞΑΕ	36	60°	ROTA	TIC	NC									
A	A 39.4' 53.7' 68.1' (20.8m) 82.4' (25.1m) 96.8' (29.5m) 111.1' (33.9m) 125.5' (38.3m) 139.8' (42.6m)																												
c \	B (12m) B (16.4m) B B B B B B B B B																												
0°	32.2'	30,900	46.6	19,400	60.7	12,100	60.5	15,600	75.0'	8,900	75.0	11,800	89.0'	6,200	89.0'	8,200	102.0	4,400	103.0	6,200	117.0	3,000	116.0	5,400	131.0	2,000	130.0	3,100	
Tele.		I. II		ī		ī		П		I		П		ī		П		ī		II		ī		п		ī		П	
mode		.,		•		•				•		••		•				•				•				•			

- A:Boom length in feet
- B:Load radius in feet
- **C** :Loaded boom angle (°)
- **D**:Minimum boom angle (°) for indicated length (no load)

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 in feet	39.4'	39.4' t	o 68.1'	68.1' to 154.2'	Single top
(meters)	(12m)	(12m to	20.8m)	(20.8m to 47m)	Jib
Telescoping mode	I, II	I	II	I, II	I, II
Number of parts of line	16	8	4	4	1

			ΟN	OUTRIG	GERS F	ULLY EX	TEND	ED 23' 1	1-3/8"(7	.3m) SPRI	EAD			
						360°	ROTA	TION						
	1:	54.2' (47.0	m) Boo	m + 33.2'	(10.1m)	Jib			1	54.2' (47.0	m) Boo	m + 58.1'	(17.7m)	Jib
С		offset		offset		offset		С		offset		offset		offset
	R	W	R	W	R	W			R	W	R	W	R	W
80	37.8'	10,800	51.5'	10,800	58.8'	9,400		80	45.8'	6,800	71.7'	6,300	83.5'	5,100
79	41.5'	10,800	55.3'	10,400		9,200		79	50.0'	6,800	75.5'	6,200	87.1'	5,100
78	45.2'	10,800	58.6'	10,200	65.7'	9,000		78	54.2'	6,800	79.1'	6,000	90.3'	5,000
77	49.2'	10,800	62.1'	9,900	68.4'	8,800		77	58.5'	6,800	82.7'	5,900	93.3'	5,000
76	52.6'	10,800	65.3'	9,600	71.6'	8,700		76	62.7'	6,800	86.4'	5,800	96.2'	4,900
75	56.3'	10,800	69.0'	9,300	74.5'	8,500		75	66.8'	6,800	90.0'	5,700	99.5'	4,800
73	63.5'	10,500	75.2'	8,900	80.5'	8,200		73	74.6'	6,800	96.7'	5,500	105.0'	
70	73.4'	9,600	84.5'	8,300	88.8'	7,700		70	87.2'	6,800	107.0'	5,200	113.0'	4,600
68	79.7'	9,100		7,900	94.4'	7,400		68	94.4'	6,700	113.0'	5,100		4,500
65	88.0'	8,200	98.3'	7,200	102.0'	6,800		65	104.0'	5,900	122.0'	4,900	126.0'	4,500
63	93.9'	7,500	104.0'	6,700	106.0'	6,400		63	110.0'	5,400	128.0'	4,500	132.0'	4,200
60	102.0'	6,700	111.0'	6,100	114.0'	5,800		60	119.0'	4,500	136.0'	4,100	139.0'	3,800
58	107.0'	5,800	116.0'	5,400	118.0'	5,100		58	124.0'	3,900	141.0'	3,600	143.0'	
55	114.0'	4,700	122.0'	4,400	124.0'	4,200		55	131.0'	2,900	147.0'	2,800	149.0'	2,600
53	118.0'	4,100	126.0'	3,700	128.0'	3,600		53	137.0'	2,300	152.0'	2,200	153.0'	2,100
50	125.0'	3,200	133.0'	3,000	133.0'	2,800		50	144.0'	1,600	158.0'	1,500	158.0'	1,400
48	129.0'	2,700	136.0'	2,400	137.0'	2,300		48	149.0'	1,100	162.0'	1,100	162.0'	1,000
45	136.0'	2,000	142.0'	1,800	142.0'	1,700				·	·	·		
43	139.0'	1,600	146.0'	1,500										
40	145.0'	1,100	151.0'	1,100										

			ON	OUTRIG	SERS E	IIIIYEX	TEND	FD 23' 1	1_3/8"/7	.3m) SPRE	ΔD			
			OIN	OUTRIG	JLINGT	360°			1-5/0 (7	.5111) 51 131				
	139.8'(4	2.6m) Boom	(telescor	ing modeII)	+ 33.2' (1017	11011	139.8'(4	2.6m) Boom	(telescor	oina modeII)	+ 58.1' (17.7m) Jib
С		offset		offset		offset		С		offset		offset		offset
	R	W	R	W	R	W			R	W	R	W	R	W
80	32.7'	11,700	45.8'	11,600	53.0'	10,000		80	40.8'	7,300	64.6'	6,500	77.3'	5,200
79	36.4'	11,700	49.0'	11,200	55.8'	9,800		79	44.7'	7,300	67.9'	6,400	80.4'	5,100
78	39.6'	11,700	52.1'	10,900	59.1'	9,600		78	48.7'	7,300	72.0'	6,200	83.5'	5,100
77	43.0'	11,700	55.0'	10,600	61.6'	9,400		77	52.6'	7,300	75.2'	6,100	86.2'	5,000
76	46.4'	11,700	57.7'	10,300	64.1'	9,200		76	56.5'	7,300	78.1'	6,000	89.2'	5,000
75	49.4'	11,700	60.9'	10,100	67.0'	9,100		75	60.0'	7,300	81.8'	5,900	92.4'	5,000
73	55.8'	11,500	67.0'	9,500	72.6'	8,700		73	67.0'	7,300	88.2'	5,700	97.7'	4,900
70	65.1'	10,400	75.1'	8,900	80.1'	8,200		70	78.3'	7,300	97.5'	5,400	105.0'	4,700
68	70.4'	9,700	80.6'	8,400	84.9'	7,800		68	85.2'	7,100	103.0'	5,300	110.0'	4,600
65	78.4'	8,600	88.1'	7,500	91.7'	7,100		65	94.2'	6,200	112.0'	5,100	118.0'	4,600
63	83.7'	7,900	93.0'	7,000	96.4'	6,700		63	99.8'	5,700	117.0'	4,700	123.0'	4,400
60	91.0'	7,100	100.0'	6,400	103.0'	6,100		60	109.0'	5,100	124.0'	4,300	129.0'	4,000
58	96.0'	6,600	104.0'	6,000	107.0'	5,800		58	114.0'	4,700	129.0'	4,000	133.0'	3,800
55	103.0'	6,000	111.0'	5,500	113.0'	5,300		55	122.0'	4,200	137.0'	3,600	139.0'	3,500
53	108.0'	5,600	115.0'	5,200	117.0'	5,000		53	127.0'	3,900	141.0'	3,400	143.0'	3,300
50	114.0'	5,100	121.0'	4,700	122.0'	4,600		50	134.0'	3,500	147.0'	3,100	148.0'	3,000
48	119.0'	4,700	125.0'	4,400	126.0'	4,200		48	139.0'	3,200	151.0'	2,900	152.0'	2,700
45	124.0'	4,000	130.0'	3,800	130.0'	3,600		45	145.0'	2,700	156.0'	2,600	156.0'	2,300
43	128.0'	3,600	134.0'	3,400				43	149.0'	2,400	160.0'	2,300		
40	134.0'	3,100	138.0'	3,000				40	155.0'	2,000	165.0'	1,900		
38	137.0'	2,800	141.0'	2,700				38	159.0'	1,700	167.0'	1,700		
35	142.0'	2,400	145.0'	2,300				35	164.0'	1,400	171.0'	1,400		
33	145.0'	2,200	148.0'	2,100				33	168.0'	1,200	174.0'	1,200		
30	149.0'	1,900	151.0'	1,800				30	172.0'	1,000	177.0'	1,000		
25	155.0'	1,500	156.0'	1,500										
20	159.0'	1,200												
15	162.0'	1,000												

125.5'(38.3m) Boom(telescoping model) + 33.2' (10.1m) Jib 25' offset 25' offset 45' of				ON	OUTRIG	JERS F				1-3/8"(7.	.3m) SPRE	-AD			
C 3.5° offset R 25° offset W 45° offset R 45° offset W C 3.5° offset R 25° offset R 45° offset R 45° offset R 25° offset R 45° offset R 45° offset R 25° offset R 45°		125 5'/3	8 3m) Boor	n/telesco	ning modeI)	± 33 2' (1		KUIA	TION	125 51	38 3m\Boom	(telescon	ing model)	± 50 1' (1	17.7m) lih
R W W	С								С						
79 33.3' 14,600 46.0' 13,600 52.6' 10,600 78 36.0' 14,600 49.2' 13,300 55.1' 10,500 77 39.0' 14,600 51.7' 12,900 57.6' 10,300 76 42.6' 14,600 54.1' 12,700 60.1' 10,200 75 45.5' 14,600 54.1' 12,700 60.1' 10,200 70 54.5' 14,600 54.1' 12,700 60.1' 10,200 75 45.5' 14,600 56.9' 12,400 62.7' 10,100 70 59.8' 13,700 70.0' 11,200 74.6' 9,700 68 64.6' 13,000 74.9' 10,800 78.8' 9,600 65 72.3' 12,100 82.0' 10,300 85.3' 9,500 65 72.3' 12,100 82.0' 10,300 85.3' 9,500 68 84.6' 10,0	_								_						W
78 36.0° 14,600 49.2° 13,300 55.1° 10,500 77 39.0° 14,600 51.7° 12,900 57.6° 10,300 76 42.6° 14,600 54.1° 12,900 60.1° 10,200 75 45.5° 14,600 56.9° 12,400 62.7° 10,100 70 59.8° 13,700 70.0° 11,200 74.6° 9,700 70 59.8° 13,700 70.0° 11,200 74.6° 9,700 68 64.6° 13,000 74.9° 10,800 78.8° 9,600 65 72.3° 12,100 82.0° 10,300 85.3° 9,500 63 77.1° 11,600 86.4° 10,000 78.8° 9,600 63 77.1° 11,600 86.4° 10,000 89.2° 9,300 63 77.1° 11,600 86.4° 10,000 89.2° 9,300 63 77.1° 11,600<	80	30.5'	14,600	43.5'	14,000	50.1'	10,700		80	37.2'	8,800	58.7'	7,000	71.2'	5,200
77 39.0° 14,600 51.7° 12,900 57.6° 10,300 76 42.6° 14,600 54.1° 12,700 60.1° 10,200 75 45.5° 14,600 56.9° 12,400 62.7° 10,100 73 51.2° 14,600 56.9° 12,400 62.7° 10,100 70 59.8° 13,700 70.0° 11,200 74.6° 9,700 68 64.6° 13,000 74.9° 10,800 78.8° 9,600 65 72.3° 12,100 82.0° 10,300 85.3° 9,500 63 77.1° 11,600 86.4° 10,000 89.2° 9,300 60 84.1° 10,100 93.0° 9,100 95.3° 8,500 58 88.2° 8,900 96.6° 8,100 99.0° 7,600 58 88.2° 8,900 96.6° 8,100 99.0° 7,600 55 94.2° 7,500	79	33.3'	14,600	46.0'	13,600	52.6'	10,600		79	41.2'	8,800	61.5'	6,800	73.9'	5,100
76 42.6 14,600 54.1 12,700 60.1 10,200 75 45.5 14,600 56.9 12,400 62.7 10,100 75 54.9 8,800 70.3 61.6 8,800 74.3 6,300 84.9 73 51.2 14,600 62.4 11,900 67.5 10,000 73 61.6 8,800 80.5 6,100 90.0 68 64.6 13,000 74.9 10,800 78.8 9,600 68 77.2 7,900 94.6 5,600 102.0 65 72.3 12,100 82.0 10,300 85.3 9,500 68 77.7 7,900 94.6 5,600 102.0 63 77.1 11,600 86.4 10,000 89.2 9,300 63 92.0 7,100 107.0 5,300 113.0 60 84.1 10,100 93.0 9,100 95.3 8,500 63 92.0 7,100 107.0	78	36.0'	14,600	49.2'	13,300	55.1'	10,500		78	44.8'	8,800	65.4'	6,700	76.8'	5,100
75	77	39.0'	14,600	51.7'	12,900	57.6'	10,300		77	47.8'	8,800	68.4'	6,500	79.5'	5,000
73 51.2 14,600 62.4 11,900 67.5 10,000 70 59.8 13,700 70.0 11,200 74.6' 9,700 68 64.6' 13,000 74.9' 10,800 78.8' 9,600 65 72.3' 12,100 82.0' 10,300 85.3' 9,500 63 77.1' 11,600 86.4' 10,000 89.2' 9,300 60 84.1' 10,100 93.0' 9,100 95.3' 8,500 58 88.2' 8,900 96.6' 8,100 99.0' 7,600 55 94.2' 7,500 102.0' 6,500 104.0' 5,000 115.0' 5,100 120.0' 53 98.4' 6,700 106.0' 6,200 108.0' 5,900 50 104.0' 5,700 111.0' 5,300 112.0' 5,000 48 108.0' 5,100 115.0' 4,800 120.0' 3,800	76	42.6'	14,600	54.1'	12,700	60.1'	10,200		76	51.3'	8,800	70.8'	6,400	82.1'	5,000
70 59.8 13,700 70.0 11,200 74.6 9,700 68 64.6° 13,000 74.9° 10,800 78.8° 9,600 65 72.3° 12,100 82.0° 10,300 85.3° 9,500 63 77.1° 11,600 86.4° 10,000 89.2° 9,300 60 84.1° 10,100 93.0° 9,100 95.3° 8,500 58 88.2° 8,900 96.6° 8,100 99.0° 7,600 55 94.2° 7,500 102.0° 6,900 104.0° 6,500 50 104.0° 5,700 111.0° 5,300 112.0° 5,000 120.0° 48 108.0° 5,100 115.0° 4,800 112.0° 5,000 130.0° 4,800 129.0° 43 117.0° 3,300 129.0° 3,800 48 127.0° 3,500 136.0° 3,600 138.0° 48 108.0° 5,100<	75	45.5'	14,600	56.9'	12,400	62.7'	10,100		75	54.9'	8,800	74.3'	6,300	84.9'	5,000
68 64.6 13,000 74.9 10,800 78.8 9,600 65 72.3 12,100 82.0 10,300 85.3 9,500 65 86.1 7,500 102.0 5,400 109.0 65 77.1 11,600 86.4 10,000 89.2 9,300 63 92.0 7,100 107.0 5,300 113.0 60 84.1 10,100 93.0 9,100 95.3 8,500 60 99.9 6,800 115.0 5,100 120.0 55 94.2 7,500 102.0 6,900 104.0 6,500 55 94.2 7,500 102.0 6,900 104.0 6,500 50 104.0 5,700 111.0 5,300 112.0 50 104.0 5,700 111.0 5,300 112.0 5,000 53 117.0 4,800 130.0 4,300 133.0 50 104.0 5,100 115.0 4,800 116.0 4,500 48 127.0 3,500 139.0 3,200 140.0 40 122.0 3,300 127.0 3,200 120.0 3,800 120.0 4,100 120.0 3,800 120.0 4,100 120.0 3,800 120.0 4,100 120.0 3,800 120.0 4,100 120.0 3,800 120.0 1	73	51.2'	14,600	62.4'	11,900	67.5'	10,000		73	61.6'	8,800	80.5'	6,100	90.0'	4,900
65 72.3' 12,100 82.0' 10,300 85.3' 9,500 65 86.1' 7,500 102.0' 5,400 109.0' 63 77.1' 11,600 86.4' 10,000 89.2' 9,300 60 84.1' 10,100 93.0' 9,100 95.3' 8,500 60 99.9' 6,800 115.0' 5,100 120.0' 55 94.2' 7,500 102.0' 6,900 104.0' 6,500 55 94.2' 7,500 102.0' 6,900 104.0' 6,500 53 98.4' 6,700 106.0' 6,200 108.0' 5,900 50 104.0' 5,700 111.0' 5,300 112.0' 5,000 120.0' 50 123.0' 4,000 130.0' 4,300 130.0' 4,300 130.0' 4,300 130.0' 4,300 130.0' 4,300 130.0' 4,500 48 108.0' 5,100 115.0' 4,800 116.0' 4,500 50 123.0' 4,000 130.0' 4,300 130.0' 4,500 140.0' 4,500 448 127.0' 3,500 139.0' 3,200 140.0' 40.0' 122.0' 3,300 122.0' 3,200 40.0' 40	70	59.8'	13,700	70.0'	11,200	74.6'	9,700		70	71.3'	8,300	88.9'	5,800	97.5'	4,700
63 77.1 11,600 86.4 10,000 89.2 9,300 63 92.0 7,100 107.0 5,300 113.0 60 84.1 10,100 93.0 9,100 95.3 8,500 58 88.2 8,900 96.6 8,100 99.0 7,600 55 94.2 7,500 102.0 6,900 104.0 6,500 55 112.0 5,400 126.0 4,800 129.0 53 98.4 6,700 106.0 6,200 108.0 5,900 50 104.0 5,700 111.0 5,300 115.0 5,000 124.0 55 112.0 5,400 126.0 4,800 130.0 4,300 133.0 4,300 120.0 4,100 120.0 4,500 48 108.0 5,100 120.0 4,100 120.0 4,300 120.0 4,100 120.0 3,800 45 133.0 2,900 144.0 2,700 145.0 4,300 122.0 3,300 127.0 3,200 40 122.0 3,300 127.0 3,200 140.0 4,300 130.0 2,500 130.0 129.0 2,500 133.0 2,400 33 132.0 2,300 135.0 2,200 30 136.0 2,000 139.0 1,900 25 141.0 1,500 143.0 1,500 158.0 1,000 163.0	68	64.6'	13,000	74.9'	10,800	78.8'	9,600		68	77.2'	7,900	94.6'	5,600	102.0'	4,600
60 84.1' 10,100 93.0' 9,100 95.3' 8,500 58 88.2' 8,900 96.6' 8,100 99.0' 7,600 58 105.0' 6,500 115.0' 5,000 120.0' 58 105.0' 6,500 115.0' 5,000 124.0' 55 112.0' 5,000 124.0' 55 112.0' 5,400 126.0' 4,800 129.0' 55 117.0' 4,800 130.0' 4,300 130.0' 4,300 130.0' 4,300 130.0' 4,300 130.0' 4,300 130.0' 4,300 130.0' 3,600 138.0' 48 127.0' 3,500 130.0' 3,600 138.0' 48 127.0' 3,500 130.0' 3,200 140.0' 448 127.0' 3,500 130.0' 3,200 140.0' 448 127.0' 3,500 130.0' 440.0' 2,400 440.0' 2,400 43 137.0' 2,400 440.0' 2,400 440.0' 2,400	65	72.3'	12,100	82.0'	10,300	85.3'	9,500		65	86.1'	7,500	102.0'	5,400	109.0'	4,600
58 88.2' 8,900 96.6' 8,100 99.0' 7,600 55 94.2' 7,500 102.0' 6,900 104.0' 6,500 53 98.4' 6,700 106.0' 6,200 108.0' 5,900 50 104.0' 5,700 111.0' 5,300 112.0' 5,000 130.0' 4,300 130.0' 4,300 130.0' 4,300 130.0' 4,300 130.0' 4,300 130.0' 3,600 138.0' 50 123.0' 4,000 136.0' 3,600 138.0' 3,600 138.0' 3,200 140.0' 4,500 48 127.0' 3,500 139.0' 3,200 140.0' 445 133.0' 2,900 144.0' 2,700 145.0' 43 137.0' 2,600 147.0' 2,400 43 137.0' 2,600 147.0' 2,400 43 137.0' 2,600 147.0' 2,000 38 146.0' 1,500 151.0' 1,500 151.0' 1,000 <td>63</td> <td>77.1'</td> <td>11,600</td> <td>86.4'</td> <td>10,000</td> <td>89.2'</td> <td>9,300</td> <td></td> <td>63</td> <td>92.0'</td> <td>7,100</td> <td>107.0'</td> <td>5,300</td> <td>113.0'</td> <td>4,500</td>	63	77.1'	11,600	86.4'	10,000	89.2'	9,300		63	92.0'	7,100	107.0'	5,300	113.0'	4,500
55 94.2' 7,500 102.0' 6,900 104.0' 6,500 53 98.4' 6,700 106.0' 6,200 108.0' 5,900 50 104.0' 5,700 111.0' 5,000 48 108.0' 5,100 115.0' 4,800 112.0' 5,000 45 113.0' 4,300 120.0' 4,100 120.0' 3,800 43 117.0' 3,900 123.0' 3,700 40 122.0' 3,300 127.0' 3,200 38 125.0' 3,000 129.0' 2,900 35 129.0' 2,500 133.0' 2,400 35 129.0' 2,500 133.0' 2,400 35 129.0' 2,500 135.0' 2,200 30 136.0' 1,500 143.0' 1,500 31 132.0' 2,300 135.0' 2,200 35 129.0' 2,500 135.0' 2,200 </td <td>60</td> <td>84.1'</td> <td>10,100</td> <td>93.0'</td> <td>9,100</td> <td>95.3'</td> <td>8,500</td> <td></td> <td>60</td> <td>99.9'</td> <td>6,800</td> <td>115.0'</td> <td>5,100</td> <td>120.0'</td> <td>4,500</td>	60	84.1'	10,100	93.0'	9,100	95.3'	8,500		60	99.9'	6,800	115.0'	5,100	120.0'	4,500
53 98.4' 6,700 106.0' 6,200 108.0' 5,900 50 104.0' 5,700 111.0' 5,300 112.0' 5,000 48 108.0' 5,700 111.0' 5,300 112.0' 5,000 48 108.0' 5,100 115.0' 4,800 116.0' 4,500 45 113.0' 4,300 120.0' 4,100 120.0' 3,800 43 117.0' 3,900 123.0' 3,700 40 122.0' 3,300 127.0' 3,200 38 125.0' 3,000 129.0' 2,900 35 129.0' 2,500 133.0' 2,400 33 132.0' 2,300 135.0' 2,200 30 136.0' 2,000 139.0' 1,900 25 141.0' 1,500 143.0' 1,500 20 145.0' 1,200	58	88.2'	8,900	96.6'	8,100	99.0'	7,600		58	105.0'	6,500	119.0'	5,000	124.0'	4,400
50 104.0° 5,700 111.0° 5,300 112.0° 5,000 48 108.0° 5,100 115.0° 4,800 116.0° 4,500 45 113.0° 4,300 120.0° 4,100 120.0° 3,800 43 117.0° 3,900 123.0° 3,700 40 122.0° 3,300 127.0° 3,200 38 125.0° 3,000 129.0° 2,900 38 129.0° 2,500 133.0° 2,400 33 132.0° 2,300 135.0° 2,200 30 136.0° 2,000 138.0° 151.0° 1,500 25 141.0° 1,500 143.0° 1,500 20 145.0° 1,200	55	94.2'	7,500	102.0'	6,900	104.0'	6,500		55	112.0'	5,400	126.0'	4,800	129.0'	4,400
48 108.0° 5,100 115.0° 4,800 116.0° 4,500 45 113.0° 4,300 120.0° 4,100 120.0° 3,800 43 117.0° 3,900 123.0° 3,700 40 122.0° 3,300 127.0° 3,200 38 125.0° 3,000 129.0° 2,900 35 129.0° 2,500 133.0° 2,400 33 132.0° 2,300 135.0° 2,200 30 136.0° 2,300 135.0° 2,200 30 136.0° 2,000 139.0° 1,900 25 141.0° 1,500 143.0° 1,500 20 145.0° 1,200	53	98.4'	6,700	106.0'	6,200	108.0'	5,900		53	117.0'	4,800	130.0'	4,300	133.0'	4,200
45 113.0' 4,300 120.0' 4,100 120.0' 3,800 43 117.0' 3,900 123.0' 3,700 43 137.0' 2,600 144.0' 2,400 40 122.0' 3,300 129.0' 2,900 40 143.0' 2,100 151.0' 2,000 38 125.0' 3,000 129.0' 2,900 38 146.0' 1,800 154.0' 1,700 35 129.0' 2,500 133.0' 2,400 35 151.0' 1,500 158.0' 1,400 30 136.0' 2,000 139.0' 1,900 30 158.0' 1,000 163.0' 1,000 25 141.0' 1,200 143.0' 1,500 143.0' 1,000 163.0' 1,000 20 145.0' 1,200 1,200 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000	50	104.0'	5,700	111.0'	5,300	112.0'	5,000		50	123.0'	4,000	136.0'	3,600	138.0'	3,500
43 117.0° 3,900 123.0° 3,700 43 137.0° 2,600 147.0° 2,400 40 122.0° 3,300 127.0° 3,200 40 143.0° 2,100 151.0° 2,000 35 125.0° 3,000 129.0° 2,900 38 146.0° 1,800 154.0° 1,700 35 129.0° 2,500 133.0° 2,400 35 151.0° 1,500 158.0° 1,400 33 132.0° 2,300 135.0° 2,200 33 154.0° 1,300 160.0° 1,200 30 136.0° 2,000 143.0° 1,500 158.0° 1,000 163.0° 1,000 25 141.0° 1,200 30 158.0° 1,000 163.0° 1,000 20 145.0° 1,200	48	108.0'	5,100	115.0'	4,800	116.0'	4,500		48	127.0'	3,500	139.0'	3,200	140.0'	3,100
40 122.0' 3,300 127.0' 3,200 38 125.0' 3,000 129.0' 2,900 35 129.0' 2,500 133.0' 2,400 33 132.0' 2,300 135.0' 2,200 30 136.0' 2,000 139.0' 1,900 25 141.0' 1,500 143.0' 1,500 20 145.0' 1,200	45	113.0'	4,300	120.0'	4,100	120.0'	3,800		45	133.0'	2,900	144.0'	2,700	145.0'	2,500
38 125.0' 3,000 129.0' 2,900 38 146.0' 1,800 154.0' 1,700 35 129.0' 2,500 133.0' 2,400 35 151.0' 1,500 158.0' 1,400 33 136.0' 2,000 139.0' 1,900 30 158.0' 1,000 163.0' 1,000 25 141.0' 1,500 143.0' 1,500 1 1,000 163.0' 1,000 20 145.0' 1,200 1,20	43	117.0'	3,900	123.0'	3,700				43	137.0'	2,600	147.0'	2,400		
35	40	122.0'	3,300	127.0'	3,200				40	143.0'	2,100	151.0'	2,000		
33 132.0' 2,300 135.0' 2,200 33 154.0' 1,300 160.0' 1,200 30 136.0' 2,000 139.0' 1,900 30 158.0' 1,000 163.0' 1,000 25 141.0' 1,500 143.0' 1,500 20 145.0' 1,200	38	125.0'	3,000	129.0'	2,900				38	146.0'	1,800	154.0'	1,700		
30	35	129.0'	2,500	133.0'	2,400				35	151.0'	1,500	158.0'	1,400		
25 141.0' 1,500 143.0' 1,500 20 145.0' 1,200		132.0'	2,300	135.0'	2,200					154.0'	1,300	160.0'	1,200		
20 145.0 1,200	30	136.0'	2,000	139.0'	1,900				30	158.0'	1,000	163.0'	1,000		
	25	141.0'	1,500	143.0'	1,500										
15 148.0 1.000		145.0'	1,200												
9	15	148.0'	1,000												

								NO	1 O	UTRIG	GE	ERS M	ID I	EXTEN	NDE	D 21'	11-	3/4"(6	.7m) SPR	EΑ	D								
													3	60° R	ОТ	ATION														
_ A		39.4'		53.7'		68.1' (2	20.8	m)		82.4' (2	25.1	m)		96.8' (29.5	im)		111.1'	(33.9	9m)		125.5' ((38.	3m)		139.8' (42.6	Sm)	1	54.2'
В	С	(12m)	С	(16.4m)	С		С		С		С		С		С		С		С		С		С		С		С		С	(47m)
8'	-	200,000		. ,																										
10'	70	175,700		102,700																										
12'	67	153,600	74	102,700	78	90,200	77	40,100																						
15'	61	128,200	70	102,700	75	89,900	75	40,100	78	42,500	78	35,500																		
20'	52	94,800	64	98,000	71	75,000	70	40,100	74	42,500	74	35,500	77	40,100	77	33,300	79	35,500	79	32,200										
25'	41	67,800	58	65,800	66	59,500	65	40,100	71	42,500	70	35,500	74	40,100	74	33,300	77	35,500	77	32,200	79	33,300	79	28,700						
30'	25	46,900	50	45,400	61	44,000	60	40,100	67	42,500	67	35,500	71	40,100	71	33,300	74	35,500	74	30,200	77	33,300	77	26,300	79	26,700	79	24,300		
35'			42	33,400	56	32,200	55	36,200	63	34,300		35,500			_		_	35,100		27,300	_	30,900		24,000	77	26,700	77	24,100	78	20,900
40'			33	25,400	50	24,400	50	30,400	58	26,400	58	31,100	65	27,500	65	29,300	69	28,300	69	24,900	72	28,400	72	22,000	75	25,300	75	22,300	77	20,900
45'			18	19,800	44	18,900	43	24,600	54	20,800	54	25,300	61	21,800	61	25,600	65	22,600	66	22,900	69	23,100	69	20,200	72	23,500	73	20,700	75	20,700
50'					37	14,800	36	20,300	49	16,700	49	21,000	57	17,700	57	21,300	62	18,400	63	20,400	67	18,900	67	18,700	70	19,300	71	19,300	73	19,400
55'					28	11,600	27	17,000	44	13,400	44	17,600	53	14,500	54	18,000	59	15,200	60	18,000	64	15,700	64	17,400	68	16,100	68	17,300	71	16,400
60'					13	9,200	12	14,300	38	10,800	38	14,900	49	11,900	49	15,400	56	12,600	56	15,600	64	13,100	61	15,700	65	13,400	66	14,700	69	13,700
65'									32	8,700	32	12,800	45	9,700	45	13,200	52	10,500	53	13,400	58	11,000	59	13,600	63	11,300	63	12,500	67	11,600
70'									23	7,000	23	11,000	40	8,000	40	11,400	49	8,700	49	11,600	55	9,200	56	11,800	60	9,600	61	10,700	64	9,900
75'									5	5,600	5	9,500	35	6,500	35	9,900	45	7,200	45	10,100	52	7,700	53	10,300	57	8,100	58	9,300	62	8,400
80'													29	5,200	29	8,600	41	5,900	41	8,800	49	6,400	49	9,000	55	6,800	55	8,000	60	7,100
85'													21	4,200	21	7,500	36	4,800	37	7,700	46	5,300	46	7,800	52	5,700	52	6,900	57	6,000
90'																	31	3,900	32	6,700	42	4,400	42	6,900	49	4,700	49	5,900	55	5,000
95'																	25	3,100	25	5,900	38	3,500	38	6,000	46	3,900	46	5,000	52	4,200
100'																	16	2,400	16	5,200	34	2,800	34	5,200	43	3,200	43	4,300	50	3,400
105'																					29	2,100	29	4,600	40	2,500	40	3,600	47	2,800
110'																					24	1,600	23	4,000	36	1,900	36	3,000	44	2,200
115'																							14	3,500	32	1,400	32	2,400	41	1,600
120'																											27	2,000		
125'																											21	1,600		
D												0														27		11		38
													Γele	scoping	con	ditions (%)				_									
Tele. mode		I, II		I		I		II		I		II		I		П		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

					LIF	TING	CA	PACIT	IES	AT Z	ER	O DEG	RE	E BOO	DM	ANGL	ΕC	UO NC	TR	IGGEF	RSI	MID EX	XTE	NDEC		
										21' ′	11-:	3/4"(6.	7m) SPRE	ΕAΓ	36	0°	ROTA	TIC	NC						
\ A	A 39.4' 53.7' 68.1' (20.8m) 82.4' (25.1m) 96.8' (29.5m) 111.1' (33.9m) 125.5' (38.3m)																									
c \	B (12m) B (16.4m) B B B B B B B B																									
0	32.2'	28,300	46.5	18,300	60.7	8,900	60.6	14,100	75.0'	5,600	75.0	9,500	89.2	3,400	89.1'	6,700	103.0	2,000	102.0	4,900	117.0	800	116.0	3,300		
Tele.		I. II		I		ī		П		ī		П		ī		П		ī		П		I		П		
mode		-,		•		•				•				•				•				•				

- A :Boom length in feet
- $\boldsymbol{\mathsf{B}}$:Load radius in feet
- C :Loaded boom angle (°)
- **D** :Minimum boom angle (°) for indicated length (no load)

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 in feet	39.4'	39.4' t	o 68.1'	68.1' to 154.2'	Single top
(meters)	(12m)	(12m to	20.8m)	(20.8m to 47m)	Jib
Telescoping mode	I, II	I	II	I, II	I, II
Number of parts of line	16	8	4	4	1

			0	N OUTRIC	GGERS				-3/4"(6.7	m) SPRE	AD.			
						360°	ROTA	TION						
_				m + 33.2'				_				m + 58.1'		
С		offset		offset		offset		С		offset		offset		offset
	R	W	R	W	R	W			R	W	R	W	R	W
80	37.8'	10,800	51.5'	10,800	58.8'	9,400		80	45.8'	6,800	71.7'	6,300	83.5'	5,100
79	41.5'	10,800	55.3'	10,400	62.2'	9,200		79	50.0'	6,800	75.5'	6,200	87.1'	5,100
78	45.2'	10,800	58.6'	10,200	65.7'	9,000		78	54.2'	6,800	79.1'	6,000	90.3'	5,000
77	49.2'	10,800	62.1'	9,900	68.4'	8,800		77	58.5'	6,800	82.7'	5,900	93.3'	5,000
76	52.6'													4,900
75													99.5'	4,800
73	63.5'	10,500	75.2'	8,900	80.5'	8,200		73	74.6'	6,800	96.7'	5,500	105.0'	4,700
70	73.4'	9,600	84.5'	8,300	88.8'	7,700		70	87.2'	6,800	107.0'	5,200	113.0'	4,600
68	79.0'	8,700	89.8'	7,700	94.0'	7,000		68	93.8'	6,300	113.0'	5,100	119.0'	4,500
65	86.7'	6,700	96.9'	6,000	101.0'	5,600		65	102.0'	4,700	120.0'	4,000	125.0'	3,700
63	91.8'	5,600	102.0'	5,100	105.0'	4,700		63	108.0'	3,800	125.0'	3,300	130.0'	3,100
60	99.3'	4,300	109.0'	3,900	112.0'	3,700		60	116.0'	2,800	133.0'	2,400	137.0'	2,300
58	104.0'	3,500	114.0'	3,300	116.0'	3,100		58	121.0'	2,200	138.0'	1,900	141.0'	1,800
55	112.0'	2,600	121.0'	2,400	122.0'	2,300		55	129.0'	1,400	145.0'	1,300	147.0'	1,200
53	116.0'	2,100	125.0'	1,900	126.0'	1,800		53	134.0'	1,000				
50	123.0'	1,400	131.0'	1,300	132.0'	1,200								
48	128.0'	1,000												

			0	N OUTDIO	CERC	MID EVE	NDE	D 04! 44	2/4"/6 7	m) CDDE	۸۵			
			U	N OUTRIC	GEKS				-3/4 (6.7)	III) SPRE	40			
			6.1				ROTA	TION			6.1			
_				oing modeII)		_		_				oing modeII)		
С		offset		offset		offset		С		offset		offset		offset
	R	W	R	W	R	W			R	W	R	W	R	W
80	32.7'	11,700	45.8'	11,600	53.0'	10,000		80	40.8'	7,300	64.6'	6,500	77.3'	5,200
79	36.4'	11,700	49.0'	11,200	55.8'	9,800		79	44.7'	7,300	67.9'	6,400	80.4'	5,100
78	39.6'	11,700	52.1'	10,900	59.1'	9,600		78	48.7'	7,300	72.0'	6,200	83.5'	5,100
77	43.0'	11,700	55.0'	10,600	61.6'	9,400		77	52.6'	7,300	75.2'	6,100	86.2'	5,000
76	46.4'	11,700	57.7'	10,300	64.1'	9,200		76	56.5'	7,300	78.1'	6,000	89.2'	5,000
75	49.4'	11,700	60.9'	10,100	67.0'	9,100		75	60.0'	7,300	81.8'	5,900	92.4'	5,000
73	55.8'	11,500	67.0'	9,500	72.6'	8,700		73	67.0'	7,300	88.2'	5,700	97.7'	4,900
70	65.1'	10,400	75.1'	8,900	80.1'	8,200		70	78.3'	7,300	97.5'	5,400	105.0'	4,700
68	70.4'	9,700	80.6'	8,400	84.9'	7,800		68	85.2'	7,100	103.0'	5,300	110.0'	4,600
65	78.4'	8,600	88.1'	7,500	91.7'	7,100		65	94.2'	6,200	112.0'	5,100	118.0'	4,600
63	83.7'	7,900	93.0'	7,000	96.4'	6,700		63	99.8'	5,700	117.0'	4,700	123.0'	4,400
60	91.1'	6,600	99.4'	6,000	102.0'	5,600		60	108.0'	4,700	124.0'	4,000	129.0'	3,800
58	95.6'	5,800	104.0'	5,200	106.0'	5,000		58	113.0'	4,000	128.0'	3,400	133.0'	3,300
55	102.0'	4,700	110.0'	4,300	112.0'	4,100		55	120.0'	3,100	135.0'	2,700	139.0'	2,600
53	107.0'	4,100	114.0'	3,700	116.0'	3,600		53	125.0'	2,600	139.0'	2,300	142.0'	2,200
50	113.0'	3,300	120.0'	3,000	121.0'	2,900		50	132.0'	2,000	145.0'	1,800	147.0'	1,700
48	117.0'	2,800	124.0'	2,600	125.0'	2,600		48	137.0'	1,600	149.0'	1,500	151.0'	1,400
45	123.0'	2,200	129.0'	2,100	129.0'	2,100		45	143.0'	1,200	155.0'	1,000	155.0'	1,000
43	127.0'	1,900	132.0'	1,800		,	ļi	•						
40	132.0'	1,500	137.0'	1,400										
38	136.0'	1,200	140.0'	1,100										

			Ω	N OUTRIC	GERS	MID EXT	ENDE	D 21' 11.	-3/4"(6.7	m) SPRE	4D			
			Ŭ	11 001111	JOLINO			TION	0/1 (0./	m, or rez				
	125.5'(3	88.3m) Boon	n(telesco	ping modeI)	+ 33.2' (10.1m) Jib			125.5'(3	38.3m)Boom	(telescop	oing modeI)	+ 58.1' (1	7.7m) Jib
С	3.5°	offset	25°	offset	45°	offset		С	3.5°	offset	25°	offset	45° (offset
	R	W	R	W	R	W			R	W	R	W	R	W
80	30.5'	14,600	43.5'	14,000	50.1'	10,700		80	37.2'	8,800	58.7'	7,000	71.2'	5,200
79	33.3'	14,600	46.0'	13,600	52.6'	10,600		79	41.2'	8,800	61.5'	6,800	73.9'	5,100
78	36.0'	14,600	49.2'	13,300	55.1'	10,500		78	44.8'	8,800	65.4'	6,700	76.8'	5,100
77	39.0'	14,600	51.7'	12,900	57.6'	10,300		77	47.8'	8,800	68.4'	6,500	79.5'	5,000
76	42.6'	14,600	54.1'	12,700	60.1'	10,200		76	51.3'	8,800	70.8'	6,400	82.1'	5,000
75	45.5'	14,600	56.9'	12,400	62.7'	10,100		75	54.9'	8,800	74.3'	6,300	84.9'	5,000
73	51.2'	14,600	62.4'	11,900	67.5'	10,000		73	61.6'	8,800	80.5'	6,100	90.0'	4,900
70	59.8'	13,700	70.0'	11,200	74.6'	9,700		70	71.3'	8,300	88.9'	5,800	97.5'	4,700
68	64.6'	13,000	74.9'	10,800	78.8'	9,600		68	77.2'	7,900	94.6'	5,600	102.0'	4,600
65	71.7'	10,700	81.2'	9,000	84.9'	8,400		65	86.1'	7,500	102.0'	5,400	109.0'	4,600
63	76.3'	9,200	85.4'	7,800	88.8'	7,400		63	91.5'	6,500	107.0'	5,300	113.0'	4,500
60	82.7'	7,400	91.5'	6,400	94.6'	6,100		60	98.5'	5,100	114.0'	4,400	120.0'	4,100
58	86.8'	6,400	95.3'	5,600	98.1'	5,400		58	104.0'	4,400	118.0'	3,700	123.0'	3,600
55	93.1'	5,200	101.0'	4,600	104.0'	4,400		55	111.0'	3,400	124.0'	3,000	129.0'	2,900
53	97.2'	4,500	105.0'	4,000	107.0'	3,900		53	115.0'	2,900	129.0'	2,500	132.0'	2,400
50	103.0'	3,600	110.0'	3,200	112.0'	3,200		50	122.0'	2,200	134.0'	1,900	137.0'	1,900
48	107.0'	3,100	114.0'	2,800	115.0'	2,700		48	126.0'	1,800	138.0'	1,600	140.0'	1,500
45	112.0'	2,400	119.0'	2,200	120.0'	2,100		45	132.0'	1,300	143.0'	1,100	144.0'	1,100
43	116.0'	2,000	122.0'	1,800										
40	121.0'	1,500	126.0'	1,400										
38	124.0'	1,200	129.0'	1,100										

C :Loaded boom angle (°)
R :Load radius in feet
W :Rated lifting capacity in pounds

								C	N	OUTR	IGC	SERS I	MIE	EXTE	ENE	DED 18	3' 1/	/2"(5.5	m)	SPRE	AD									
													3	60° R	OTA	ATION														
A		39.4'		53.7'		68.1' (2	20.8	m)		82.4' (25.1	m)		96.8' (29.5	im)		111.1' ((33.9	9m)		125.5'	(38.3	3m)		139.8' (42.6	6m)	1	54.2'
В	С	(12m)	С	(16.4m)	С		C		С		C		C		С		С		С		C		С		С		С		C	(47m)
8'	73	191,600	78	102,700																										
10'	70	164,000	76	102,700	80	90,200	79	40,100																						
12'	67	142,400	74	102,700	78	90,200	77	40,100																						
15'	61	113,500	70	102,700	75	89,900	75	40,100	78	42,500	78	35,500																		
20'	52	75,400	64	73,400	71	67,200	70	40,100	74	42,500	74	35,500	77	40,100	77	33,300	79	35,500	79	32,200										
25'	41	48,200	57	46,700	66	45,400	65	40,100	71	42,500	70	35,500	74	40,100	74	33,300	77	35,500	77	32,200	79	33,300	79	28,700						
30'	25	33,900	50	32,700	61	31,500	60	35,500	67	33,600	67	35,500	71	34,800	71	33,300	74	35,500	74	30,200	77	33,300	77	26,300	79	26,700	79	24,300		
35'			42	23,900	55	23,000	55	28,900	63	24,900	62	29,500	68	26,000	68	29,900	71	26,800	72	27,300	74	27,300	74	24,000	77	26,700	77	24,100	78	20,900
40'			33	18,000	50	17,100	50	22,800	58	19,000	58	23,400	64	20,100	64	23,800	68	20,800	69	24,100	71	21,400	72	22,000	74	21,800	75	22,300	77	20,900
45'			18	13,700	44	12,900	43	18,300	54	14,800	54	19,000	61	15,800	61	19,400	65	16,500	65	19,600	69	17,000	69	19,800	72	17,400	72	18,700	75	17,700
50'					36	9,700	36	14,900	49	11,500	49	15,600	57	12,600	57	16,000	62	13,200	62	16,300	66	13,800	67	16,400	70	14,100	70	15,300	73	14,400
55'					27	7,200	27	12,300	44	8,900	44	13,000	53	10,000	53	13,400	59	10,700	59	13,700	63	11,200	64	13,800	67	11,600	68	12,700	70	11,900
60'					12	5,300	12	10,300	38	6,900	38	10,800	49	7,900	49	11,300	55	8,600	56	11,600	61	9,100	61	11,700	65	9,500	65	10,700	68	9,800
65'									32	5,200	32	9,100	45	6,200	45	9,500	52	6,900	52	9,800	58	7,500	58	10,000	62	7,800	63	9,000	66	8,100
70'									23	3,800	23	7,700	40	4,800	40	8,100	48	5,500	49	8,300	55	6,000	55	8,500	60	6,400	60	7,500	64	6,700
75'									6	2,600	5	6,500	35	3,600	35	6,800	45	4,300	45	7,100	52	4,800	52	7,300	57	5,200	57	6,300	61	5,500
80'													29	2,600	28	5,800	41	3,200	41	6,000	49	3,700	49	6,200	55	4,100	55	5,200	59	4,400
85'													21	1,700	20	4,900	36	2,300	36	5,100	45	2,800	46	5,300	52	3,200	52	4,300	57	3,500
90'																	31	1,600	31	4,300	42	2,100	42	4,500	49	2,400	49	3,500	54	2,700
95'																			25	3,700	38	1,400	38	3,800	46	1,700	46	2,800	52	2,000
100'																			16	3,100			34	3,200	43	1,100	43	2,200	49	1,400
105'																							29	2,600			40	1,700		
110'																							23	2,200			36	1,100		
115'																							14	1,700						
D								0										18		0		29		0		40		27		47
													ГеІе	scoping	con	ditions (%)													
Tele. mode		I, II		I		I		II		I		II		I		II		I		II		I		II		I		II		I, II
2nd boom	1	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	1	0		0		0		33		16		50		33		66		50		83		66		100		83		100		100

					LIF	TING	CA	PACIT	IES	AT Z	ER	O DEG	RE	E BO	MC	ANGL	E ON OU	ITR	IGGEF	RS MID EX	XTE	NDED)
										18	1/2	2"(5.5r	n)	SPRE	٩D	360	° ROTA	ΓΙΟ	N				
A	A 39.4' 53.7' 68.1' (20.8m) 82.4' (25.1m) 96.8' (29.5m) 111.1' 125.5'																						
c \	B (12m) B (16.4m) B B B B B B B B (33.9m)																						
0																							
Tele.																							
mode		-,		•		•								•		-							

- A:Boom length in feet
- $\boldsymbol{\mathsf{B}}$:Load radius in feet
- **C** :Loaded boom angle (°)
- **D**:Minimum boom angle (°) for indicated length (no load)

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 in feet	39.4'	39.4'	:068.1'	68.1' to 154.2'	Single top
(meters)	(12m)	(12m to	20.8m)	(20.8m to 47m)	Jib
Telescoping mode	I, II	I	II	I, II	I, II
Number of parts of line	16	8	4	4	1

				ON OUTR	IGGER	S MID EX	TEND	ED 18' 1.	/2"(5.5m	n) SPREAD)			
						360°	ROTA	TION						
	1:	54.2' (47.0	m) Boo	m + 33.2'	(10.1m)	Jib			1	54.2' (47.0	m) Boo	m + 58.1'	(17.7m)	Jib
С	3.5°	offset	25°	offset	45°	offset		С	3.5°	offset	25°	offset	45°	offset
	R	W	R	W	R	W			R	W	R	W	R	W
80	37.8'	10,800	51.5'	10,800	58.8'	9,400		80	45.8'	6,800	71.7'	6,300	83.5'	5,100
79	41.5'	10,800	55.3'	10,400	62.2'	9,200		79	50.0'	6,800	75.5'	6,200	87.1'	5,100
78	45.2'	10,800	58.6'	10,200	65.7'	9,000		78	54.2'	6,800	79.1'	6,000	90.3'	5,000
77	49.2'	10,800	62.1'	9,900	68.4'	8,800		77	58.5'	6,800	82.7'	5,900	93.3'	5,000
76	52.6'	10,800	65.3'	9,600	71.6'	8,700		76	62.7'	6,800	86.4'	5,800	96.2'	4,900
75	56.3'	10,800	69.0'	9,300	74.5'	8,500		75	66.8'	6,800	90.0'	5,700	99.5'	4,800
73	63.2'	10,100	74.4'	8,300	80.1'	7,600		73	74.6'	6,800	96.7'	5,500	105.0'	4,700
70	71.2'	7,400	82.4'	6,200	87.4'	5,700		70	84.5'	5,200	105.0'	4,200	112.0'	3,800
68	76.6'	6,000	87.3'	5,000	92.0'	4,700		68	90.3'	4,100	109.0'	3,300	117.0'	3,000
65	84.6'	4,300	95.2'	3,700	98.9'	3,500		65	98.8'	2,700	117.0'	2,300	123.0'	2,100
63	90.0'	3,400	100.0'	2,900	103.0'	2,800		63	105.0'	2,000	122.0'	1,700	128.0'	1,600
60	97.6'	2,300	107.0'	2,000	110.0'	1,900		60	113.0'	1,100				
58	103.0'	1,700	112.0'	1,400	115.0'	1,400								

				ON OUTR	IGGER	S MID EX	TEND	ED 18' 1	/2"(5.5m) SPREAD)			
						360°	ROTA	TION						
	139.8'(4	2.6m) Boom	(telesco	oing modeII)) + 33.2' (10.1m) Jib			139.8'(4)	2.6m) Boom	n(telescop	oing modeII)	+ 58.1' (17.7m) Jib
С		offset		offset		offset		С		offset		offset		offset
	R	W	R	W	R	W			R	W	R	W	R	W
80	32.7'	11,700	45.8'	11,600	53.0'	10,000		80	40.8'	7,300	64.6'	6,500	77.3'	5,200
79	36.4'	11,700	49.0'	11,200	55.8'	9,800		79	44.7'	7,300	67.9'	6,400	80.4'	5,100
78	39.6'	11,700	52.1'	10,900	59.1'	9,600		78	48.7'	7,300	72.0'	6,200	83.5'	5,100
77	43.0'	11,700	55.0'	10,600	61.6'	9,400		77	52.6'	7,300	75.2'	6,100	86.2'	5,000
76	46.4'	11,700	57.7'	10,300	64.1'	9,200		76	56.5'	7,300	78.1'	6,000	89.2'	5,000
75	49.4'	11,700	60.9'	10,100	67.0'	9,100		75	60.0'	7,300	81.8'	5,900	92.4'	5,000
73	55.8'	11,500	67.0'	9,500	72.6'	8,700		73	67.0'	7,300	88.2'	5,700	97.7'	4,900
70	64.6'	10,200	74.9'	8,600	79.7'	7,800		70	78.3'	7,300	97.5'	5,400	105.0'	4,700
68	69.3'	8,500	79.7'	7,300	84.0'	6,700		68	83.8'	6,100	103.0'	5,000	110.0'	4,400
65	76.8'	6,600	86.4'	5,800	90.4'	5,400		65	91.6'	4,600	110.0'	3,900	116.0'	3,400
63	81.8'	5,600	91.1'	4,900	94.7'	4,600		63	97.1'	3,800	114.0'	3,200	120.0'	2,800
60	89.1'	4,300	97.6'	3,800	101.0'	3,600		60	105.0'	2,800	121.0'	2,400	127.0'	2,100
58	93.6'	3,600	102.0'	3,200	105.0'	3,000		58	110.0'	2,200	126.0'	1,900	131.0'	1,700
55	101.0'	2,700	108.0'	2,400	111.0'	2,300		55	118.0'	1,500	133.0'	1,300	137.0'	1,200
53	105.0'	2,200	113.0'	2,000	115.0'	1,900		53	123.0'	1,100				
50	111.0'	1,500	119.0'	1,400	120.0'	1,300								
48	116.0'	1,100	122.0'	1,000	124.0'	1,000								

				ON OUTR	IGGER	S MID EX	TEND	ED 18' 1.	/2"(5.5m) SPREAD)					
						360°	ROTA	TION								
	125.5'(3	38.3m) Boon	n(telesco	ping modeI)	+ 33.2' (10.1m) Jib			125.5'(3	38.3m)Boom	(telesco	ping modeI)	+ 58.1' (17.7m) Jib		
С		offset		offset		offset		С		offset		offset		offset		
	R	W	R	W	R	W			R	W	R	W	R	W		
80	30.5'	14,600	43.5'	14,000	50.1'	10,700		80	37.2'	8,800	58.7'	7,000	71.2'	5,200		
79	33.3'	14,600	46.0'	13,600	52.6'	10,600		79	41.2'	8,800	61.5'	6,800	73.9'	5,100		
78	36.0'	14,600	49.2'	13,300	55.1'	10,500		78	44.8'	8,800	65.4'	6,700	76.8'	5,100		
77	39.0'	14,600	51.7'	12,900	57.6'	10,300		77	47.8'	8,800	68.4'	6,500	79.5'	5,000		
76	42.6'	14,600	54.1'	12,700	60.1'	10,200		76	51.3'	8,800	70.8'	6,400	82.1'	5,000		
75	45.5'	14,600	56.9'	12,400	12,400 62.7' 10,100 75 54.9' 8,800 74.3' 6,3											
73	51.2'	14,600	62.4'	11,900	67.5'	10,000		73	61.6'	8,800	80.5'	6,100	90.0'	4,900		
70	58.2'	11,300	68.9'	9,500	73.7'	8,600		70	71.3'	8,300	88.9'	5,800	97.5'	4,700		
68	63.0'	9,500	73.2'	8,100	77.8'	7,400		68	76.1'	6,900	94.0'	5,500	102.0'	4,600		
65	69.9'	7,300	79.6'	6,300	83.5'	5,900		65	84.0'	5,200	101.0'	4,200	108.0'	3,900		
63	74.5'	6,100	83.7'	5,400	87.5'	5,000		63	89.2'	4,300	105.0'	3,500	112.0'	3,300		
60	81.0'	4,700	90.0'	4,200	93.5'	3,900		60	96.6'	3,100	112.0'	2,600	118.0'	2,500		
58	85.4'	3,900	93.9'	3,500	97.1'	3,300		58	102.0'	2,500	116.0'	2,100	122.0'	2,000		
55	91.8'	2,900	99.7'	2,600	103.0'	2,500		55	108.0'	1,700	123.0'	1,400	128.0'	1,400		
53	95.7'	2,300	104.0'	2,100	106.0'	2,000		53	113.0'	1,200	127.0'	1,000	131.0'	1,000		
50	102.0'	1,600	109.0'	1,500	111.0'	1,400										
48	105.0'	1,100	113.0'	1,100	114.0'	1,000										

C :Loaded boom angle (°)

R:Load radius in feet
W:Rated lifting capacity in pounds

								٩O	10	UTRIG	GE	ERS M	IN	EXTEN	NDE	D 8' 1	0-5	/16"(2.	.7m	n) SPR	ΕAI	D								
													3	60° R	ОТ	ATION														
A		39.4'		53.7'		68.1' (2	20.8	,		82.4' (2	25.1	m)		96.8' (29.5	im)		111.1' ((33.9	9m)		125.5'	(38.	3m)		139.8' ((42.6	6m)	1	54.2'
В	С	(12m)	С	(16.4m)	С		С		С		С		С		С		С		С		С		С		С		С		С	(47m)
8'	_	143,900	78	102,700																										
10'	70	94,900	76		-	90,200	_																							
12'	66	66,900	73			63,700	_																							
15'	61	44,700	70			42,000																								
20'	52	26,300	64			24,300	_								_				-	31,700										
25'	41	17,000	57			15,300	_				70	21,500	74	18,200	74				-		78	19,500	78	22,300						
30'	25	11,400	50	10,400	60	9,600	60	14,900	66	11,600	66	15,700	70	12,500	70	16,000	73	13,200	73	16,200	75	13,800	76	16,400	78	14,100	78	15,300		
35'			42	6,600	55	5,800	55	10,900	62	7,700	62	11,600	67	8,700	67	12,100	70	9,400	70	12,300	73	9,900	73	12,500	75	10,300	76	11,400	77	10,500
40'			33	3,900	49	3,100	49	8,100	58	4,900	58	8,700	63		_	9,200	-	6,600	_	9,500	70	7,100	71	9,600	73	7,500	73	8,600	75	7,700
45'			18	1,800	43	1,100	43	5,900	53	2,800	53	6,500	60	3,700	60	7,000	64	4,500	64	7,300	68	5,000	68	7,500	71	5,400	71	6,500	73	5,600
50'							36	4,300	49	1,100	49	4,900	56	2,100	56	5,300	61	2,800	61	5,600	65	3,300	65	5,800	68	3,700	69	4,800	71	4,000
55'							27	2,900			44	3,500	_		53	3,900	58	1,500	58	4,200	63	2,000	63	4,400	66	2,400	66	3,500	69	2,700
60'							13	1,900			38	2,400			49	2,800			55	3,100			60	3,300	64	1,300	-	2,300	67	1,500
65'	Ш										31	1,500			44	1,900			52	2,200			57	2,300	-		62	1,400		
70'	Ш														40	1,100			48	1,400			54	1,500						
D			0			28		0		44		5		49		35		55		45		58		52		62		57		65
	lo l									1	Гele	scoping	con	ditions (%)															
Tele. mode		I, II		I		I		II		I		П		I		II		I		П		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

			LIFTING	CAPACITIE	S AT ZERO DEGREE BOOM A	NGLE ON OUTRIGGERS MIN EXTENDED	
					8' 10-5/16"(2.7m)SPREAD	360° ROTATION	
C	39.4' B (12m)	53.7' B (16.4m)		68.1' B (20.8m)			
0	32.2' 9,200	46.5' 1,300		60.8' 1,700			
Tele. mode	I, II	I		II			

- A:Boom length in feet
- B:Load radius in feet
- C :Loaded boom angle (°)
- **D** :Minimum boom angle (°) for indicated length (no load)

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 in feet	39.4'	39.4' t	o 68.1'	68.1' to 154.2'	Single top
(meters)	(12m)	(12m to	20.8m)	(20.8m to 47m)	Jib
Telescoping mode	I, II	I	II	I, II	I, II
Number of parts of line	16	8	4	4	1

WARNING AND OPERATING INSTRUCTIONS 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 applicable ASME B30.5 safety standards for cranes as mentioned in OSHA CFR29 part 1926.

SET UP

- 1. Rated lifting capacities on the load chart are the maximum allowable crane capacities. They 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 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 x Tip Reaction)/1.25.
- 3. Rated lifting capacities above bold 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 the boom or jib is extremely dangerous.
 - Such action can damage the boom, jib or slewing mechanism, and lead to overturning 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 20mph(9m/s) to 27mph(12m/s); reduced by 70% when the wind speed is 27mph(12m/s) to 31mph(14m/s). If the wind speed is 31mph(14m/s) or over, stop operation. During jib lift, stop operation if the wind speed is 20mph(9m/s).
- 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 14.600 lbs. (6.600kg) for main hoist and auxiliary hoist.
- 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 hoist 14,600 lbs. (6,600kg) x 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 39.4' (12.0m) boom length capacities are based on boom fully retracted. If not fully retracted [less than 53.7' (16.4m) boom length], use the rated lifting capacities for the 53.7' (16.4m) 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, reduce the rated lifting capacities of relevant boom according to a weight reductions for auxiliary load handling equipment. Capacities of single top shall not exceed 14,600 lbs. (6,600kg) including main hook.
- 17. When base jib or top jib or both jib removing, jib state switch select removed.
- 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-TWO BLOCK" 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
- 20. For boom length 154.2' (47.0m) or less and 125.5' (38.3m) or longer with jib, rated lifting capacities are determined by loaded boom angle only in the column handed "154.2' (47.0m)boom+jib". For boom length 125.5' (38.3m) or less with jib, rated lifting capacities are determined by loaded boom angle only in the column headed "125.5' (38.3m)boom+jib". For angles not shown, use the next lower loaded boom angle to determine allowable capacity.(Telescoping MODE I) For boom length 154.2' (47.0m) or less and 139.8' (42.6m) or longer with jib, rated lifting capacities are determined by loaded boom angle only in the column handed "154.2' (47.0m)boom+jib". For boom length 139.8' (42.6m) or less with jib, rated lifting capacities are determined by loaded boom angle only in the column headed "139.8' (42.6m)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. hoist) and boom (main hoist) 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 22,000lbs. (10 ton) installed. Outriggers shall be extended 23'11 3/8" (7.3m) spread when installing or removing 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.

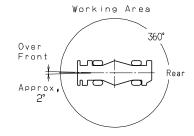
	ON RUBBER																		
\ A						Stati	onary						Creep						
				er Front			360° Rotation					Over Front							
	39.4' 68.1' 96.8'				39.4' <u>6</u> 8.1'				96.8'		39.4'		68.1'		96.8'				
В	С	(12m)	С	(20.8m)	С	(29.5m)	С	(12m)	С	(20.8m)	С	(29.5m)	С	(12m)	С	(20.8m)	С	(29.5m)	
12'	66	60,000					66	38,000					66	45,000					
15'	61	49,600					61	28,500					61	36,600					
20'	52	37,500	70	35,000			52	17,500	70	20,000			52	26,800		29,200			
25'	41	28,500	65	29,500	74	22,900	40	10,400	65	14,000	73	14,000	40	20,500		22,800	74	22,900	
30'	25	21,500	60	24,000	71	21,500	25	6,500	60	9,500	70	10,000	25	15,600		18,200	71	18,900	
35'			55	19,200	67	19,500			55	6,500	67	7,400			55	14,800	67	15,500	
40'			49	15,200	64	16,000			49	4,500	63	5,400			49	12,000	64	12,900	
45'			43	12,200	60	13,000			43	3,000	60	3,900			43	9,800	60	10,600	
50'			36	9,700	57	10,600			36	1,800	56	2,700			36	7,900	57	8,900	
55'			27	8,000	53	8,800					53	1,700			27	6,500	53	7,300	
60'			13	6,500	49	7,400									13	5,200	49	6,100	
65'					45	6,100											44	5,000	
70'					40	5,000											40	4,100	
75'					35	4,100											34	3,200	
80'					28	3,400											28	2,500	
85'					20	2,700													
D				0				0		28		45	0						
								Telescopi	ng coi	nditions (%)								
Tele. mode	I, II II II			I, II		II	П			I, II	II		II						
2nd boom	0 0 0		0		0		0	0		0		0		0					
3rd boom			66		0		33		66	6 0		33		66					
4th boom		0		33		66		0		33		66	0		33		66		
Top boom				33		66		0		33		66	0		33		66		

1	LISTING CARACITISM AT TERM RECORD ROOM AND E ON PURPLE CONTRACTOR																
	LIFTING CAPACITIES AT ZERO DEGREE BOOM ANGLE ON RUBBER OPERATION																
		Α	A Stationary Creep														
		Ī		Over Front 3					360° Rotation	Over Front							
			3	9.4'	4' 68.1' 96.8'		96.8'	39.4'			3	39.4'	68.1'		96.8'		
	С		В	(12m)	В	(20.8m)	В	(29.5m)	В	(12m)		В	(12m)	В	(20.8m)	В	(29.5m)
	0		32.2'	19,300	60.8'	6,300	89.1'	2,100	32.2'	5,100		32.2'	14,100	60.8'	5,000	89.1'	1,400

- A:Boom length in feet
- B:Load radius in feet
- C:Loaded boom angle (°)
- \boldsymbol{D} :Minimum boom angle (°) for indicated length (no load)

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.

Boom length in feet	39.4'	39.4' to 96.8'	Single top		
(meters)	(12m)	(12m to 29.5m)	Jib		
Number of parts of line	6	4	1		



WARNING AND OPERATING INSTRUCTIONS FOR ON RUBBER LIFTING CAPACITIES

- Rated lifting capacities on rubber are in pounds and do not exceed 75 % of tipping loads as determined by SAE J765-Crane Stability Test Code.
- Rated lifting capacities shown in the chart are based on condition that crane is set on firm level surfaces with axle oscillation lockout applied. Those above bold 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.
- If the axle oscillation lockout 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.
- 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	57 psi (400kPa)

- Over front operation shall be performed within two degrees in front of chassis.
- 7. On rubber lifting with "jib" is not permitted. Maximum permissible boom length is 96.8 ft. (29.5m).
- 8. When making lift on rubber stationary, set parking brake.
- For creep operation, boom must be centered over front of machine, slewing lock engaged, and load restrained from slewing. 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 200' (60 m) in any 30 minute period and to travel at the speed of less than 1 mph (1.6km/h).
- 12. For creep operation, choose the drive mode and proper gear according to the road or working condition.

WARNING AND OPERATING INSTRUCTIONS FOR USING THE LOAD MOMENT INDICATOR (AML-C)

- 1. When operating crane on outriggers:
 - · Set P.T.O. switch to "ON".
 - Press the outrigger mode select key to register for the outrigger operation. Press the register key, then the outrigger mode indicative symbol changes from flashing to a solid light.
 - Press the lift mode select key to select the lift status that corresponds to the actual boom configuration.
 Each time the lift mode select key is pressed, the status changes.
 Press the register key to register the lift status, then the lift indicative symbol changes from flashing to a solid light.
 - when mounting and stowing jib, select the jib set status. (the jib state indicative symbol will be flashing.)
- 2. When operating crane on rubber:
 - · Set P.T.O. switch to "ON".
 - Press the outrigger mode select key. The on-tire mode indicative symbol comes on. Each time the outrigger mode select key is pressed the status changes. Select the creep operation, the on-tire mode indicative symbol flicker.
 - Press the lift mode select key to register the boom or single top lift.

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.
- A slewing does not automatically stop even if the crane becomes overloaded.
- 4. During crane operation, make sure that the displays on front panel are in accordance with actual operating conditions.
- 5. 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 slewing, lifting loads shall be appropriately
- 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.

GR-1000XL Axle weight distribution chart

			Pounds		Kilograms			
		GVW	Front	Rear	GVW	Front	Rear	
Base mach	ine	115,610	57,340	58,270	52,440	26,010	26,430	
	7.3ton (6.6metric ton) hook ball	-360	-515	155	-165	-235	70	
	2. 100ton (90.7metric ton) hook block	-1,900	-3,665	1,765	-862	-1,664	802	
	3. Top jib	-740	-990	250	-336	-450	114	
Remove:	4. Base jib	-1,910	-3,755	1,845	-867	-1,704	837	
	5. Auxiliary lifting sheave	-110	-330	220	-50	-149	99	
	Removable counterweight [self-removable]	-22,000	9,350	-31,350	-9,979	4,240	-14,219	
	(with Auxiliary hoist & wire rope)							

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